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Abstract

Facing the first wave of COVID-19, African countries were confronted with a dilemma: enacting strict lockdowns in order to “flatten the curve” could lead to a potentially severe drop in food security. Given this catch-22 situation, there was widespread concern that Africa would suffer most from the pandemic. Yet, emerging evidence shows that COVID-19 deaths in Africa have remained low, while “biblical famines” have been avoided, so far. This paper explores how five African countries maneuvered around the potentially large trade-offs between public health and food security when designing their policy responses to the first wave of COVID-19 based on a content analysis of 1,188 newspaper articles. The findings show that the countries did not merely mimic the lockdown response of high-income countries - as the theory of policy diffusion would suggest. Acting under high uncertainty and urgency, the five countries adopted lockdown strategies that were “feasible” for them, reflecting both their food security situation and degree of political freedom. This confirms Amartya Sen’s theory of famines which predicts that democratic discourse can avert the worst food security outcomes. The paper provides insights into theories explaining government choices, including theories that focus on policy processes, public choice and policymaking in crisis. Understanding how African countries have navigated through the dilemma between pandemics and famines is of high significance since the food security effects that occur in the context of the ongoing pandemic - and potential future pandemics - are largely shaped by policy responses of governments.

Key Words

COVID-19, lockdown, food security, Africa, policy discourse

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1. Introduction

Facing COVID-19, governments across the world faced the difficult question: to which degree should they enact lockdowns to curb the spread of the virus. Lockdowns, a term describing restrictions of movement and closing of workplaces, among others, are an extreme form of non-pharmaceutical intervention to address outbreaks of contagious diseases for which no medical cure or vaccination exists. Lockdown decisions were particularly challenging for low-income countries, many of which are located in Africa, leading to dire outlooks on how such countries would handle the pandemic.

On the one hand, there were fears about countless deaths due to limited healthcare systems, overcrowded slums, and populations' underlying health conditions like tuberculosis and HIV/AIDS, creating pressure to lockdown to "flatten the curve" (Wood, 2020; Maclean and Marks, 2020). At the time, a UN report estimated that "between 300,000 and 3.3 million African people could lose their lives as a direct result of COVID-19" (p.v) (Economic Commission for Africa, 2020). On the other hand, there were concerns that lockdowns could devastate food security in countries with large informal sectors and patchy social safety net programs (Laborde et al., 2020; Torero, 2020; WFP, 2020b; Latif, 2020). For example, in April, the World Food Programme warned of famines of "biblical proportions" (WFP, 2020a).

Half a year later, COVID-19 morbidity across Africa is much lower than expected, puzzling experts (Ghosh et al., 2020; Lawal, 2020). Moreover, while COVID-19 and the related global recession have led to rising food insecurity (Arndt et al., 2020; Kansiime et al., 2021) - the FAO estimates that 80-130 million additional people became undernourished (FAO et al., 2020) - there are no famines of "biblical proportions" and a notable absence of food riots, which characterized the food price crisis of 2007/2008 (Berazneva and Lee, 2013). Overall, the situation is far from perfect, but also far from the dire outlooks forecast at the beginning of the pandemic.

This paper explores how five African countries - Zambia (Southern Africa), Ghana, Benin, (West Africa), Kenya and Uganda (East Africa) - maneuvered the potentially large trade-offs between the containment of the pandemic and food and nutrition security when - under higher uncertainty - designing their policy responses to the first wave of the pandemic. The countries were selected to reflect different levels of food insecurity at the onset of the pandemic - ranging from "low" (Ghana) to "serious" (Zambia, Kenya, and Uganda) - as well as different degrees of political freedom - ranging from "free" (Ghana) to "not free" (Uganda).

Moreover, at least one member of the author team has intensive research experience and/or is a native of the selected countries.

According to the Oxford COVID-19 Government Response Tracker (OxCGRT) (Hale et al., 2020a), these five countries chose very different lockdown stringencies: Kenya and Uganda decided to impose stringent lockdowns, whereas Zambia, Ghana, and Benin chose to implement less stringent lockdowns. However, little is known about the public and political debates influencing the stringency of the lockdown measures. Why did Uganda and Kenya impose strict lockdowns but not the other countries? Which political motives shaped their lockdown strategies? To which extent did food security considerations influence the government's decisions to impose and maintain lockdowns?

These questions are of high significance, since the food security effects of the ongoing pandemic are largely shaped by government's policy responses. Moreover, studying policy responses of low-income countries deepens our understanding of policymaking in crises like COVID-19 and potential future pandemics. This paper examines the societal and political debates leading to the countries' lockdown decision through a content analysis of 1,188 articles in major newspapers and a review of official statements in the five countries (see Materials and Methods).

The paper draws on different theoretical approaches that are suitable to explain the logic of the lockdown decisions and the role food security concerns played. These theoretical considerations also informed the coding schemes for the content analysis. Based on Sen's theory of famines, democratic countries may have stronger incentives than more authoritarian regimes to consider food security issues when determining the stringency of a lockdown (11). The "feasibility hypothesis" of civil conflict by Collier et al. (2008) assumes that governments will take into account: I) the expected scale of opposition against stringent lockdowns, and II) the government's capacity, a) to offset adverse effects of stringent lockdowns by providing support such as food aid or financial transfers, and b) their capacity and willingness to use police or military force to implement stringent lockdown measures against the opposition. Based on the theory of policy diffusion by Berry and Berry (2019), governments may adopt policies, because a) they observe that such policies are implemented in other countries and are perceived to be successful, b) they perceive political pressure to conform to internationally accepted standards, and c) such mimicking may help to avoid responsibility and shelter from criticism (Sebhatu et al., 2020). In the context of COVID-19 lockdowns, the role of policy diffusions has been shown to be relevant for high-income countries (Sebhatu et al., 2020).

2. Materials and methods

2.1. Lockdown stringency from a food security perspective

To quantify the stringency of the lockdown measures and compare across countries, we use data from the freely available Oxford COVID-19 Government Response Tracker (Hale et al., 2020a), which systematically records government responses worldwide. Eight indicators on containment and closure policies are aggregated into one Stringency Index. We adjust this index by including only policies that might negatively affect food security; public event cancellation and public information campaigns were excluded (see Appendix). We follow the authors' methodology to rescale each of the indicators by their maximum value to create a score between 0 and 100. These indicator scores, in our case seven, are then averaged to get the composite Stringency Index (Hale et al., 2020b). We calculated the average adjusted lockdown stringency for each country from the day, when the value exceeds 10, until May 17, see Figure 1. We use individual starting points to calculate the average to avoid any distortion through very early measures that, in isolation, did not strongly affect the population, like restrictions on international travel.

2.2. Content analysis of newspapers

A content analysis of online newspaper articles was conducted. To cover the political spectrum, two newspapers were chosen for each selected country: The largest government-affiliated and one of the largest newspapers affiliated to the opposition or non-affiliated. The newspapers were selected based on local expert knowledge (see Appendix). The study period was between January 1 and May 17, 2020, as the major lockdown measures fell into this period. Due to limitations in the search functions of the newspaper archives, an internet search was conducted using Google and entering "site: [internet address of a selected newspaper] covid lock" for English-speaking countries and "site: [internet address of a selected newspaper] covid cordon" for the French-speaking country Benin. All newspaper articles (see Appendix) were included in the analysis, except in Kenya, where the number of newspaper articles was far higher than in the other countries. Therefore, only the first 200 articles of each of the two Kenyan newspapers from the Google search were included to make numbers comparable. Newspaper articles that did not cover COVID-19, only provided updated case numbers, or solely reported the lifting of lockdown measures were excluded. All remaining newspaper articles were coded by five of the author team using the Qualitative Data Analysis (QDA) Miner Lite software.

To ensure consistency of coding, the author team used the following approach: I) broad categories were defined based on the conceptual considerations; II) a set of approx. 20 newspaper articles was coded for Kenya, Uganda, and Zambia; III) the most common

themes of each category were identified to build a common set of codes applicable to all five countries; and IV) five members of the author team used these codes to analyze all selected newspaper articles.

