

Health and economic imperatives for households in the context of the anti-Covid-19 strategy in Cameroon. The case of Yaounde

Humphrey Ngala Ndi

*Department of Geography, Higher Teacher Training College,
University of Yaounde I, Yaounde, Cameroon*

Roland Akoh Ndi

*Department of Geography, Faculty of Arts, Letters and Social Sciences,
University of Yaounde I, Yaounde, Cameroon*

Henry Ngenyam Bang

Disaster Management Centre, Bournemouth University, Poole, UK

Marcellus Forh Mbah

School of Education, Nottingham Trent University, Nottingham, UK, and

Judwin Alieh Ndzo

Nottingham University Hospitals NHS Trust, Nottingham, UK

Abstract

Purpose – This paper aims to explore the responses of households in the informal economic sector to the Cameroon Government strategy against Covid-19 in Yaounde, Cameroon between March and May 2020.

Design/methodology/approach – Given the recency of Covid-19, the exploratory design was used to collect and analyse information for the study. Empirical data was obtained through personal observations and questionnaires, whereas grey data were sourced from official sources in government and international agencies in Yaounde. The mode of the ordinal data generated from the questionnaire was used to characterise the attitudes of respondents to quarantine measures and bar charts were used to illustrate the distribution of responses.

Findings – The government's strategy against Covid-19 was largely ignored in Yaounde between March and May 2020 because of the influence of the predominantly informal economy on household's ability to allocate scarce resources between the competing needs of protecting their health on the one hand, and their livelihoods on the other hand. Poor households had to walk a difficult line between shutting down their businesses to protect



© Humphrey Ngala Ndi, Roland Akoh Ndi, Henry Ngenyam Bang, Marcellus Forh Mbah and Judwin Alieh Ndzo. Published in *Journal of Humanities and Applied Social Sciences*. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licenses/by/4.0/legalcode>

Authors are grateful to the research assistants and the questionnaire respondents who accepted to participate in the survey.

Funding: This study was funded by the research endowment scheme of the Ministry of Higher Education in Cameroon.

Disclosure statement: No potential conflict of interest was reported by the authors.

their health or risking Covid-19 infections to protect their livelihoods. Over 53.1% of respondents thought quarantine measures were unsuccessful as over 63% ignored them. Quarantining and Social distancing were also difficult in informal settlements because of structural congestion.

Research limitations/implications – Perhaps, the greatest limitation of this study was the use of non-probability sampling. As such, sampling error could not be estimated, blurring the ability to ascertain the degree of similarity between the sample and the study population. This made sample generalisability difficult.

Practical implications – There are short-term and long-term policy implications of these findings. Basic comprehensive measures including food and water distribution, as well as rent holidays, must be implemented in informal neighbourhoods to ensure more successful quarantines in future pandemics. In the long run, investments in urban social housing must be carried out to reduce slums, an ever-present risk factor in the rapid propagation of infections.

Originality/value – The originality of this study is first, in its level of analysis which is the household. By measuring household responses to quarantine measures within defined neighbourhoods, the study deviates from most that have adopted a theoretical approach and conducted analysis at country or regional levels. Few studies have attempted to investigate the failure of quarantine measures against Covid-19 from the viewpoint of the occupational characteristics of the populations involved.

Keywords Health, Informal economy, Household, Covid-19, Response strategy, Yaounde, Lockdown strategy

Paper type Research paper

Introduction

Despite the outstanding advances in medical science and technology in the twentieth and twenty-first centuries, the current coronavirus pandemic (*Covid-19*) is a stark reminder of the vulnerability of humans to unpredictable and virulent emerging or re-emerging infections. Within 10 months of its outbreak in Wuhan-China, over 34 million confirmed cases of *Covid-19* were registered in over 200 countries (WHO, 2020). The virulence and pace of diffusion of coronaviruses are extraordinarily high. For example, the severe acute respiratory syndrome (SARS-CoV), a coronavirus that emerged in China in November 2002, had spread to 37 countries in all continents, resulting in 8,096 infections and 774 deaths by July 2003 (Luo and Gao, 2020; Al-Osail and Al-Wazzah, 2017). In 2012, the Middle East respiratory syndrome, a novel coronavirus code-named MERS-CoV, emerged in Saudi Arabia and by 2015, had reached 1,621 infections and 584 deaths in 26 countries (Al-Osail and Al-Wazzah, 2017).

Like the recurrent Ebola virus disease, coronaviruses have the potential to become very persistent in the twenty-first century. They were first characterised in the 1960s and were associated with common colds, flu and pneumonia (Khan and McIntosh, 2005). Columbus *et al.* (2020) document four types of coronaviruses, namely, *alphacoronavirus* (α -CoV), *betacoronavirus* (β -CoV), *gammacoronavirus* (γ -CoV) and *deltacoronavirus* (δ -CoV). They are zoonotic and their animal reservoirs are thought to be bats and rodents for α -CoV and β -CoV; and avian species for γ -CoV and δ -CoV. Recent variants of the coronavirus have been associated with severe illnesses in humans. Although coronaviruses were first isolated in the 1960s, it was the SARS-CoV pandemic of 2003 that placed them amongst major infectious diseases capable of assuming epidemic and pandemic proportions, with the potential to disrupt economic, social and political systems around the world at short notice. As the quest for the earth's resources including rare minerals and food advances even into the remotest ecosystems, the chance that man will get contact with more and new pathogens remains high. Pandemics and epidemics are fast becoming a permanent part of our everyday lives.

Diseases spread basically through different mechanisms of diffusion. This occurs through the movements of people and goods that result in one of three forms of diffusion as follows: expansion or contact or contagion diffusion; hierarchical diffusion where a disease moves from

major zones to infect minor ones; and relocation diffusion involving the transfer of a disease over time and space notably through modern fast travel (Pyle, 1979; Ndi and Nguendo-Yongsi, 2018). The limitation of population movements or quarantining people to their homes constitutes the cornerstone of the strategies adopted by governments around the world to prevent or control epidemics and pandemics. Notwithstanding, emergency strategies involving economic and social lockdowns, as well as national and international border closures, often result in heavy economic and social costs on the countries or places adopting them (Begley, 2013; Garrett, 2007; Burns *et al.*, 2006; Overby *et al.*, 2004; Fan *et al.*, 2018).

This study posits that the success of Covid-19 prevention through economic closures in cities dominated by informal activities is low because of its potential to push more people into extreme poverty and death than would the pandemic in question. It examines the challenges of allocating scarce financial and human resources between health and economic priorities by households in the informal sector of the city of Yaounde between March and May 2020. While some studies have projected the potentially damaging macroeconomic effects of the Covid-19 lockdowns on developing countries (Smith *et al.*, 2018; Jorda *et al.*, 2020; Susskind, 2020; Dabla-Norris *et al.*, 2020; Delivorias and Scholz, 2020), few have illustrated these effects at the micro or household level. As the International Growth Centre (IGC) (2020) notes, blanket quarantine and lockdown measures may not achieve their desired goal because economic, political, social and cultural circumstances vary with context. Given the fragile economic circumstances of countries in sub-Saharan Africa, this study seems relevant to the understanding of the likely pattern of popular response to health emergency measures in informal settings. Such knowledge is important for contextualising the design of successful pandemic responses and health protection policies.

Literature on the health and economic imperatives of Covid-19

Without an efficient allocation of limited resources to health, a people's quality of life inevitably declines and a sickly population is inimical to a strong economy. Throughout history, infectious diseases and attempts at controlling them have had devastating consequences on economic life. The Black Death, for example, is estimated to have disseminated a third of Europe's population, leading to a fall in the labour force, a hike in wages which eventually caused the collapse of the manorial system (Martin, 2015). The word quarantine comes from Italian, *quaranta giorni*, meaning "40 days" (Enfield, 2020). Enfield explains that the Black Death used to kill in a maximum of 37 days from when the disease was contracted, necessitating sea-bound travellers to be quarantined for 40 days in the sea vessel within which time the infectious passengers would have died out.

Less than two years into the Covid-19 pandemic, the amount of published literature on the subject is overwhelmingly large. However, in terms of the impacts of Covid-19 on sub-Saharan, a lot of the literature is still conjectural. Two major trends are discernible from this literature as follows: the analysis of the Covid-19 pandemic as a public health challenge on the one hand and Covid-19 as a factor in economic ruin on the other (Frimpong *et al.*, 2020; Danquah and Schotte, 2020; Delivorias and Scholz, 2020; Gondwe, 2020; Nkengasong and Mankoula, 2020; Boum *et al.*, 2021). Despite the interest in the subject of Covid-19 and its effects on health and economics in Africa, less attention has been accorded to the considerations, perceptions and attitudes of informal sector populations in African cities most affected and how these can influence their responses to pandemic control measures such as business lockdowns, social distancing and interpersonal hygiene. With over 50% of its population now living in cities, Africa is rapidly urbanising, although the phenomenon is dominated by the development of slums. Pandemic control measures can be very difficult to

implement effectively in such informal urban contexts where hygiene and sanitation are nearly absent and people's livelihoods are unstable, ephemeral and insecure.

The analyses of the potentially ruinous effects of Covid-19 on African economies have tended to emphasise the potentially negative effects of the pandemic on African macroeconomics notably in the decline of economic growth rates, per capita income and increased unemployment (Frimpong *et al.*, 2020; Gondwe, 2020; Delivorias and Scholz, 2020). Because of this bias, far less literature accords significance to the microeconomic activities of small firms and individuals. The United Nations Economic and Social Council (ECOSOC) (2015) notes that economic growth in Africa has not been accompanied by sufficient decent wage-paying jobs in the formal sector. The informal sector remains the main source of employment across the continent, accounting for over 70% of employment in sub-Saharan Africa (ECOSOC, 2015). Assessing the potential effects of the Covid-19 pandemic in any sub-Saharan African country from a purely macroeconomic perspective ignores the domineering role of the informal sector in African cities. The greatest effects of the slump in exports and workplace closures are felt by the urban poor who inhabit slums and scratch their living by toiling on a day-to-day basis with limited or no access to health-care or societal safety nets (Danquah and Schotte, 2020; Frimpong *et al.*, 2020). The World Bank and other organisations estimate a loss of 4%–5% global gross national income in the case of a severe pandemic (Fan *et al.*, 2018) and in the current Covid-19 pandemic, the economies of many countries have shrunk and slipped into recession with others recording negative gross domestic product (GDP) growth rates (Delivorias and Scholz, 2020). Governments have been coerced into making hard economic and political choices to protect the health and economic well-being of their populations.

Health and economics are always competing for choices for any country faced with an emergency or pandemic of the magnitude of Covid-19. Irrespective of a country's level of economic and social development, all people desire to live a healthy life and to enjoy the material and psychological benefits of scientific and technological advancement although differences in resource availability and allocative efficiency make this desire illusionary (Lee and Mills, 1982). That is, why the effects of the Covid-19 pandemic and the response to it, vary amongst individuals, social groups, communities and even countries.

As the WHO declared Covid-19 a pandemic in March 2020, governments around the world have been faced with essentially the same predicaments, namely, ascertaining how much of economic and social activity should be restricted by quarantines and lockdowns to achieve what level of disease prevention and control; how much of economic lockdowns may disproportionately affect the capacity of public financing to keep up with health protection, promotion and routine patient treatment; and how lockdowns may be managed to prevent irreparable damage to the economy, youth and education and social life (Teachout and Zipfel, 2020; International Growth Centre, 2020). When businesses are shut down and movements restricted to control a pandemic, losses result from disruptions to aviation, tourism and leisure, supply chains and heightened absenteeism from work due to sickness or the need for prevention, etc.

Countries enact different policies in times of emergency or crisis. Counter pandemic fiscal policies may include an increase in public and foreign debt, a reduction in the national saving rate, thereby possibly pushing real interest rates to rise and investment to decline (Jorda *et al.*, 2020). Teachout and Zipfel (2020), in a policy brief for the IGC, observe that blanket lockdown policies in poorer countries notably in sub-Saharan Africa may put more people at risk of dying than the unmitigated spread of the virus itself if such measures are not accompanied by massive national and international economic responses. Similarly, in a Covid-19 guidance note issued in April 2020, the IGC posited that as follows:

[...] limiting social interactions to slow the spread of the virus has also limited economic interactions essential to employment and trade, leading to a collapse in economic activity in developing countries, undermining livelihoods and augmenting extreme poverty and hunger [...] a functioning economy is crucial to population health, especially in high poverty communities (p. 2).

Simulating the effect of the Covid-19 containment measures in sub-Saharan Africa, [Teachout and Zipfel \(2020\)](#) estimate that 9.1% of the region's population would slide into extreme poverty and 19.3% would be unable to afford their pre-Covid-19 food consumption level after a two-month lockdown. [Nyashanu et al. \(2020\)](#) corroborate this fact with substantive examples from the informal settlements of Tshwane Gauteng Province of South Africa. The informal sector produces about 30% of global GDP and 30%–90% of total non-agricultural employment in sub-Saharan Africa ([ILO, 2018](#); [Alexander, 2019](#)). Assessing the impact of Covid-19 on Africa's economic development, [Gondwe \(2020\)](#) posited that the pandemic was going to drag African economies to a fall of about 1.4% in GDP with the smaller economies facing a contraction of about 7.8%. The [ILO \(2020\)](#) notes that Cameroon's labour force is characterised by the preponderance of informal employment and a rapid increase in the labour force with little access to decent jobs. Informal sector workers who are dominated by women have suffered acute health risks and lost incomes due to the current coronavirus pandemic. Economic contraction is likely to cause losses in tax revenues and reduce the capacity of governments to extend the services necessary to respond to the pandemic.

In many countries, routine outpatient care has suffered a setback because hospitals have had to reallocate essential resources to accommodate Covid-19 patients. The prioritisation of Covid-19 care has led to a backlog of non-Covid-19 care of patients with chronic diseases ([BMA, 2020](#)). Similarly, severe deterioration in mental health and well-being such as difficulties in sleeping, eating, increased alcohol consumption or substance use has been reported during lockdowns ([Panchal et al., 2021](#); [Xiong et al., 2020](#) and [Giorgi et al., 2020](#)). Social distancing, quarantines, loss of employment and income, uncertainty about the future and personal health have led to unprecedented levels of anxiety in people.

While the current literature on the Covid-19 pandemic in Africa has is skewed towards analysing the potentially devastating effects of economic lockdown on the continent's macroeconomic indicators, relatively fewer analyses have been carried out into the responses to economic closures from the informal sector actors. This study picks on this discrepancy in the literature by surveying the responses to the Covid-19 response strategy amongst informal sector workers in selected neighbourhoods of Yaounde in Cameroon. By analysing the responses from the urban poor in Yaounde to the Cameroon Government's anti-Covid-19 strategy in 2020, the study demonstrates the weaknesses of applying Eurocentric blanket measures in emergencies notably the inability of such measures to reflect the diverse social and economic characteristics of African cities where bespoke measures may be more suitable.

The health and economics nexus

Health and economics are two sides of the same coin because they mutually reinforce each other. An acceptable level of health may lead to economic growth by reducing working hours lost to ill health; enhance children's school attendance and learning and make alternative profitable use of scarce resources that would otherwise be spent on disease treatment ([Rout and Nayak, 2007](#)). Similarly, a strong economy improves the allocative efficiency of resources to health care at both the institutional and personal levels. The United Nations Organisation (UNO) and its agency, the WHO all recognise this nexus and believe that the best way to achieve health in developing countries is to reduce or eliminate poverty

and to increase the percentage share of each country's GDP spent on health. In an address to the 54th World Health Assembly on 17 May 2001, Kofi Annan, the then Secretary-General of the UNO posited that the biggest enemy of health in the developing world was poverty (UNO, 2001). The typically low resilience of developing countries to disasters is attributable to weak economic production, poor allocation of scarce resources and rampant poverty that renders people more vulnerable to pandemics. Because of this reality, ministries of public health, the WHO and non-state actors invest significant resources in disease prevention and health promotion programmes in these countries.