To test the trustworthiness of the content analysis, the five coders double-coded 50 randomly selected newspaper articles - 10 from each country. Table 1 shows the results of intercoder reliability testing using STATA. The overall percentage agreement is 0.97. The overall Cohen kappa is 0.64, which is considered “good”. Cohen’s kappa is lower than the percentage agreement, since a large share (95%) of codes did not apply for the selected newspaper articles as perceived by both the first and second coders. This phenomenon, called the Kappa paradox, emphasizes the need to look at both the Kappa value and percentage agreement jointly (Cicchetti and Feinstein, 1990; Feinstein and Cicchetti, 1990). Brennan and Prediger (1981) suggest using a prevalence-adjusted bias-adjusted kappa (see also Table 1) to account for skewness when facing the Kappa paradox

Table 1. Intercoder reliability.

	Lockdown Arguments	Governance Challenges	Food Security Effects and Measures	Organizations and Countries	Total
Percent Agreement	0.8968 (0.000)	0.9600 (0.000)	0.9493 (0.000)	0.9951 (0.000)	0.9741 (0.000)
Brennan and Prediger	0.7937 (0.000)	0.9200 (0.000)	0.8987 (0.000)	0.9901 (0.000)	0.9481 (0.000)
Cohen’s Kappa	0.3532 (0.000)	0.4795 (0.000)	0.1826 (0.000)	0.9065 (0.000)	0.6359 (0.000)

Note: P-Values in Brackets

3. Results

3.1 Situating the case study countries’ lockdown stringencies

Figure 1 shows the adjusted lockdown stringencies of countries across the globe. Overall, the lockdown stringencies of countries worldwide vary widely, with the same applying to African countries. As Figure 1 shows, there is a big variety in terms of the initial lockdown stringencies that countries or territories adopted. Some opted to only implement mild lockdowns, most popularly Sweden, Taiwan, and South Korea, as well as African countries like Zambia and Ghana. Different from that, some countries chose to implement lockdowns with measured stringencies, most importantly China (this is valid for the country-wide approach, the lockdown stringency would be much higher for the Hubei province) as well

as African countries like Benin and the Democratic Republic of Congo. Here, some countries reacted relatively early, like Germany, while other countries reacted after an initial delay, like the USA or Russia. Lastly, some countries implemented rather stringent lockdowns, most prominently Italy and Argentina, as well as African countries like Kenya, Uganda, and Egypt. Amongst these are some low/middle-income countries that, despite having implemented strict lockdowns, suffered from high numbers of infections in the following weeks or months which resulted in a double burden for the population, as for example in India, South Africa, Bangladesh, the Philippines, Nepal, Kenya, Morocco, and Algeria.

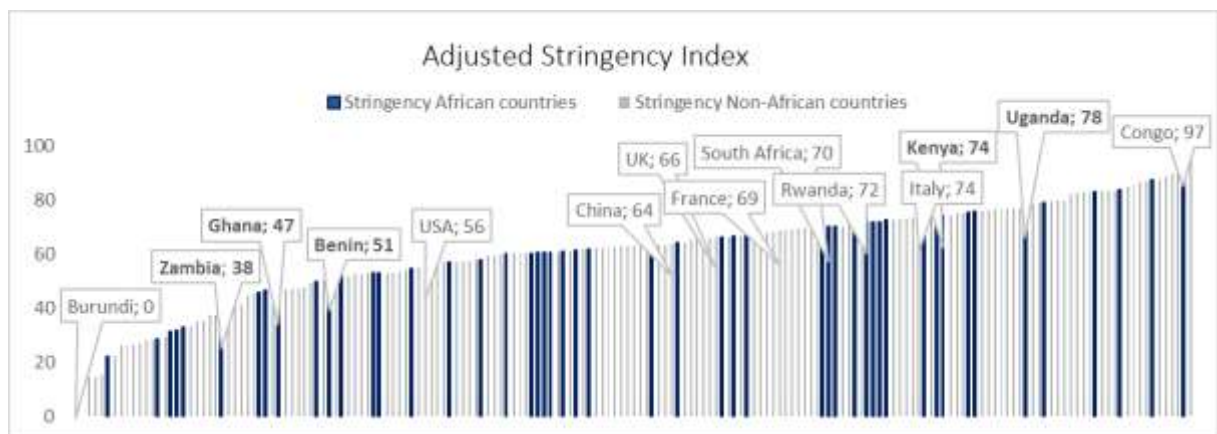


Figure 1. Adjusted lockdown stringency by countries (mean daily values between January 1 to May 17 2020), based on Hale et al. (2020a).

Although slightly delayed compared to other continents, Africa reached an average lockdown stringency comparable to Asia and Europe until mid-April (see Figure 2). To curb the spread of infections, lockdown measures were first implemented in China at the beginning of January 2020, quickly followed by Hong Kong, Macao and Mongolia. India and Indonesia implemented slight measures around that time, too. At the end of February, South Korea and Vietnam as well as Italy tightened their measures. As can be seen in Figure S1, Asia was the continent that gave the lead to the implementation of lockdowns, whereas March was the month in which most countries and territories worldwide followed in these steps: The level of Europe's lockdowns rose quickly after the first week of March, followed by North and South America a few days later. Mid-March, the African continent followed a similar surge in stringency like other continents previously, and from then on joined the Asian lockdown trajectory. Global lockdown measures peaked in April with an average global value of ca. 70. In May, the lockdowns were carefully relaxed which was continued and reached a global average of ca. 40 at the end of June 2020. Here, Europe and Oceania were the continents which eased the lockdowns the quickest, while Africa and Asia did this more carefully and the Americas the slowest.

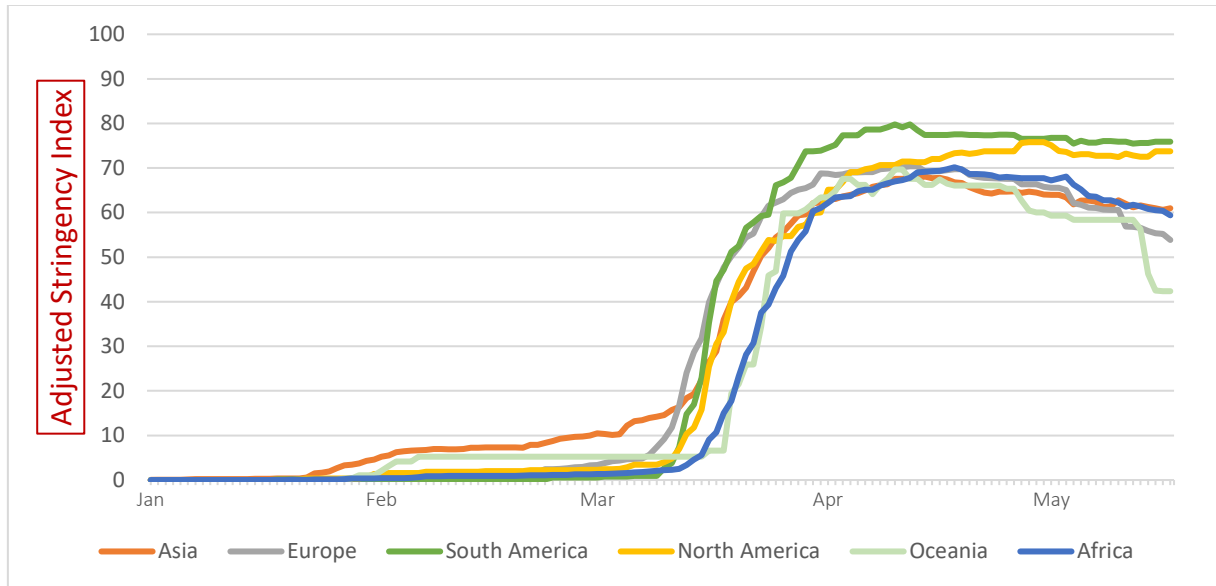


Figure 2. Lockdown stringency by continents (Mean daily values across continents between January 1 until May 17, 2020).

Zambia, Ghana, and Benin were grouped as countries with less stringent lockdowns, while Kenya and Uganda form the group of countries with more stringent lockdowns. Figure 3 shows a time trend of lockdown stringency, reported daily infections, and accumulated COVID-19 deaths for the five countries.