Conceptual framework

The conceptual framework for this study was inspired by the work of Lee and Mills (1982) on the economics of health in developing countries. Health cannot be dissociated from economics. Samuelson and Nordhaus (1998) define economics as the study of how societies use scarce resources to produce valuable commodities and distribute them amongst different people. The two key ideas in this definition are the facts that resources are scarce necessitating society to use them efficiently. The application of the discipline of economics to the topic of health is called health economics (Kernick, 2003). Because of scarce resources, governments and individuals worldwide, face difficult budgetary allocation choices between health protection programmes on the one hand and multiple competing development programmes on the other hand. Allocating resources to competing uses is even more challenging in a pandemic situation in a developing country context where a lot of spending on social development emanates from bilateral and multi-lateral grants and loans procured with conditionalities at high interest rates. Figure 1 is an illustration of how governments, institutions and households allocate scarce resources between economic and health choices. Health expenditures in sub-Saharan African countries mostly come from out-of-pocket sources, state budgets and private institutions. In this scenario, the context (household or government) must make choices based on their circumstances or priorities.

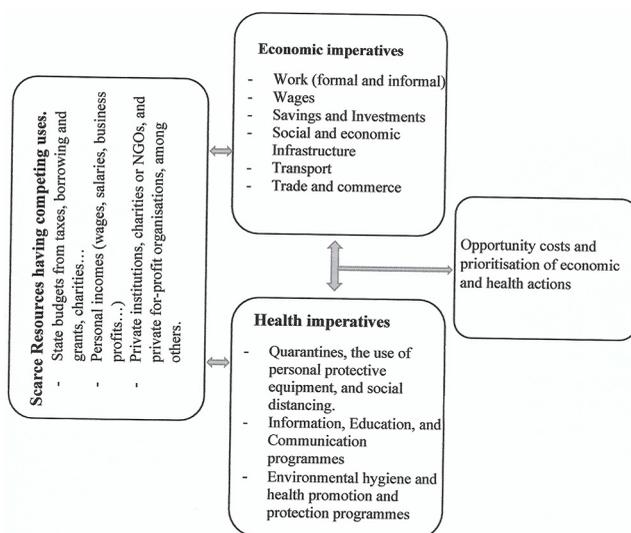


Figure 1. Scarce private and public resources with competing uses

The framework illustrates the two main competing needs (the economy and health) of households in a pandemic situation. How much of the resources are allocated to each of the two needs depends on the acuity of each need and the allocative efficiency of the resource managers.

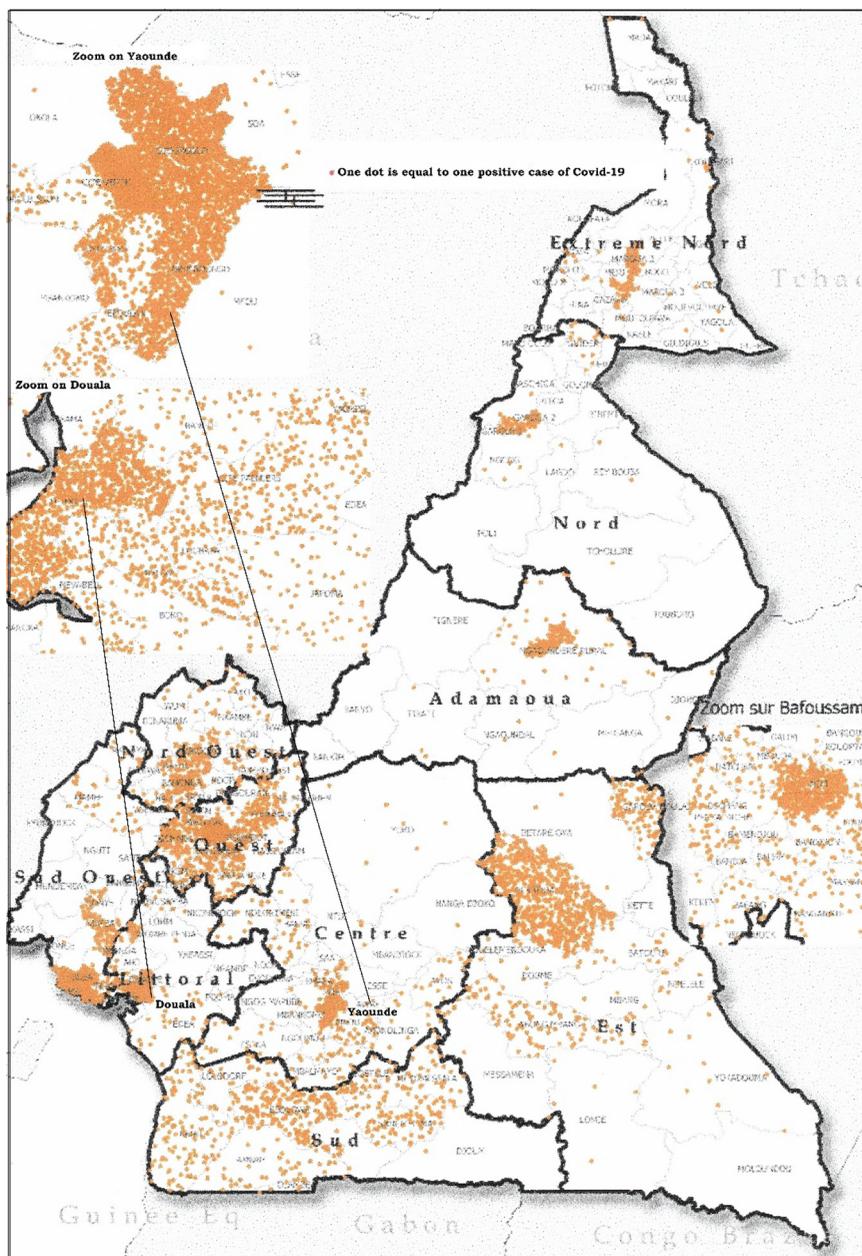
In Cameroon, where out-of-pocket health expenditures represent 75.6% of all health spending, outpacing government health spending which is only 6.0% of total health spending, (WHO, 2020), allocative efficiency tends to be even more important for households who mostly work in the informal sector. These workers are mainly women and account for more than 90% of the workforce (ILO, 2020). Jobs are extremely vulnerable and with the constant addition of young school graduates into the labour force every year, many people resort to self-employment in petty trading.

Cameroon Government's strategy against Covid-19

The first confirmed case of Covid-19 in Cameroon was announced on 24 February 2020 (Minister of Public Health [MoPH], 2020a). From this date, the official number of cases rapidly rose to 14,916 on 6 July and stood at 19,604 on 10 September 2020 with 415 deaths; 18,448 recoveries; and 742 active cases (MoPH, 2020a). This figure is certainly under-reported, as testing was never rolled out on a massive scale within the period. Although the virus spread to all the regions of the country, the Centre and Littoral regions whose capital cities are Yaounde and Douala, respectively, formed the main epicentres of the infection in the country. They accounted for 13,612 or 74% of confirmed cases in the country, with the centre alone accounting for 52% of the cases in August 2020 (Figure 2). They are the largest cities in the country and were almost at par in population in 2017 (Yaounde, 2,969,156 and Douala, 2,954,443) (Institut National de la Statistique, 2017, 2019).

Official government communication on the pandemic in Cameroon started on 17 March 2020 when the Prime Minister presented the country's response strategy. This aligned with pre-crisis and initial crisis stages of the crisis and emergency risk communication (CERC) model where communication and education are used to inform vulnerable groups of the need for behaviour change in the face of an impending crisis (Reynolds and Seeger, 2005). The salient features of this strategy were as follows:

- The closure of Cameroon's land, air and sea borders to international movements of people and goods except for cargo flights and vessels transporting essential goods and materials;
- An indefinite closure of all schools in the country from kindergarten to higher education, including school sporting activities;
- The prohibition of gatherings of more than 50 persons throughout the country;
- A curfew on the hospitality activities after 6.00 p.m.;
- A limitation of urban and inter-urban travel to essential movement and commercial vehicles with a prohibition of overloading;
- The potential requisitioning of some private health institutions, hotels and lodging facilities, vehicles and specific equipment to fight Covid-19;
- An encouragement of civil service workers to adopt electronic communication in their work and meetings where more than 10 people could be expected to come together;
- A suspension of all travel by government officials abroad; and
- An urge to step up hygiene, social distancing and face masking.



Source: MoPH (2020a). Adapted from: Cameroun-rapport de situation Covid-19, No 43. Période du 06 au 12/08/2020

Figure 2. Distribution of confirmed cases of Covid-19 in Cameroon in mid-August 2020

The government empowered civil administrators and security forces to implement these measures and a Covid-19 task force was instituted in the Ministry of Public Health to monitor, inform and communicate the trend of the virus in the country. It produced regular briefings on the infections and deaths from the virus.

By considering the need for support and cooperation with crisis response efforts including household adaptations to the response measures, the incorporation of regular crisis updates, as well as an evaluation of the strategy and the lessons learned from the process, the framework provides an ideal fit for analysing the responses of poor households to anti-Covid-19 measures in Yaounde.

Methodology

Geographical context

Placed ninth on the chart of Covid-19 infections in Africa in August 2020, Cameroon was one of the earliest loci of infectives on the continent. Infections centred on Yaounde, the capital city, which in July 2020, accounted for 52% of all infections in the country (OMS Cameroun, 2020). Yaounde is a very cosmopolitan city drawing migrant workers from a remarkably ethnically and tribally diverse country. In 40 years, the population of Yaounde leapt from 313,706 in 1976 to 2,969,156 in 2017 (BUCREP, 2010; Institut National de la Statistique, 2019). Like in developing countries, slums abound in the country's cities and towns. In Yaounde, they are a habitat for about 40% of the city's population (Feumba and Levine, 2018). The city is divided into seven administrative units administered by an appointed civil administrator (*sous-prefet in French*) and an elected Mayor.

Most of the inhabitants of Yaounde are slum dwellers and squatters who eke out a living in the informal (Sikod, 2001). They lack access to basic social facilities and good quality education, capital and credit facilities (Arimah, 2001) and as such find it difficult to move up the social mobility ladder. Their lives tend to be stitched up in a vicious cycle of poverty where their only livelihoods are precarious petty trading and unstable menial employment. They leave home every day to the local markets to work as store attendants, porters, middlemen and food vendors. They also work on construction sites and farms. A survey of 2017 revealed the average monthly per capita expenditure in Yaounde to be barely 88,000FCFA or US\$158 (Institut National de la Statistique, 2017). By living in slums (characterised by unplanned and unconventional housing, poor sewage processing and disposal, high room density and the high propensity for contagion), this category of urban population is most vulnerable to infections and epidemics (Nyashanu *et al.*, 2020; Penrose *et al.*, 2010; Friesen and Pelz, 2020). As such, disease control and prevention measures that curtail movement and livelihoods are likely to affect slums disproportionately because of the vulnerabilities deriving from the nature of the settlements and the activities of its population.

Data collection

The exploratory research design was found to be most suitable for data collection and analysis in this study. These designs were typically intended to increase an understanding of a new or little researched phenomenon (Ruane, 2005). Empirical data was collected through a questionnaire survey in three neighbourhoods with large daily markets (*Mendong, Melen and Acacia markets*), randomly selected from the 19 legal markets in Yaounde. Given the homogeneity in the structural characteristics of the markets (open air sheds and stalls); goods traded (mostly foodstuffs); and sellers (predominantly women), the routine processes did not vary significantly from one market to another. As such, the markets were selected randomly to give each of the 19 legal markets the same chances of being selected. Like all the 19 markets in Yaounde, these three markets are either located within or adjacent extensive slums.

Categories of sellers defined by the articles they sell and services provided were identified. They formed eight quotas (grocers, *buyam sellams*, restaurateurs, hoteliers, hawkers, bars,

roadside vendors, urban transports). In the absence of, data on the total number of sellers in the markets, the sizes of the quotas were estimated from the observed preponderance of each activity in each market (Table 1). In this context, quota sampling seemed to be the most appropriate technique to collect the information required for the study. Study samples were drawn from each category in a non-probabilistic manner, as the sampling frame was difficult to determine.

Ethical considerations were observed in this study. The administration of each questionnaire was preceded by a full explanation of the aim and objectives of the study to get the full consent of potential respondents. As such, participation was voluntary, private and neither pressure nor coercion was exerted on the respondents. To further ensure participants' anonymity and to boost their confidence in participating, respondent identification was rendered optional and did not constitute an object of analysis in the study.

A total of 138 questionnaires were administered in all the activity categories identified between 16 and 18 September 2020. In each of the markets, the number of questionnaires earmarked for every quota was administered to respondents selected on a convenience basis (those available and willing to respond). The objective here was to collect information from a cross-section of the predetermined research population made up of household respondents in various activity categories in the informal economic sector. The questionnaire contained both close and open-ended questions. The main themes covered in them were related to the respondent's occupation; reactions to the anti-Covid-19 strategy; the effects of the strategy on their activities; and their health protection in the face of the pandemic. Responses to open-ended questions generated qualitative data which included the experiences, perceptions and narratives of sampled household members during the lockdown period. On the other hand, responses from close-ended questions generated an ordinal data set for analysis.

A large quantity of grey literature was also available from the Ministry of Public Health in Cameroon and the WHO country office.

Data analysis

Mainly descriptive statistical techniques were used to organise and summarise the data collected through questionnaires. The mode, one of the measures of central tendency was derived from the ordinal data set generated from questionnaire analysis and was used to characterise the attitudes of respondents to quarantine measures in place. Bar charts were used to illustrate the frequencies of the distribution of responses. Responses to open-ended questions were manually sorted into themes related to the main argument of the paper.

The study used non-probability sampling which may not always produce a representative sample because the sampling error or degree of confidence is difficult to

Category (Quota)	Questionnaires	Mendong	Acacia	Melen	Hawkers and transporters
Grocers	24	08	08	08	
<i>Buyam-sellam</i> *	20	07	06	07	
Restaurateurs	20	07	06	07	
Hoteliers	08	03	03	02	
Hawkers	10	Not bound to any of the locations			
Bars	16	06	05	05	
Roadside vendors	20	07	06	07	
Urban transporters	20	Not bound to any of the locations			
	138	38	34	36	30

Table 1.
The quota sampling technique adopted for the study

Note: *Food crop retailers in local parlance

estimate. Notwithstanding, the exploratory design is intended to improve the understanding of an emerging subject by getting first-hand information on a phenomenon rather than testing for the statistical significance of such information.

All data was honestly obtained, analysed and represented with as much objectivity as possible and all authors whose ideas and facts were borrowed were duly acknowledged through citations.

Results

Poor urban households and economic effects of anti-Covid-19 measures in Yaounde

The social and economic lockdown introduced in Cameroon from March to May 2020 as a barrier measure against Covid-19 had significant effects on households involved in informal business activities in Yaounde. A survey conducted in selected neighbourhoods in the city in September 2020 revealed significant losses in small informal business ventures during the lockdown period. Over 90% of the respondents reported losses in business profits (Figure 3). The loss of customers could have been partly the result of temporary business closures as over 37.5% of respondents affirmed stopping their activities entirely during the lockdown period. Attracting and keeping a steady stream of customers determines the survival of small informal businesses, especially those selling perishable foodstuffs. Teachout and Zipfel (2020), the OECD (2019) and International Growth Centre (2020) have observed that nearly 45% of the active population in sub-Saharan Africa work in sectors that are likely to be severely impacted by blanket lockdowns. These workers often lack savings that can sustain them through periods of economic closure (Nyashanu *et al.*, 2020). The preponderance of informal economic activities makes it practically difficult for willing governments to bail out ailing businesses, as viable data neither exists on them nor urban informal settlements. The informal sector in Yaounde is chaotic and even the local administrative authorities do not have an exhaustive register of traders in neighbourhood markets. Many actors are young jobless people who use the sector as a transition to more permanent employment or to raise money for further education. It operates more like the “gig economy”. In May 2020, the International Monetary Fund executive board approved US\$226m loans to Cameroon to address the economic impact of the Covid-19 pandemic. Notwithstanding, this package, 92% of respondents in this study were neither exempted from paying rents nor market tolls to their local council during this period. Mere temporary exemption from such payments has the potential to significantly augment the resilience of these informal actors to economic shocks.