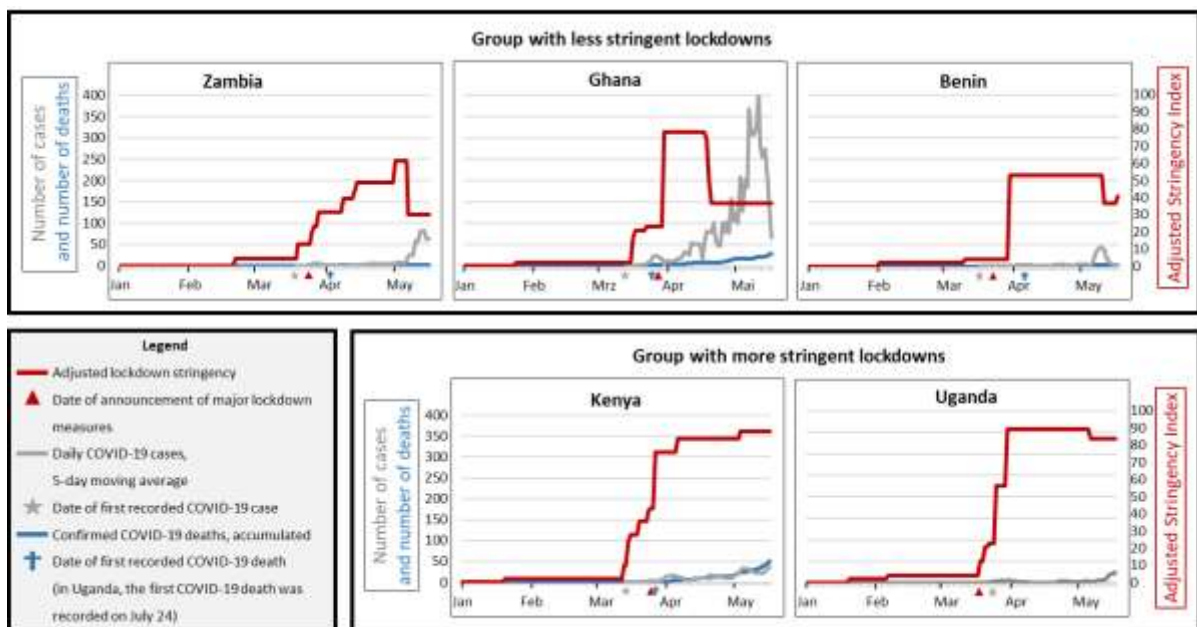


Figure 3. Case study country groupings according to adjusted lockdown stringency, with individual COVID-19 trajectories, all data taken from Hale et al. (2020a). The number of cases must be treated with caution since it depends on how much countries test. The number of deaths depends on the definition of COVID-19 deaths.

Table 2 provides some background characteristic of the five case study countries, which may have contributed to the lockdown decisions of the five countries.

Table 2. Characteristics of the case study countries.

Case Study Country	Zambia	Ghana	Benin	Kenya	Uganda
Global Freedom Index 2019 (Political rights and civil liberties, 0-100, where 100 is the best)	54 (partly free)	82 (free)	66 (partly free)	48 (partly free)	34 (not free)
Global Hunger Index 2020 (Undernourishment, wasting, stunting, child mortality, data from 2015-2019)	* (serious)	15.2 (moderate)	22.4 (serious)	23.7 (serious)	* (serious)

*Insufficient data to calculate the index, provisional categorization

3.2. Number and timing of newspaper articles

As Table 3 shows, the search yielded 1,188 relevant newspaper articles. Before the announcement of major lockdown measures, the number of newspaper articles was relatively low, potentially because governments felt pressured to quickly decide; most likely surprising the public with their lockdown decisions.

Table 3. Number of newspaper articles analysed by time of publication and affiliation of newspaper.

Announcement of major lockdown measures		Zambia		Ghana		Benin		Kenya		Uganda		
		25.03.2020		27.03.2020		23.03.2020		25.03.2020		18.03.2020		
Affiliation of newspaper		Gov	Opp	Gov	Opp	Gov	Opp	Gov	Opp	Gov	Opp	Total
Number of articles	Before	14	5	42	31	3	0	42	24	6	5	172
	After	61	55	177	187	30	48	92	73	70	223	1,016

Gov: Government-affiliated newspaper; Opp: Newspaper affiliated with the opposition.
Before: Before the announcement of lockdown measures; After: After the announcement, including the day of announcement

3.3. Rationales for and against stringent lockdowns

Table 4 and Table 5 display the most important rationales for and against stringent lockdowns (for more detailed information see the Appendix).

Table 4. Percentage of articles coded with the most frequent rationales against a stringent lockdown. All coded rationales are presented in the Appendix.

Affiliation of newspaper		Zambia		Ghana		Benin		Kenya		Uganda		Total
		Gov	Opp	Gov	Opp	Gov	Opp	Gov	Opp	Gov	Opp	
Livelihoods, income, poverty, jobs, safety nets	Before	29	60	7	26	33		14	14		40	17.6
	After	44	55	10	15	13	8	24	15	20	18	19.5
Food security	Before			7	16				10			6.0
	After	25	20	8	11	7		10	6	19	27	14.8
Local solutions, not impractical copycats	Before	14	40	2	19	33		19	24			14.8
	After	15	9	5	2	37	38	17	11	3	2	8.5

Gov: Government-affiliated newspaper; Opp: Newspaper affiliated with the opposition.
Before: Before the announcement of lockdown measures; After: After the announcement, including the day of announcement. The highest percentage in each country is marked in bold.

Table 5. Percentage of articles coded with the most frequent rationales for a stringent lockdown. All coded rationales are presented in the Appendix.

Affiliation of newspaper		Zambia		Ghana		Benin		Kenya		Uganda		Total
		Gov	Opp	Gov	Opp	Gov	Opp	Gov	Opp	Gov	Opp	
Prevent deaths and worst-case scenario	Before	50	60	14	19					17	60	15.0
	After	32	40	8	11					19	19	13.0
Act fast, undetected spread, stop spread to 'crowded' places	Before	29	20	17	23			5	14	17	20	15.6
	After	21	18	13	16	10	4	1	22	19	6	12.2
"Flatten the curve" and buy time to build capacity	Before	14	60	7	19	33		21	24			17.1
	After	23	27	3	9	7	15	19	18	10	5	10.7
Follow others who locked down	Before	14	60	2	7			10	29			11.1
	After	7	7		4	3		6	6	1		2.7

Gov: Government-affiliated newspaper; Opp: Newspaper affiliated with the opposition
Before: Before the announcement of lockdown measures; After: After the announcement, including the day of announcement. The highest percentage in each country is marked in bold.

3.3.1. Zambia, Ghana, and Benin

Zambia, Ghana, and Benin aimed to avoid strict and prolonged lockdown measures. Zambia has never restricted the movement of people, but closed universities, schools, and entertainment businesses, and also banned large public gatherings. Benin established a "cordon sanitaire", a quarantine zone, around the major cities - but movements within and outside this zone were allowed. Ghana's approach was more stringent, but limited in terms of area and duration: a stay-at-home order and the closure of non-essential businesses applied in major cities from March 30 to April 20.

In all three countries, governments justified the absence of stricter measures largely with poverty and food security concerns. In Benin, for example, President Patrice Talon asked on March 29: "How many people in Benin have a monthly salary and who can wait two,

three, or four weeks even without working and living on monthly income?” [Q1] (for sources of direct quotes see Appendix). In Zambia, President Edgar Lungu refrained from stricter measures stressing on April 5: “I am aware that some of you have been saying, ‘We would rather die from Covid-19 than from hunger’” [Q2].

In all three countries, the opposition criticized the governments’ decision to only implement less stringent lockdowns as insufficient. In Benin, opposition leader Candid Azannāi said: “Benin has never implemented a confinement. (...) This is extremely dangerous. The so-called cordon sanitaire (...) is nonsense” [Q3]. Ghanaian opposition parties and national organizations like the Ghana Medical Association initially demanded a stronger lockdown. James Agalga of the opposition party National Democratic Congress said on March 24: “If you consider what is happening in other countries with very robust health systems in place...I should think that by now, this country should have gone into lockdown” [Q4]. In Zambia, on March 23, the opposition party United Party for National Development called for a complete lockdown, because the healthcare system has “no capacity to contain full-scale COVID-19”, as, among other reasons, there are “only 18 ventilators” [Q5]. The Movement for Multiparty Democracy and major church bodies issued similar calls. The ruling party considered such calls impractical, with its communications director saying: “A total lockdown may work for the “Mayadi” elite like Mr. Hichilema [an opposition leader] who can afford to stock up food for months on end but elsewhere in the compounds it will be a total disaster” [Q6].