A severe pandemic is the precursor of an economic crisis (International Growth Centre, 2020; Fan *et al.*, 2018; Bloom *et al.*, 2018; Ozili, 2020; Ozili and Arun, 2020). Policies that limit economic activity to promote health are contradictory because they are inimical to trade, employment and



Figure 3.
Effects of Covid-19
lockdown on informal
and small businesses
in Yaounde

wealth creation which in themselves are prerequisites for good health. Blanket economic lockdowns undermine livelihoods and heighten the vulnerability of households to extreme poverty and hunger, thereby undermining their health. In the management of, a crisis such as Covid-19, difficult trade-offs must be stroke between health and economic goals (OECD, 2019).

In the absence of required political leadership and orientation, economic operators at all levels faced a crisis. This was evident amongst small business households in Yaounde during the Covid-19 lockdown. Between March and May 2020, a small proportion of respondents introduced elementary online advertisement and sales of their products through social media platforms such as Facebook and WhatsApp. Others relocated their businesses to their homes and continued to receive customers even in violation of the statutory closing time for all businesses which was 6.00 p.m. Interestingly, as a means of safeguarding their livelihoods, a substantially high proportion of small business owners (63%) simply ignored the lockdown measures (Table 2). In the absence of, viable support schemes to these vulnerable categories of traders, the government had to walk a fine trade-off line between tolerance and repressive enforcement. Intriguingly, others ignored the measures under the influence of the belief that the news of the virus was a hoax. A respondent said this as follows:

I did not believe in the existence of the virus because it was rumoured that the government had falsified figures of infected persons to attract external funding. Besides, most confinement centres were void of Covid-19 patients. So, I was indifferent to its existence.

Most respondents affirmed being gripped by fear of losing their businesses in the wake of the news of the Covid-19 and the consequent countermeasures. There was a significant fall in enthusiasm and heightened anxiety amongst informal business households in Yaounde. Over 56% of the respondents reported such fears and 25% of them lost zeal in their routine activities. According to one of the respondents, *the effects of lockdown were going to be bad on my business which is my main source of livelihood*. The impact of pandemics on retail and hospitality businesses derives from fears of pathogens transmission in public settings Smith *et al.* (2018). In Yaounde, despite the fears, residents had to make hard trade-offs between hunger and survival; and between keeping or losing their businesses or jobs. The long-term economic implications of pandemics tend to be heightened health care costs, the collapse of health insurance systems and a fall in per capita GDP (International Growth Centre, 2020; Overby *et al.*, 2004; Bloom and Cadarette, 2019; Teachout and Zipfel, 2020).

The economic ramifications were also felt in the education sector in Yaounde. Some respondents regretted having completed the payment of their children’s tuition because school closures meant that money was wasted on fees. With a reduction in market opening hours and the number of customer visits, they wondered how they would be able to raise money for tuition when schools resumed. Still, some respondents felt that the sudden

Activity	Ignored lockdown measures (%)
Grocer (selling of provision)	9.0
Raw food	12.0
Restaurateur	6.0
Hotelier	6.0
Hawker	2.0
Bar	6.0
Roadside vendor	13.0
Urban transporter	9.0
Total	63

Table 2.
Proportion of respondents who neglected Covid-19 lockdown measures by type of activity

announcement of lockdown caused them to lose money because some of their creditors who had borrowed from their stores could not pay their debts. Figure 4 summarises the psychological state of households in the wake of Covid-19 in Yaounde.

Health imperatives in the wake of Covid-19

A large proportion of respondents adopted practices that were aligned with anti-Covid-19 communication. Over 40% accepted wearing face coverings all the time during the lockdown period; 54% occasionally while 6% never wore them. Other measures adopted were the rampant use of hand sanitisers and the washing of hands with soap and running water. Hand washing was instituted as a mandatory practice for gaining access to most shops, commercial premises and even some private homes.

Households also adopted the consumption of herbal products believed to contain active ingredients that either prevent or treat Covid-19. Varied herbal concoctions were commonly consumed by many people. One of the respondents said as follows: *We ground ginger, garlic and onion and drank as hot tea. We also drank lemongrass tea.* Some adopted the consumption of citrus fruits such as oranges, lemons, limes, pineapple because of their low pH values in the belief that an increased acidity of the human body was a barrier to invasion by the coronavirus. Some respondents also indicated the consumption of whiskies, honey and aloe vera. With a strong belief in the therapeutic powers of these products, many households continued to go about their activities with little fear of contracting the virus. Many also resorted to “Essential Oils”, invented by the Catholic Archbishop of Douala. Archbishop Kleda told state media, Cameroon Radio and Television on 25 April that he had treated several dozen people, including eight medical staff members, for conditions affecting their respiratory systems, just like the coronavirus does. However, not all respiratory diseases are caused by Covid-19. He equally confirmed that his 30 years of medicinal plant research experience, especially on herbal treatment, had enabled him to find a cure for COVID-19 (Kindzeka, 2020a, 2020b). The strong assurances from this cleric might have lessened the psychotic fear and stress that had gripped city dwellers in Cameroon at the onset of the pandemic and by implication affecting their degrees of adherence to quarantine or social distancing measures.

The consumption of herbal products was not unconnected to the perception these households held of the credibility of the health care system. Over 69% of respondents declared having low to extremely low confidence in the ability of the hospitals in Yaounde to successfully manage the Covid-19 cases (Figure 5).

The respondents generally perceived Cameroon’s health system as mediocre in routine care and some wondered how such a system could be effectively faced with a challenging crisis. As one of them put it as follows:

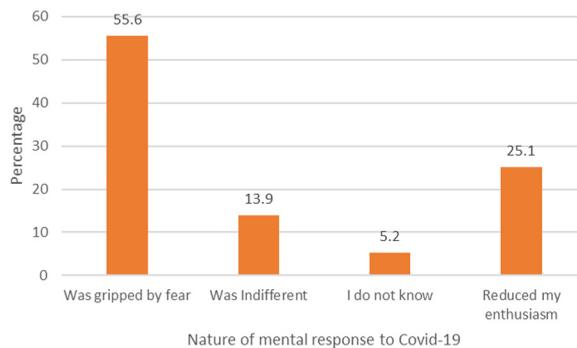


Figure 4. Psychological state of respondents to Covid-19

[. . .] in Cameroon, if dialysis kits can run short in a hospital, what can we say of the coronavirus which is a pandemic whose treatment is not yet known? The Ministry of Public Health announced the shortage of respiratory machines and some health personnel died, proof that personal protective equipment was not available. If health personnel could not be supplied with Personal Protective Equipment, what more of patients? In addition, most people who visited the hospital for non-Covid-19 complaints were immediately tagged with the infection. This made me lose confidence in the health system.

Another reason advanced for the low level of trust in the health system was that centres created to receive Covid-19 patients were generally empty because most patients in confinement escaped. Those who completed the statutory two-week confinement complained of severe underfeeding during the period. In a press briefing, Cameroon’s MoPH lamented that Cameroonians fear attending the hospitals because of the fear of contracting Covid-19 (Kindzeka, 2020a, 2020b). Although he stressed that Covid-19 wards were physically separated from others, about 600 patients fled from health facilities in the country (Kindzeka, 2020a, 2020b). Some people contended that people fled from the hospitals because body temperature was systematically taken for all visitors and anyone whose temperature went above 37 was treated as a Covid-19 suspect and attempts were immediately made to quarantine them (Kindzeka, 2020a, 2020b).

Some extreme views doubted the existence of Covid-19 arguing that top personalities in the country including the President never wore face-covering at any one time during the lockdown period. However, a small fraction of respondents thought the health system was very efficient because the recovery rate from the virus was high. On 6 July 2020, Cameroon had recorded 14,916 positive Covid-19 cases, 11,525 recoveries and 359 deaths, giving the country a fatality rate of 2.4% (OMS Cameroun, 2020).

In a context dominated by informal economic activities, it is difficult to assess the success of the anti-Covid-19 measures in Yaounde. Rated along with a Likert scale from 1 to 5, where 1, represents very unsuccessful and 5 very successful, 53.1% of respondents thought that the lockdown measures felled in the 1 to 2 range (very unsuccessful to unsuccessful) while only 15.3% saw the measures as falling in the range, successful to very successful (Figure 6). The reasons for the poor performance of these measures are to be found in the social, economic, demographic and geographical characteristics of Yaounde.