Both government- and opposition-affiliated newspapers covered arguments in favor and against lockdowns. Arguments for lockdowns mostly centered on the prevention of deaths, the need for fast action, and the need to “flatten the curve”. In Ghana and Zambia, the argument “follow other countries” also featured prominently. While appearing in both types of newspapers, these arguments appear more in opposition-affiliated newspapers, in particular in Ghana and Zambia, feeding the call of the opposition for stronger lockdowns (see Table 3).

The most frequent arguments against lockdowns relate to livelihood and poverty effects, with no clear difference between government and opposition-affiliated newspapers. Food security concerns were rarely mentioned before the lockdown; the only exception being the opposition-affiliated newspaper in Ghana. After the first lockdown measures were announced, food security arguments became more prominent, especially in Zambia. For example, an article in the government-affiliated newspaper argued that “most African countries went into lockdowns in a copycat fashion and based their decisions on the projections from Western countries and the WHO”, but these lockdowns will cause “more

harm than good”, because “the majority of our people (...) live from hand to mouth. (...). Lockdowns consign them to starvation” [Q7].

3.3.2. Uganda and Kenya

Kenya and Uganda implemented relatively stringent partial lockdown measures (see Figure 2). Unlike in the less stringent group, the opinions of government and opposition leaders did not differ greatly. While both Kenya and Uganda enacted a nationwide curfew (announced on March 25 and 30, respectively), Kenya took a relatively tentative approach, introducing measures only after the first confirmed case, and gradually tightened restrictions with rising case numbers. In contrast, Uganda adopted a pre-emptive approach and implemented restrictions, before a single case was reported. Both countries banned international travel, restricted local movements, prohibited public gatherings, and closed learning institutions. Uganda was the only country that restricted private transportation.

The sentiment in Kenya is reflected by President Uhuru Muigai Kenyatta’s speech on April 5: “Different measures are being taken across the globe depending on every country’s unique circumstances (...). But what is clear from their experience is that the pandemic is likely to continue spreading with lethal effect without drastic action” [Q8]. Analogously, Uganda’s President Yoweri Museveni stressed on April 8: “The issue is not business or how a business has suffered! The issue we are dealing with is a matter of life and death - Covid-19. We are talking about stopping mass deaths” [Q9].

The most frequently cited rationales in favor of a strict lockdown differed between the two countries. Kenya’s government-affiliated newspaper predominantly featured arguments on “flattening the curve”, while both the Ugandan newspapers reported mostly on preventing deaths. Preventing the spread of COVID-19 was the most mentioned reason for a lockdown in Kenya’s opposition-affiliated newspaper after the curfew announcement, while earlier articles mainly cited the idea to follow countries already implementing lockdowns.

Livelihood concerns were also a dominant feature in both countries’ newspapers as arguments against a Wuhan-style lockdown. In Kenya, livelihoods and food security challenges were discussed in equal measure before and after the lockdown announcement, mostly in the opposition-affiliated newspaper, whereas the government-affiliated newspaper cited similar concerns mostly after the lockdown announcement. Both newspapers also referred to local solutions as a suitable alternative to a full lockdown - a counterargument to the idea of following others. In Uganda, economic livelihoods and food security concerns were covered often in the government and opposition-affiliated newspapers after the lockdown announcement. However, very few articles from the opposition newspaper in

Uganda explicitly and directly challenged the lockdown, and only cautious reporting against the lockdown was found in the articles.

3.4. Food security effects and measures

Table 6 shows how often food security effects were reported in the newspapers, showing that food security effects were mentioned less in the countries with less stringent lockdowns, with the exception being Ghana, which had a strict lockdown for a short time. This does not mean that no effects were reported. In Zambia, newspapers reported a loss of income and increasing prices. In Benin, the opposition-affiliated newspaper reported income losses after the cordon sanitaire was announced. In Ghana, loss of income, price spikes, and panic buying were reported, in particular in the opposition-affiliated newspaper. These food security aspects seemed to have influenced government decisions: Presidents explicitly cited food security risks when arguing against stricter lockdowns in Zambia and Benin (see above) – and in Ghana when easing the lockdown relatively quickly. In Ghana, President Nana Akufo-Addo partially lifted the lockdown, citing “the severe impact on the poor and vulnerable” [Q10].

Table 6. Percentage of articles coded with food security effects.

Affiliation of newspaper		Zambia		Ghana		Benin		Kenya		Uganda		Total
		Gov	Opp	Gov	Opp	Gov	Opp	Gov	Opp	Gov	Opp	
Trade: international	Before			7	33			12	5			5.5
(delays, trade restrictions)	After			1	1	10	4	1	1	1	4	2.0
Trade: national (shops, markets, transport)	Before			5	3			2				2.3
	After			4	2		2	3		4	9	3.7
Production upstream (inputs)	Before				3							0.5
	After	3			1					1	2	0.9
Farm production (access to inputs, labor, extension)	Before											0.0
	After	2									3	0.8
Production downstream (processing, etc.)	Before				3							0.5
	After				1					1	5	1.4
Access: Loss of jobs and income, high prices	Before			2	10			2				2.8
	After	8	4	4	6		4	2	1	4	10	5.4
Access: Loss of transfers, food aid, school meal, remittances	Before			5								1.2
	After		2	1								0.3
Access: Changing diet (canned food)	Before											0.0
	After				1					1		0.3
Access: Purchase/price spikes, empty shelves	Before			7	10			10	5			6.7
	After	3	4	3	7					4	2	2.9
Other food security effects	Before				10			2				2.3
	After	5		3	3			7	6	7	3	3.6

Gov: Government-affiliated newspaper; Opp: Newspaper affiliated with the opposition. Before: Before the announcement of lockdown measures; After: After the announcement, including the day of announcement. The highest percentage in each country is marked in bold.

In the more stringent group, food security concerns were discussed more frequently, indicating more severe effects on food security caused by the more stringent lockdowns. Uganda serves as a good example. Here, several aspects like spiking prices, closure of markets, food shops, and public transport were reported by the opposition-affiliated newspaper. The opposition-affiliated newspaper also frequently mentioned the loss of income and thus access to food, for example, quoting a bar owner: "I am a single mother with five children. The worst thing is that I can't start doing something new to feed my children and I don't know when the lockdown will end," she says." [Q11]. Compared to the countries with less stringent lockdowns, such effects did not change the lockdown decisions of the governments, however. President Yoweri Museveni blamed price hikes on food traders and warned: "I will send in spies. If I find anyone hiking the price of food, I will cancel their license" [Q12].

To mitigate the food security risks of lockdowns, social protection measures and the exemption of agriculture from the lockdowns, among others, have been recommended (e.g. by IFPRI (Laborde et al., 2020)). In all five countries, newspapers discussed such measures (see Table 7). Measures were discussed mostly after the lockdown decisions were done, except for Ghana, the most democratic of the five countries, and the opposition-affiliated newspaper in Uganda. In Zambia, which refrained from stringent lockdowns, measures were hardly discussed. The type of measure most frequently mentioned after the announcement of lockdown were food aid and cash transfers. In all countries except Benin, at least one food aid program was implemented until mid-May, which might indicate the existence of food security issues (see Appendix).

Table 7. Percentage of articles coded with food security measures.

Affiliation of newspaper		Zambia		Ghana		Benin		Kenya		Uganda		Total
		Gov	Opp	Gov	Opp	Gov	Opp	Gov	Opp	Gov	Opp	
Social protection (e.g. cash transfers)	Before			7	10			5		20		5.3
	After			14	10	3	8	1	4	9	1	6.0
Food aid, food for work, school feeding	Before				7							1.3
	After			19	12		4	3	7	13	9	9.4
Input subsidies, free inputs	Before				3							0.5
	After			3	3			2				1.3
Government stockpiling, purchase, imports	Before											0.0
	After	2		1	1			2		1		0.7
Other food security measures	Before			5	10			5	10			11.3
	After			4	12	3	13	14	16	24	1	7.9

Gov: Government-affiliated newspaper; Opp: Newspaper affiliated with the opposition
Before: Before the announcement of lockdown measures; After: After the announcement of lockdown measures, including the day of announcement. The highest percentage in each country is marked in bold.

In Zambia, in his third presidential address on COVID-19, President Edgar Lungu acknowledged food security concerns, that were aggravated by the lockdown measures, saying: “I feel your pain” [Q13], and announced a series of economic measures. One newspaper article criticized these measures, as they “hardly address the biggest impact of COVID which are lower income levels are [sic!] rising hunger” claiming that they will not reach “the ordinary Zambian and the neediest” [Q14]. In the newspapers, no implementation of COVID-19 and lockdown related food security measures was recorded. In Ghana, both newspapers reported on food aid from the government, organizations, companies, and private persons. The government reported having distributed 470,000 food packs to families to avoid food insecurity. In an open letter to the government published in both newspapers, the opposition indicated that many more people, namely 13 million Ghanaians live “hand-to-mouth” and thus need food aid during the lockdown. While Benin did not implement a food aid program until mid-May, food security measures such as cash transfer and food aid were reported as suggestions, more prominently from the opposition-affiliated newspaper.

In Uganda, food security measures were not discussed in the government-affiliated newspapers before the announcement of the stringent lockdown, but social safety programs were discussed in the opposition-affiliated newspapers. After the lockdowns were announced, food aid was the only prominent aspect, reflecting its contested nature in Uganda (see “Governance challenges”). Facing criticism for disproportionately targeting richer households, President Museveni said: “If you were poor before the lockdown, you’ll be poor after the lockdown. Eat what you were eating before...we shall deal with your poverty later” [Q15]. The president of the biggest opposition party, on the other hand, advised Ugandans “(...) not to die of starvation silently in their homes but to continue demanding for food and other relief items from Mr Museveni” [Q15]. However, protests over unreceived relief food were discredited by the police as “violent” and politically motivated: “We have intelligence that the group was mobilised by people who want to stand in the next general elections” [Q16].

Compared to Uganda, Kenya, which also imposed stringent lockdown, significantly scaled-up social protection coverage and benefits (Gentilini et al., 2020), which may explain the lower number of reports on food security effects. After the announcement of the lockdown, both newspapers cited existing or planned alternative measures to address food security challenges.

3.5. Policy diffusion

Figure 4 shows how frequently the newspapers in Benin, Zambia (less stringent group), and Uganda (more stringent group), referred to other countries (for all countries and codes on policy diffusion see Appendix) Across all five countries, the most frequently mentioned

country is China, followed by South Africa, which implemented a rather strict lockdown, the United States, Italy, and Tanzania. Generally, the newspapers mostly referred to countries with measured or strict lockdowns, and only a few newspaper articles across the five countries cite countries that chose light lockdowns, such as South Korea, Sweden, and Taiwan. The only exception is Tanzania, mentioned in almost 6% of articles, where the president, however, denied the danger of the pandemic.

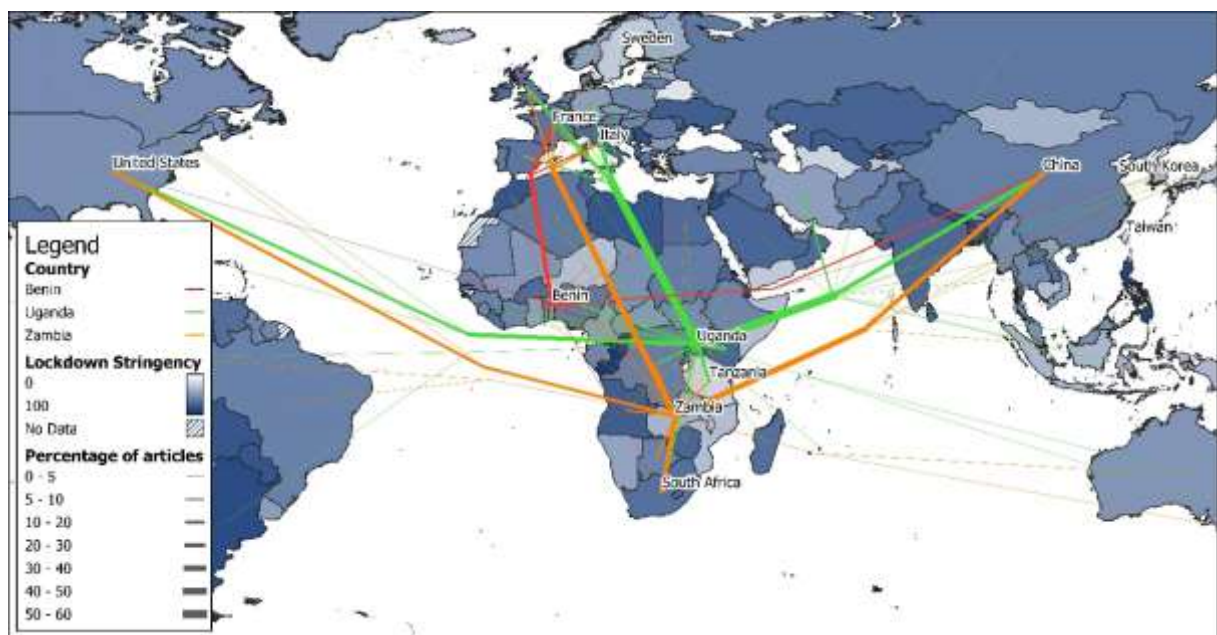


Figure 4. Lockdown stringencies (shading) and percentage of newspaper articles referring to countries (thickness of arrows); the arrows of each continent are summed up for visual purposes; all countries mentioned in the text are labelled.

Ugandan newspapers refer mostly to China and European countries - and some extent to neighboring African countries - while Zambian newspapers refer to similar countries as Uganda, but less frequently. In Benin, which developed its unique “cordon sanitaire”, newspaper articles seem to be even more “inward-looking”, referring little to countries other than China and France, its former colonizer. No statistically significant correlation was found between the countries' lockdown stringencies and the stringency of countries they referred to.

How newspapers from different countries describe other countries' situations can differ. For example, both Zambian and Ugandan newspapers refer to South Africa, which imposed a strict lockdown, but in a different way. Zambian newspapers report more on the negative effects of the “copycat” lockdown, which has led to long queues in front of supermarkets, arguing that the total lockdown is “a total disaster” and “can be dangerous where people live hand-to-mouth” [Q17]. In contrast, in Uganda, which imposed a strict lockdown itself, newspapers emphasized that South Africa is the “worst-affected country” [Q18], which

“feared to be on the brink”, needs a lockdown “to save the country” [Q19], and, quoting the South African president Cyril Ramaphosa, to “avoid a human catastrophe” [Q20].

3.6. Governance challenges

The most frequent type of governance challenge was the use of police or military force to enforce lockdown restrictions (see Table 8). For example, an opposition-affiliated newspaper in Uganda reports: “A 14-year-old girl in Kapchorwa District has been shot in the neck by what police say was a stray bullet. She was hit on Saturday by the bullet as security operatives enforced lockdown directives to stop the spread of coronavirus” [Q21]. In Ghana and Zambia (but not in other countries), the opposition-related newspapers referred more often to this problem. Kenya had the lowest share of newspaper articles referring to this problem, but, apart from Benin, it was the only country, where newspaper articles mentioned this as a potential problem before the announcement of lockdown measures.

Table 8. Percentage of articles coded with governance challenges.

Affiliation of newspaper		Zambia		Ghana		Benin		Kenya		Uganda		Total
		Gov	Opp	Gov	Opp	Gov	Opp	Gov	Opp	Gov	Opp	
Military, police, and violence to enforce restrictions	Before					33*		2				1,2
	After	3	13	9	17	17	17	4	3	11	10	10,3
Intransparency, corruption, misused funds - food projects	Before									20		0,6
	After			2	1			1			5	1,8
Intransparency, corruption, misused funds - not food	Before		20		3							1,2
	After		13	1	2		2			6	7	3,3
Political capture of food aid	Before											0
	After			2	2					1	3	1,6
Political capture, not related to food	Before											0
	After	5	4				2					3,5
"Power grab" (postponed election, inappropriate declaration of emergency, etc.)	Before				3							0,1
	After	3	2	1	3		6				9	3,3
Closing/attacking media, arrest/quarantine of opposition	Before							2				0,1
	After	2	6		2				1		4	2,4
Other governance challenges	Before			5		33*		7	10			4,7
	After			23	21	17	17	22	16	19	12	16,2

Gov: Government-affiliated newspaper; Opp: Opposition-affiliated newspaper. Before: Before the announcement of lockdown measures; After: After the announcement, including the day of announcement. *This number seems high, but it only refers to 1 out of 3 articles.