Discussion of results

The results showed that walking the thin line between health and economic priorities in a viral contagion where confinement or quarantine is the proven panacea is never easy. This is so because confinement as a response strategy severely damages the economy whose

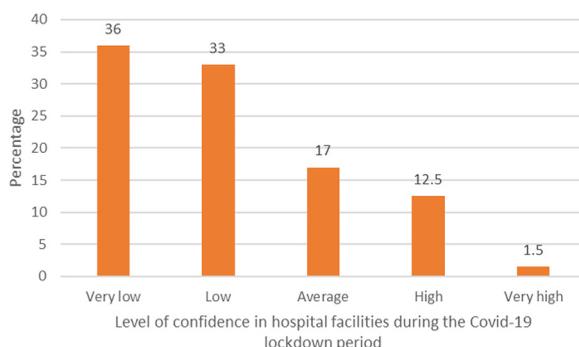


Figure 5. Respondents’ level of confidence in the hospitals in Yaounde

robustness in terms of employment provides the strongest basis for a country's resilience to a pandemic or epidemic. [Overby et al. \(2004\)](#), [Bloom and Cadarette \(2019\)](#), [Epstein et al. \(2008\)](#), [Teachout and Zipfel \(2020\)](#), [Hynes et al. \(2020\)](#), [Smith et al. \(2018\)](#), [Sands et al. \(2016\)](#) and [Delivorias and Scholz \(2020\)](#) all support this premise. Social and economic lockdowns help to reduce the propagation of viruses but inflict hardships on the population especially in the transport and hospitality sectors. The closure of international borders may result in the disruption of important supply chains for necessities. This may lead to scarcity and escalate inflation whose severest effects fall on the poor. The collapse of the fragile informal businesses not only deprives them of the income needed to enhance basic well-being including health but also reduces their capacity for out-of-pocket payment for health services where health insurance schemes are inexistent, thereby limiting their choices.

Behaviour change strategies restrictive of movement are not feasible for long periods especially in overcrowded urban spaces and in communities where trust in government is lacking ([Loayza and Pennings, 2020](#)). As such, these measures must be tailored to the economic and social specificities of each country, region or city. Notwithstanding, noticeable improvements were registered with heightened personal hygiene manifested in handwashing, rampant use of hand sanitisers and a reduction in hugging and handshaking.

The government's communication strategy against Covid-19 in Cameroon cannot be said to have been effective as empirical evidence showed. Regardless of the high level of anxiety in the population of Yaounde, poor urban dwellers continued to go about their informal business activities not because of incivility or because they minimised the risk of the contagion, but because it was rational to do so. At the heart of the lockdown in May 2020, the country director of the United Nations Programme for on Human Immunodeficiency Virus and the Acquired Immunodeficiency Syndrome, Cameroon, underscored the fact that the Covid-19 response in Cameroon faced significant constraints not least because of the capacity of the health care system to scale up testing, contact tracing and the provision of support for intensive care, but more because of the challenges to community education on hygiene and social distancing especially in poor and often crowded neighbourhoods ([Ammassari, 2020](#)). This position was contrary to that of the MoPH who in a press conference on 16 September 2020, affirmed that Covid-19 had been brought under control in Cameroon ([MoPH, 2020b](#)).

Conclusion

Lockdowns have the propensity to be more effective in the rich countries, where towns and cities are planned; and where people can endure economic stress in the short to medium term with incentives and support schemes for people to stay indoors. Their efficiency is still to be

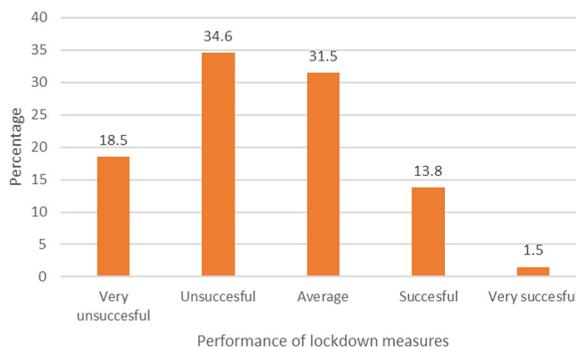


Figure 6.
Perception of success
of lockdown
measures in Yaounde

ascertained in the developing and poorer countries despite their importance in public health medicine. Teachout and Zipfel (2020) and Delivorias and Scholz (2020) note that most poor urban households in sub-Saharan Africa live in remarkable proximity because of high room densities and the cramming of many buildings in limited spaces. In such a context, lockdowns may keep people indoors and rather encourage transmission through contact diffusion irrespective of face-masking and handwashing. Social distancing is practically impossible to implement in such contexts. No doubt, many Yaounde city dwellers went about their businesses as if there were no restrictions of movements. The government opted for passivity because it could not provide lockdown support measures to the population.

The near absence of a country-wide address system for residences and streets means that contact tracing is difficult even if digital resources abound. In such a context, the challenge of balancing the level of health protection through lockdown with the level of economic activity is massive. No matter how meticulously the balancing is done, health and economic imperatives in the context of crisis often relate inversely, not directly. There is an urgent need for a progressive and socially inclusive clearance of slums, improvement of communication and local level mobilisation for improved sanitation; provisioning of potable water and better urban infrastructure in Yaounde. Such investment has the potential to reduce the frequency of human contact with pathogens. Bloom *et al.* (2018) posit that no health system can predict which pathogen will prompt the next major epidemic, where it will originate or how grim the consequences will be. Notwithstanding, if the response to any pandemics must be effective, our living milieux must be rendered convivial and livelihoods strengthened through optimal resource governance.

Implications for policy and future research

Controlling a pandemic through lockdowns or business closures is a historic and effective technique. Notwithstanding, its effectiveness, this policy should achieve better results if it is tailored to reflect the diversity of economic, professional, social and cultural characteristics often found in city populations and neighbourhoods. This is explained by the fact that vulnerability to pandemics may also be determined by social, demographic, cultural and economic factors.

Restricting movements and closing businesses are difficult to implement in urban informal settings because their populations are informal workers who earn a living on a day-to-day basis and have no access to social security and health-care. Respecting lockdowns and staying home in the absence of support from the government is extremely difficult. Successful lockdown policies in these cities should be driven by local governments which manage markets, transport and housing systems. As such, their policies will be more reflective of local realities than those enacted by central government authorities.

The effective use of herbal medicine in pandemic situations is more effective when coordinated with public health policies. This synergy has the potential to boost the confidence of the population in these herbal cures. This can be effective if research in medicinal plants is revitalised and the results valorised for local consumption.

Despite these policy implications, it should be noted that controlling pandemics is not an easy task for any government whether in rich or poor countries. No matter how well-informed an anti-pandemic strategy may be, the perceptions and beliefs of people, as well as their economic realities, make them susceptible to either resist or accept change. Understanding the role of religious beliefs, traditional cultures, levels of education and political activism in emergency contexts is, therefore, crucial. This is one of the directions further research in pandemic control should take.