Governance challenges related to food security programs were reported in Ghana, Kenya, and most notably Uganda, the least politically free country in our sample, where food aid was highly politicized: the government’s food aid program was the only legally accepted channel for food distribution, forcing private persons and the opposition to channel any food donations to the government’s food relief task force. Prime minister Ruhakana Rugunda, head of the COVID-19 task force, justified this, as donating food “...is looking for cheap popularity, because you're going to make people gather which is risky”. Non-adherence was

charged with “attempted murder” [Q122]. Further, food aid was mostly distributed to rather affluent urban people as well as opposition strongholds to increase the ruling party’s popularity for the 2021 presidential elections. This was confirmed by a nationally representative phone survey done in June by the Uganda Bureau of Statistics and the World Bank (Uganda Bureau of Statistics and World Bank, 2020) which revealed that food transfers were not reaching the poorest and were disproportionately targeted towards the richest households.

Lockdown measures may affect the repertoire of political action available to the opposition, especially before elections. In Uganda, where elections are scheduled for 2021, 10% of the opposition newspaper articles identified this problem. Other governance challenges specified in our codes hardly appeared at all. Generally, the findings have to be interpreted with caution, because in countries with restrictions on freedom of the press, it is unlikely that the newspaper articles reflect the actual extent of governance challenges related to lockdown measures.

4. Discussion

The content analysis of 1,188 newspaper articles from five African countries provides valuable insights on the question of how food-insecure countries faced the dilemma of deciding the stringency of lockdown measures, showing that governments that enacted less stringent lockdown measures predominantly justified their choice with food security and poverty concerns. These were also the more democratic countries in the sample, based on the Global Freedom Index. Ghana, for example, lifted some of its already modest lockdown measures in response to food security concerns, even though the country had the highest number of COVID-19 cases in the sample. These observations match Sen’s theory (Sen, 1981) that open democratic debate fosters attention to food security. However, food security concerns were not entirely neglected in Kenya and Uganda, the two countries that scored lower on the Global Freedom Index and adopted more stringent lockdown measures. Food security concerns featured in the public debate in these two countries and both countries implemented measures to alleviate the negative food security effects of lockdown measures. The effectiveness of such measures deserves, however, further consideration as the analysis pointed to considerable governance challenges in implementation.

Concerning the “feasibility hypothesis” (Collier et al., 2008) our findings show that countries with high lockdown stringency were willing to use military and police force to defend lockdown measures. However, in countries with less stringent lockdown measures the use of force was also reported. The method of analyzing newspaper articles has limitations in

identifying the actual extent of the use of force since authoritarian regimes are more likely to suppress reporting on this issue.

Regarding policy diffusion theories, the analysis shows that countries with more stringent lockdown measures refer more frequently to other countries. However, our findings indicate that African countries did not simply “copy” lockdown measures implemented elsewhere because governments rather strategically referred to countries with stringent lockdowns either positively or negatively to justify their own choice.

Overall, more research is required to better understand the political economy of lockdown policies in food-insecure countries. It may be useful to apply quantitative research approaches that involve a larger set of countries and employ cross-country regression techniques regarding the factors influencing lockdown stringency.

Future research may also assess how effective the policy choices of African countries were in limiting the spread of COVID-19 on the one hand and avoiding major food security crises on the other. When the first cases of COVID-19 appeared in Africa, there were fears that the disease could kill millions of people on the continent (Economic Commission for Africa, 2020). But COVID-19 fatalities have remained much below predictions - a phenomenon referred to as the Africa-paradox (Ghosh et al., 2020; Lawal, 2020) – which can likely be explained by the lower average age and lower share of people with cardiovascular diseases (Ghosh et al., 2020). These findings indicate that African countries can “afford” less stringent lockdown measures to avoid negative food security effects.

Regarding the impact of different lockdown stringency on food security, the available evidence is insufficient to quantify effects in the five case study countries due to confounding factors. Kenya and Uganda were affected by locust outbreaks, and Kenya was also affected by flooding (FAO Locust Watch, 2020; FAO Regional Office for Africa, 2020; Global Network Against Food Crises and FSIN, 2020). Still, it is worth noting “biblical famine” caused by COVID-19 and related response measures did not occur. Such projections neglected countries’ and communities’ capacity to respond to new food security risks. Not only did governments in all case study countries try to balance COVID-19 and livelihood risks, but, until May 17, all countries except Benin also implemented measures to mitigate declines in food entitlements (Gentilini et al., 2020). Still, there is reason to worry about the politicized nature of food distribution, which may have prevented access of food to those, who needed it most, as well as about the long-term nutritional effects on children and vulnerable groups such as the urban poor, women, pastoralists, and informal traders, who provide food to the urban poor (IFPRI, 2020).

Overall, this study indicates that African countries did not neglect food security when making difficult choices on lockdown policies. Africa does not need to be considered the “basket case” concerning COVID-19, even though early international assessments painted that picture. African countries may be best served, if international efforts can identify “food and nutrition-sensitive measures” that fight the pandemic while reducing the grim trade-off between saving lives and saving livelihoods that food-insecure countries face.

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6. Appendix

Table A1. Percentage of articles coded with rationales on lockdowns.

		Zambia		Ghana		Benin		Kenya		Uganda		Total
Affiliation of newspaper		Gov	Opp	Gov	Opp	Gov	Opp	Gov	Opp	Gov	Opp	
Number of articles (n)	Bef	14	5	42	31	3	0	42	24	6	5	172
	Aft	61	55	177	187	30	48	92	73	70	223	1016
Code		Percentage of articles (%)										
Rationale Against (Full) Lockdown												
Livelihoods, income, poverty, jobs, safety nets	Before	29	60	7	26	33*	0	14	14	0	40	17.6
	After	44	55	10	15	13	8	24	15	20	18	19.5
Budget, tax revenues, country debts	Before	0	0	0	7	0	0	2	0	0	0	1.8
	After	15	4	4	3	0	0	3	1	4	7	4.5
Educational effects of school closure, psychological effects etc.	Before	6	40	0	3	0	0	2	0	0	40	3.8
	After	13	7	4	4	13	6	1	1	16	2	5.0
Food security	Before	0	0	7	16	0	0	0	10	0	0	6.0
	After	25	20	8	11	7	0	10	6	19	27	14.8
No panic, few cases, other diseases, e.g. TB, Malaria more deadly	Before	14	0	2	3	0	0	0	5	33	0	4.0
	After	5	2	2	1	3	4	1	3	1	4	2.5
Limited health effects, low mortality, young population, temperature kills virus	Before	7	0	0	0	0	0	5	0	17	0	2.4
	After	8	2	1	1	0	0	0	0	0	0	0.9
No evidence, distrust in health models and projections	Before	0	0	0	3	0	0	0	5	0	0	1.2
	After	3	0	0	1	0	0	0	1	0	1	0.7
Sanitation enough	Before	0	0	5	3	33*	0	2	0	0	0	2.8
	After	0	0	3	2	53	17	1	0	0	2	3.8
Local solutions needed, copycats do not work, impractical to enforce in compounds/slums	Before	14	40	2	19	33*	0	19	24	0	0	14.8
	After	15	9	5	2	37	38	17	11	3	2	8.5
International solutions, e.g. South Korea, Taiwan, Singapor, Hongkong, Sweden	Before	0	0	0	0	0	0	2	0	0	0	0.5
	After	0	2	0	1	0	0	0	0	0	0	0.3
Other rationales against	Before	14	60	2	19	0	0	12	5	0	0	10.4
	After	10	9	8	10	0	2	9	8	19	13	10.0
Rationale For (Full) Lockdown												
Save lives, prevent (large) numbers of death, scenarios of health models	Before	50	60	14	19	0	0	0	0	17	60	15.0
	After	32	40	8	11	0	0	0	0	19	19	13.0
Fast action, stop spread to "crowded" compounds/slums, invisible enemy, fast, undetected spread	Before	29	20	17	23	0	0	5	14	17	20	15.6
	After	21	18	13	16	10	4	1	22	19	6	12.2
"Flatten the Curve", buy time to build capacity, preparedness	Before	14	60	7	19	33*	0	21	24	0	0	17.1
	After	23	27	3	9	7	15	19	18	10	5	10.7
No alternative, soft appeals do not work	Before	7	0	7	13	0	0	5	0	0	0	5.8
	After	3	4	3	5	0	8	1	7	0	4	3.7
Solidarity with risks groups	Before	21	0	2	3	0	0	0	5	0	0	3.4
	After	5	2	0	2	10	0	2	1	3	0	1.5
Learn from mistakes, avoid situation like in Italy, Spain etc.	Before	0	0	0	10	0	0	0	0	0	0	1.8
	After	0	4	1	2	0	0	0	0	1	0	0.8
Follow others, others lock down, too	Before	14	60	2	7	0	0	10	29	0	0	11.1
	After	7	7	0	4	3	0	0	6	6	1	2.7
Other rationales for	Before	14	0	10	23	0	0	5	14	0	0	10.9
	After	2	7	11	14	0	0	4	4	9	4	7.1

Gov: Government-affiliated newspaper; Opp: Opposition-affiliated newspaper. Before: Before the announcement of lockdown measures; After: After the announcement of lockdown measures, including the day of announcement
 *This number seems high, but it only refers to 1 out of 3 articles. **This figure is the total of the respective column. It is only an indicator, not the total percentage of articles, since the same article may refer to several rationales

Table A2. Newspaper articles, social media posts, and addresses quoted.

Source	Date	Title	Link	Ref.
La Nation	March 29	President Patrice Talon talks about Covid-19: « This fight, We will necessarily win... »	https://lanationbenin.info/le-president-patrice-talon-au-sujet-du-covid-19-ce-combat-nous-allons-le-gagner-forcement/	[Q1]
Presidential address	April 5		https://www.zambiahc.org.uk/news_events/president-lungu-second-address-on-covid-19/	[Q2]
La Nouvelle Tribune	May 4	Candide Azannai : The strategy of cordon sanitaire is not efficient	https://lanouvelletribune.info/2020/05/candide-azannai-la-strategie-appellee-cordon-sanitaire-cest-du-pipeau/	[Q3]
My Joy Online	March 24	Don't wait for an 'Italy situation' – NDC MP calls for immediate lockdown as coronavirus cases soar	https://www.myjoyonline.com/news/national/dont-wait-for-an-italy-situation-ndc-mp-calls-for-immediate-lockdown-as-coronavirus-cases-soar/	[Q4]
Lusaka Times	March 23	akainde Hichilema's 14 Points on how Zambia has to deal with COVID-19	https://www.lusakatimes.com/2020/03/23/hakainde-hichilemas-13-points-on-covid-19/	[Q5]
Lusaka Times	March 31	Mr Hichilema's Immediate Lockdown Prescription would Hurt the Masses	https://www.lusakatimes.com/2020/03/31/mr-hichilemas-immediate-lockdown-prescription-would-hurt-the-masses/	[Q6]
Lusaka Times	May 5	Why President Lungu is Right on COVID-19: Lockdowns More Harmful to Africa and Zambia	https://www.lusakatimes.com/2020/05/05/why-pres-lungu-is-right-on-covid-19-lockdowns-more-harmful-to-africa-and-zambia/	[Q7]
Standard	April 6	Nairobi, Mombasa, Kilifi and Kwale counties declared Covid-19 hotspots, put on partial lockdown	https://www.standardmedia.co.ke/nairobi/article/200136710-2/partial-lockdown-declared-in-nairobi-mombasa-kilifi-and-kwale-counties	[Q8]
Daily Monitor	April 13	Covid-19: Where is the economic stimulus package?	https://www.monitor.co.ug/uganda/business/prosper/covid-19-where-is-the-economic-stimulus-package--1885176	[Q9]
Facebook	May 2		https://www.facebook.com/EdgarChagwaLungu/posts/3044930842229787	[Q10]
My Joy Online	April 22	Herd Immunity or breakthrough? Why Did Ghana end its Covid-19 Lockdown?	https://www.myjoyonline.com/opinion/herd-immunity-or-breakthrough-why-did-ghana-end-its-covid-19-lockdown/	[Q11]
New Vision	February 24	Coronavirus: Museveni warns 'crooks' hiking prices	https://www.newvision.co.ug/news/1517003/-live-museveni-deliver-4th-coronavirus-address	[Q12]
Daily Monitor	April 2	Government lockdown leaves many stranded financially	https://www.monitor.co.ug/uganda/news/national/governments-lockdown-leaves-many-stranded-financially--1883548	[Q13]
Lusaka Times	April 24	President Edgar Lungu's Full Third National Address Speech on COVID-19	https://www.lusakatimes.com/2020/04/25/president-lungus-full-third-national-address-speech-on-covid-19/	[Q14]
Lusaka Times	April 22	Hunger and not Covid 19 will kill Zambians	https://www.lusakatimes.com/2020/04/22/hunger-and-not-covid-19-will-kill-zambians-mmd-youths-advises-bwalya/	[Q15]
Facebook	May 2		https://www.facebook.com/EdgarChagwaLungu/posts/3044930842229787	[Q16]
Daily Monitor	March 31	Distributing food to a group of people equates to attempted murder, Museveni warns	https://www.monitor.co.ug/uganda/news/national/distributing-food-to-a-group-of-people-equates-to-attempted-murder-museveni-warns-1883262	[Q17]
New Vision	March 30	CORONAVIRUS Countrywide curfew starts Tuesday	https://www.newvision.co.ug/news/1517271/-coronavirus-museveni-address-nation-pandemic	
Daily Monitor	April 22	Did government get it wrong on Covid-19 relief food	https://www.monitor.co.ug/uganda/news/national/did-government-get-it-wrong-on-covid-19-relief-food--1886416	[Q18]
Daily Monitor	April 21	City residents protest over failure to receive relief food	https://www.monitor.co.ug/uganda/news/national/city-residents-protest-over-failure-to-receive-relief-food-1886274	[Q19]
The Standard	April 6	Uhuru declares partial lockdown of four counties	https://www.standardmedia.co.ke/nairobi/article/200136710-2/uhuru-declares-partial-lockdown-of-four-counties	[Q20]
The Standard	April 22	Uhuru rules out lockdown as he puts quarantine escapees on notice	https://www.standardmedia.co.ke/article/2001368840/uhuru-rules-out-lockdown-as-he-puts-quarantine-escapees-on-notice	[Q21]
Lusaka Times	March 31	Chibamba urges caution over Covid-19 total lockdown	https://www.lusakatimes.com/2020/03/31/chibamba-urges-caution-over-covid-19-total-lockdown/	[Q22]
Daily Monitor	April 11	Why Africa's coronavirus outbreak appears slower than anticipated	https://www.monitor.co.ug/uganda/news/national/why-africa-s-coronavirus-outbreak-appears-slower-than-anticipated-1884868	[Q23]
Daily Monitor	April 10	What next after 30-day lockdown?	https://www.monitor.co.ug/uganda/news/national/what-next-after-30-day-lockdown--1884742	[Q24]
New Vision	March 24	S. Africa orders lockdown as continent moves to stop virus spread	https://www.newvision.co.ug/news/1516972/africa-lockdown-continent-moves-stop-virus-spread	[Q25]
Daily Monitor	April 5	Bullet hits girl as operatives enforce lockdown directives	https://www.monitor.co.ug/uganda/news/national/bullet-hits-girl-as-operatives-enforce-lockdown-directives-1884048	[Q26]

Table A3. Implemented food security measures.

Measure	Zambia	Ghana	Kenya	Uganda
Cash transfers (new)		For individuals negatively impacted by the disease (3)		
Cash transfers (adaptation)			To elderly, orphans, and other vulnerable members of society through cash transfers (vertical expansion) (3, 4); Inua Jamii beneficiaries (4); NSNP/KSEIP (horizontal expansion) (4)	Admin simplification for Girls Empowering Girls
Public works			For youth in Nairobi's slums (horizontal expansion) (4); Urban Cash for Work Program (horizontal expansion) (4)	
Food aid		Food for up to 400,000 individuals and homes in the affected areas of the restrictions (3, 4)	Food packs (to poor households and replacing school feeding, subsidized food) (3)	Food distribution (4)
Farm policies	Public/donor farm input distribution (3)	Price support to farmers through procurement (3)		
Others	Elimination of ICT fees (3) and electronic money transfer fee (4)	Utility bill support (Water and electricity), deferring of loan payments, elimination of ICT fees (3)	Deferring of loan payments, elimination of ICT fees, reduction of VAT (3); social pension (horizontal expansion) (4)	
For Benin, no food-related social protection measures were recorded				

Table A4. Lockdown stringencies and percentage of newspaper articles referring to countries