References

- Alexander, T.F. (2019), "The global informal economy: large but declining", available at: <https://blogs.imf.org/2019/10/30/the-global-informal-economy-large-but-on-the-decline/> (accessed on 15 September 2020).
- Al-Osail, A.M. and Al-Wazzah, M.J. (2017), "The history and epidemiology of Middle East respiratory syndrome coronavirus", *Multidisciplinary Respiratory Medicine*, Vol. 12 No. 1, p. 20, doi: [10.1186/s40248-017-0101-8](https://doi.org/10.1186/s40248-017-0101-8).
- Ammassari, S. (2020), "Dealing with Covid-19 in Cameroon", available at: www.unaids.org/en/resources/presscentre/featurestories/2020/may/20200511_covid19-cameroon (accessed 3 October 2020).
- Arimah, B. (2001), "Slums as expressions of social exclusion: explaining the prevalence of slums in African countries", United Nations Human Settlements Programme (UN-Habitat), Nairobi, available at: www.researchgate.net/publication/228856797_Slums_As_Expressions_of_Social_Exclusion_Explaining_The_Prevalence_of_Slums_in_African_Countries (accessed 20 September 2020).
- Begley, S. (2013), "Flu-economics: the next pandemic could trigger global recession", Reuters health news, available at: www.reuters.com (accessed 25 September 2020).
- Bloom, D.E. and Cadarette, D. (2019), "Infectious disease threats in the twenty-first century: strengthening the global response", *Frontiers in Immunology*, Vol. 10, article 549, doi: [10.3389/fimmu.2019.00549](https://doi.org/10.3389/fimmu.2019.00549).
- Bloom, D.E., Cadarette, D. and Sevilla, J.P. (2018), "New and resurgent infectious diseases can have far-reaching economic repercussions", *Finance and Development*, June, pp. 46-49.
- BMA (2020), "The hidden impact of Covid-19 on patient care in the NHS in England", www.bma.org.uk/media/2841/ (accessed 14 March 2020).
- Boum, Y., Bebell, L.M. and Bisseck, A.Z. (2021), "Africa needs local solutions to face the Covid-19 pandemic", *The Lancet*, Vol. 397 No. 10281, available at: www.thelancet.com (accessed 30 April 2020).
- BUCREP (2010), "Rapport de présentations des résultats définitif", 3e RGPH. BUCREP.
- Burns, A., Mensbrugge, D. and Timmer, H. (2006), "Evaluating the economic consequences of avian influenza", Global Development Finance, available at: www.worldbank.org/gfd2006 (accessed on 10 September 2020).
- Columbus, C., Brust, K.B. and Arroliga, A.C. (2020), "2019 novel coronavirus: an emerging global threat", *Baylor University Medical Center Proceedings*, Vol. 33 No. 2, pp. 209-212, doi: [10.1080/08998280.2020.1731272](https://doi.org/10.1080/08998280.2020.1731272) (accessed 20 September 2020).
- Dabla-Norris, E., Gaspar, V. and Kochhar, K. (2020), "Preparing for an unknown world: we must collectively work toward resolving the problems exposed by the crisis", *Finance and Development*, June, pp. 24-25.
- Danquah, M. and Schotte, S. (2020), "Covid-19 and the socioeconomic impact in Africa: the case of Ghana", Wider Background Note, 5/2020, doi: [10.35188/UNU-WIDER/WBN/2020-5](https://doi.org/10.35188/UNU-WIDER/WBN/2020-5) (accessed 30 April 2020).
- Delivorias, A. and Scholz, N. (2020), "Economic impact of epidemics and pandemics, Briefing, European Parliamentary Research Service", European Parliament.
- Enfield, L. (2020), "Why we still need quarantine", Wellcome Collection, available at: www.wellcomecollection.org (accessed 14 March 2020).
- Epstein, J.M., Parker, J., Cummings, D. and Hammond, R.A. (2008), "Coupled contagion dynamics of fear and disease: mathematical and computational explorations", *PLoS ONE*, Vol. 3 No. 12, p. e3955, doi: [10.1371/journal.pone.0003955](https://doi.org/10.1371/journal.pone.0003955) (accessed 18 September 2020).
- Fan, V.Y., Jamison, D.T. and Summers, L.H. (2018), "Pandemic risk: how large are the expected losses?", *Bulletin of the World Health Organization*, World Health Organisation, Vol. 96 No. 2, pp. 129-134.
- Feumba, R. and Levine, A.B. (2018), "Yaounde, Cameroon", SFD Report, available at: www.sfd.susana.org (accessed 18 September 2020).
- Friesen, J. and Pelz, P.F. (2020), "Covid-19 and slums: a pandemic highlights gaps in knowledge about urban poverty", *JMIR Public Health and Surveillance*, Vol. 6 No. 3, p. e19578, available at: <http://publichealth.jmir.org/2020/3/e19578> (accessed 2 October 2020).

- Frimpong, O.B., Bihuzo, R.M. and Commodore, R. (2020), "The Covid-19 pandemic in Africa: Impact, responses, and lessons from Ghana, the Democratic Republic of the Congo, and Rwanda. Africa program occasional paper", Wilson Center, available at: www.wilsoncenter.org/publication (accessed 30 April 2020).
- Garrett, T.A. (2007), "Economic effect of the 1918 influenza pandemic: implications for a modern-day pandemic", available at: www.stlouisfed.org/community/other-pubs.html (accessed on 14 September 2020).
- Giorgi, G., Lecca, L.I., Alessio, F., Finstad, G.L., Bondanini, G., Lulli, L.G., Arcangeli, G. and Mucci, N. (2020), "Covid-19 related mental health effects in the workplace: a narrative review", *International Journal of Environmental Research and Public Health*, Vol. 17 No. 21, p. 7857.
- Gondwe, G. (2020), "Assessing the impact of Covid-19 on Africa's economic development", UNCTAD, UNCTAD/ALDC/MISC/2020/3.
- Hynes, W., Trump, B., Love, P. and Linkov, I. (2020), "Bouncing forward: a resilience approach to dealing with Covid-19 and future systemic shocks, environment systems decision", available at: <https://doi.org/10.1007/s10669-020-09776-x> (accessed 14 September 2020).
- ILO (2018), "More than 60 % of the world's employed population are in the informal economy", available at: www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_627189/lang-en/index.htm (accessed 12 September 2020).
- ILO (2020), "Cameroon-rapid evaluation of the impact of Covid-19 on employment and the labour market in Cameroon", ILO Brief, available at: www.ilo.org/emppolicy (accessed 15 March 2020).
- Institut National de la Statistique (2017), "Annuaire Statistique de la Région du Centre", Yaounde.
- Institut National de la Statistique (2019), "Annuaire Statistique de la Région du Littoral", Yaounde.
- International Growth Centre (2020), "IGC Covid-19 guidance note: containment strategies and support for vulnerable households", available at: www.theigc.org/covid-19 (accessed 19 September 2020)
- Jorda, O., Singh, S.R. and Taylor, A.M. (2020), "A long economic hangover of pandemics", *Finance and Development*, June, pp. 12-15.
- Kernick, D.P. (2003), "Introduction to health economics for the medical practitioner", *Postgraduate Medical Journal*, Vol. 79 No. 929, pp. 147-150.
- Khan, J.S. and McIntosh, K. (2005), "History and recent advances in coronavirus discovery", *Pediatric Infectious Disease Journal*, Vol. 24 No. 11, pp. S223-S227, doi: [10.1097/01.inf.0000188166.17324.60](https://doi.org/10.1097/01.inf.0000188166.17324.60).
- Kindzeka, M.E. (2020a), "Cameroon eases coronavirus lockdown, but neighbors block access", VOA, available at: www.voanews.com/covid-19-pandemic/cameroon-eases-coronavirus-lockdown-neighbors-block-access (accessed 30 September 2020).
- Kindzeka, M.E. (2020b), "Cameroon patients flee hospital as Covid-19 cases increase", available at: www.voanews.com/covid-19-pandemic/cameroon-patients-flee-hospital-covid-19-cases-increase (accessed 30 September 2020).
- Lee, K. and Mills, A. (Eds), (1982), *The Economics of Health in Developing Countries*, Oxford Medical Publications, Oxford University Press.
- Loayza, N.V. and Pennings, S. (2020), *Macro-Economic Policy in the Time of Covid-19: A Primer for Developing Countries, Research and Policy Briefs from the Malaysia Hub*, The World Bank.
- Luo, G. and Gao, S. (2020), "Global health concerns stirred by emerging viral infections", *Journal of Medical Virology*, Vol. 92 No. 4, pp. 399-400, doi: [10.1002/jmv.25683](https://doi.org/10.1002/jmv.25683).
- Martin, S. (2015), "A short history of disease: plagues, poxes and civilizations", Harpenden, Pocket Essentials.
- MoPH (2020a), "Cameroun: rapport de situation Covid-19, No 43. Période du 06 au 12 August 2020", available at: www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/cmr_covid19_sitrep43.pdf (accessed on 3 October 2020).
- MoPH (2020b), "Conférence de presse conjointe relative a la mise en œuvre de la stratégie de riposte contre la pandémie du coronavirus au Cameroun (Covid-19) au Cameroun", Auditorium du

- Ministère de la Communication. Yaounde – 16 Septembre 2020, available at: www.minsante.cm/site/?q=fr/content/propos-du-ministre-de-la-sant%C3%A9-publique-%C3%A0-l'occasion-de-la-conf%C3%A9rence-de-presse-conjointe (accessed 3 October 2020).
- Ndi, H.N. and Nguendo-Yongsi, H.B. (2018), *Introduction to Health Geography*, The Book Guild Ltd, Leicestershire.
- Nkengasong, J.N. and Mankoula, W. (2020), "Looming threat of Covid-19 infection in Africa: act collectively, and fast", *The Lancet*, Vol. 395 No. 10227, available at: www.thelancet.com (accessed 30 April 2020).
- Nyashanu, M., Simbanegavi, P. and Gibson, L. (2020), "Exploring the impact of Covid-19 pandemic lockdown on informal settlements in Tshwane Gauteng province, South Africa", *Global Public Health*, Vol. 15 No. 10, pp. 1443-1453, doi: [10.1080/17441692.2020.1805787](https://doi.org/10.1080/17441692.2020.1805787).
- OECD (2019), "Resilience strategies and approaches to contain systemic threats", SG/NAEC (2019)5, OECD Conference Centre.
- OMS Cameroun (2020), "Covid-19 Infos: bulletin d'information de l'OMS Cameroun", No 001, Juillet 2020, Edition Speciale.
- Overby, J., Rayburn, M. and Hammond, K. (2004), "The China syndrome: the impact of the SARS epidemic in Southeast Asia", *Asia Pacific Journal of Marketing and Logistics*, Vol. 16 No. 1.
- Ozili, P.K. and Arun, T. (2020), "Spillover of COVID-19: impact on the global economy", available at SSRN: <https://ssrn.com/abstract=3562570> or doi: [10.2139/ssrn.3562570](https://doi.org/10.2139/ssrn.3562570) (accessed 14 March 2020).
- Ozili, P.K. (2020), "COVID-19 pandemic and economic crisis: the Nigerian experience and structural causes", *Journal of Economic and Administrative Sciences*, doi: [10.1108/JEAS-05-2020-0074](https://doi.org/10.1108/JEAS-05-2020-0074) (accessed 14 March 2020).
- Panchal, N., Kamal, R., Cox, C. and Garfield, R. (2021), "The implication of Covid-19 for mental health and substance use", Kaiser Family Foundation (KFF), available at: www.kff.org/coronavirus-covid-19 (accessed 16 March 2021).
- Penrose, K., Caldas de Castro, M., Werema, J. and Ryan, E.T. (2010), *Informal Urban Settlements and Cholera Risk in Dar Es Salaam, Neglected Tropical Diseases*, PLoS, Tanzania.
- Pyle, G.F. (1979), *Applied Medical Geography*, A.H Winston and Sons, Washington, DC.
- Reynolds, B. and Seeger, M.W. (2005), "Crisis and emergency risk communication as an integrative model", *Journal of Health Communication*, Vol. 10 No. 1, pp. 43-55.
- Rout, H.S. and Nayak, N.C. (2007), "Health and health economics: a conceptual framework", in Rout, H.S. and Panda, P.K. (Eds), *Health in India*, New Century publications, New Delhi, pp. 13-29, available at: www.researchgate.net/publication/24115043_Health_And_Health_Economics_A_Conceptual_Framework (accessed 13 October 2020).
- Ruane, J.M. (2005), *Essentials of Research Methods: A Guide to Social Science Research*, Blackwell Publishing.
- Samuelson, P. and Nordhaus, W.D. (1998), *Economics*, 16th ed., McGraw Hill Companies, Inc.
- Sands, P., Mundaca-Shah, C. and Dzau, V.J. (2016), "The neglected dimension of global security – a framework for countering infectious-disease crises, special report", *The New England Journal of Medicine*, Vol. 374 No. 13, pp. 1281-1287.
- Sikod, F. (2001), "Constraints to managing urban poverty in Cameroon", *Environment and Urbanization*, Vol. 13 No. 1, pp. 201-208.
- Smith, K.M., Machalaba, C.C., Seifman, R., Feferholtz, Y. and Karesh, W.B. (2018), "Infectious disease and economics: the case for considering multi-sectoral impacts", *One Health* 7, available at: www.elsevier.com/locate/onehl (accessed 27 September 2020).
- Susskind, D. (2020), "How will the world be different after Covid-19?", *Finance and Development*, pp. 26-29. June.
- Teachout, M. and Zipfel, C. (2020), "The economic impact of Covid-19 lockdowns in Sub-Saharan Africa", Policy Brief, IGC, available at: www.theigc.org/covid-19 (accessed 15 September 2020).

-
- United Nations Economic and Social Council (ECOSOC) (2015), “United Nations Economic Commission for Africa (ECA) contribution to 2015 United Nations Economic and Social Council (ECOSOC) Integration Segment. ECOSOC, The informal economy is often associated with increasing poverty and weak employment conditions”, available at: un.org (accessed 4 May 2021).
- UNO (2001), “Poverty biggest enemy of health in the developing world, secretary-general tells world health assembly”, Press release SG/SM/7808, available at: www.un.org/press/en/2001/sgsm7808.doc.htm# (accessed 13 October 2020).
- WHO (2020), “WHO coronavirus virus disease (Covid-19) dashboard”, available at: <https://covid19.who.int/> (accessed 2 October 2020).
- Xiong, J., Lipsitz, O., Nasri, F., Lui, L.M.W., Gill, H., Phan, L., Chen-Li, D., Iacobucci, M., Hoe, R., Majeed, A. and McIntyre, R.S. (2020), “Impact of Covid-19 pandemic on mental health in the general population: a systematic review”, *Journal of Affective Disorders*, Vol. 277, pp. 55-64.

Further reading

- Fouda, L.M. (2020), “IMF executive board approves a US\$226 million disbursement to Cameroon to address the impact of the Covid-19 pandemic”, available at: www.imf.org/en/News/Articles/2020/05/04/pr20205-cameroon-imf-exec-board-approves-us-226m-disbursement-address-impact-covid19-pandemic (accessed 27 September 2020).
- Jones, K.E., Patel, N.G., Levy, M.A., Storeygard, A., Balk, D., Gittleman, J.L. and Daszak, P. (2008), “Global trends in emerging infectious diseases”, *Nature*, Vol. 451 No. 7181, doi: [10.1038/nature06536](https://doi.org/10.1038/nature06536).
- Kuikou, O. (2020), “Cameroon: an empirical assessment with VAR methodology”, MPRA Paper No. 99727, available at: <https://mpra.ub.uni-muenchen.de/99727/> (accessed 30 September 2020).
- Kum, F.V. and Kouam, H. (2020), “Socio-economic implication of Covid-19 in Cameroon and proposals to reduce the economic fallout”, Nkafu Policy Institute, available at: Nkafu.org/coronavirus (accessed 30 September 2020).
- Prime Minister’s Office (2020), “Government response strategy to the coronavirus pandemic (Covid-19) – special statement by the Prime Minister, Head of Government”, available at: www.tralac.org/documents/resources/covid-19/countries/3547-cameroon-governments-covid-19-response-strategy-special-statement-by-the-prime-minister-30-april-2020/file.html (accessed 3 October 2020).
- Ramos, G. and Hynes, W. (2020), “A systemic resilience approach to dealing with Covid-19 and future of shocks: new approaches to economic challenges (NAEC)”, available at: Oecd.org/coronavirus
- Shizgal, P. (2012), “Scarce means with alternative uses: Robbins definition of economics and its extension to the behavioural and neurological study of animal decision making”, *Front. Neurosci*, Vol. 6 No. 20, doi: [10.3389/fnins.2012.00020](https://doi.org/10.3389/fnins.2012.00020).
- WHO (2001), “Information, education, and communication: lessons from the past; perspectives for the future”, WHO.
- WHO (2014), “Global health expenditure database”, available at: https://apps.who.int/nha/database/country_profile/index/en

Corresponding author

Humphrey Ngala Ndi can be contacted at: hngalan117@gmail.com

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgrouppublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com