	Adjusted lockdown stringency index	Zambia	Ghana	Benin	Kenya	Uganda
		Percentage of articles that mentioned a country				
Afghanistan	60.1	0	0.2	0	2.2	0.7
Albania	76.0	0	0	0	0	0
Algeria	66.5	1.5	0.7	0	1.3	1.0
Andorra	41.2	0	0	0	0	0
Angola	79.2	5.4	0.5	0	0	1.5
Argentina	88.6	0	0.2	0	0.9	0.3
Aruba	62.6	0	0	0	0	0
Australia	52.8	1.6	0.9	0	4.3	1.7
Austria	63.6	0.9	0.2	0	1.3	1.5
Azerbaijan	63.2	0	0	0	0	0
Bahrain	46.6	0	0	0	0	0
Bangladesh	79.4	0	0	0	0	0
Barbados	69.3	0	0	0	0	0
Belarus	14.6	0	0.5	0	0.4	0
Belgium	68.7	0	0.2	0	1.7	1.7
Belize	41.5	0	0	0	0	0
Benin	50.9	0.8	0.2	0	0	1
Bermuda	70.1	0	0	0	0	0
Bhutan	54.4	0	0	0	0	0
Bolivia	83.6	0	0	0	0	0
Bosnia and Herzegovina	77.2	0	0	0	0	0
Botswana	61.8	6.7	0.2	0	0.4	0
Brazil	62.2	3.3	0.9	0	0.9	0
Brunei	26.9	0	0	0	0	0
Bulgaria	50.6	0	0	0	0	0
Burkina Faso	72.1	0	1.1	2.5	1.3	2.3
Burundi	0	0	0	0	0	0
Cambodia	33.4	0	0	0	0	0
Cameroon	46.5	1.7	0.5	1.2	0.9	1.7
Canada	57.0	0.9	1.1	0	1.3	2
Cape Verde	66.9	0	0	0	0	0
The Central African Republic	49.7	0	0	0	0	0
Chad	54.6	0	0	0	0	0
Chile	57.7	0	0	0	0	0
China	63.7	25.5	9.2	6.2	42.4	21.0
Colombia	68.3	0	0	0	0	0
Congo	96.9	0	0.7	0	0	0
Costa Rica	56.5	0	0	0	0	0
Cote d'Ivoire	60.5	0	0.9	4.9	0	3.1
Croatia	77.2	0	0	0	0	0
Cuba	72.8	0	0.2	0	0.9	0.7
Cyprus	76.6	0	0	0	0	0
Czech Republic	49.3	0	0.7	0	0.4	1
Democratic Republic of Congo	63.5	5.3	1.8	1.2	1.3	7.5
Denmark	53.2	2.3	1.4	0	0.9	1
Djibouti	87.4	0	0.5	0	1.3	0
Dominica	62.9	0	0	0	0	0
Dominican Republic	85.1	0	0	0	0	0
Ecuador	83.1	0.9	0	0	0	1
Egypt	72.0	3	0.7	1.2	1.3	3.1
El Salvador	82.4	0	0	0	0	0
Eritrea	75.3	0	0.2	0	0.4	0.2
Estonia	53.1	0	0	0	0	0
Eswatini	70.3	0	0	0	0	0
Ethiopia	60.5	1.7	0.7	0	3.5	3.6
Fiji	79.9	0	0	0	0	0
Finland	40.6	0	0	0	0	1.0
France	68.5	5.3	2.3	11.1	11.7	9.0
Gabon	60.4	0	0	0	0	0
The Gambia	61.3	0	0	0	0	0
Georgia	76.9	0	0	0	0	0
Germany	47.1	4.5	3.0	1.2	8.7	6.6
Ghana	46.8	0.9	0	3.7	6.9	2.4
Greece	66.8	0	0	0	0	0
Greenland	53.1	0	0	0	0	0
Guam	52.7	0	0	0	0	0
Guatemala	78.6	0	0	0	0	0

	Adjusted lockdown stringency index	Zambia	Ghana	Benin	Kenya	Uganda
		Percentage of articles that mentioned a country				
Guinea	61.0	0	2.3	0	0	1.7
Guyana	60.4	0	0	0	0	0
Haiti	67.6	0	0	0	0	0
Honduras	99.5	0	0	0	0	0
Hong Kong	34.8	0	0.2	0	1.3	2.7
Hungary	59.6	0	0	0	0	0
Iceland	28.1	0	0	0	0	0
India	74.2	2.5	2.5	0	8.7	6.7
Indonesia	35.2	0	0	0	0.9	1.0
Iran	47.5	0	0.7	0	3.5	5.7
Iraq	70.1	0	0	0	0	0
Ireland	72.9	0	0	0	0	0
Israel	71.8	0	0.5	0	2.2	0
Italy	73.6	6.9	4.8	7.4	22.5	11.3
Jamaica	68.0	0	0	0	0	0
Japan	29.3	1.6	1.1	0	3.9	4
Jordan	87.2	0	0	0	0	0
Kazakhstan	76.8	0	0	0	0	0
Kenya	74.1	1.4	2.5	0	0	20.7
Kosovo	83.1	0	0	0	0	0
Kuwait	69.2	0	0	0	0	0
Kyrgyz Republic	76.2	0	0	0	0	0
Laos	70.3	0	0	0	0	0
Latvia	44.7	0	0	0	0	0
Lebanon	61.2	0	0	0	0	0
Lesotho	73.7	0	0	0	0	0
Liberia	72.6	0	1.1	0	0	2.2
Libya	83.8	0	0	0	0	0
Lithuania	63.0	0	0	0	0	0
Luxembourg	63.2	0	0	0	0	0
Macao	15.3	0	0	0	0	0
Madagascar	71.7	0	0.7	0	0	1.0
Malawi	28.7	0	0.9	0	1.7	0.7
Malaysia	54.9	0	0.7	0	0	0.3
Mali	51.7	0	0.7	0	0.4	1.4
Mauritania	57.8	0	0	0	0	0
Mauritius	70.1	0	0.9	0	0.9	1.7
Mexico	70.0	0	0	0	0	0
Moldova	73.3	0	0	0	0	0
Mongolia	37.4	0	0	0	0	0
Morocco	83.1	0.8	0.5	1.2	0.9	0.7
Mozambique	32.7	0	0	0	0	0
Myanmar	57.4	0	0	0	0	0
Namibia	45.9	0	0	0	0	0
Nepal	85.6	0	0	0	0	0
Netherlands	63.5	0	0.5	0	1.3	1.0
New Zealand	73.7	0.9	0.5	0	3.9	0.2
Nicaragua	0	0	0	0	0	0
Niger	31.8	0	0.5	3.7	0	1.0
Nigeria	66.2	1.5	6.4	6.2	6.1	6.7
Norway	47.6	0	1.6	1.2	0.9	0
Oman	72.9	0	0	0	0	0
Pakistan	65.8	0	0	0	0	0
Palestine	83.4	0	0	0	0	0
Panama	74.9	0	0	0	0	0
Papua New Guinea	57.1	0	0	0	0	0
Paraguay	83.5	0	0	0	0	0
Peru	87.6	0	0	0	0	0
Philippines	90.1	0	0	0	0	0
Poland	59.4	0	0.2	0	0.4	0
Portugal	64.2	0	0	0	0	0
Puerto Rico	89.9	0	0	0	0	0
Qatar	65.9	0	0	0	0	0
Romania	65.7	0	0	0	0	0
Russia	66.3	0	0.7	0	3.9	4.0
Rwanda	72.0	3.1	3.4	2.5	7.8	9.9
San Marino	62.1	0	0	0	0	0
Saudi Arabia	75.2	0	0.7	0	1.7	2.0
Senegal	60.1	0	0.7	2.5	0.9	2.3
Serbia	86.9	0	0.2	0	0	0

	Adjusted lockdown stringency index	Zambia	Ghana	Benin	Kenya	Uganda
		Percentage of articles that mentioned a country				
Seychelles	52.9	0	0	0	0	0
Sierra Leone	60.6	0	0.7	0	0.9	1.0
Singapore	52.8	0.8	0.7	0	3.9	0.7
Slovak Republic	57.2	0	0.2	0	0.4	0
Slovenia	61.7	0	0	0	0	0
Solomon Islands	25.9	0	0	0	0	0
Somalia	31.2	0	0.5	0	4.3	1.5
South Africa	70.1	26.7	7.3	1.2	13.4	8.4
South Korea	37.3	1.6	2.3	1.2	5.2	1.8
South Sudan	57.2	0	0	0	0	0
Spain	67.3	3.9	1.8	4.9	11.7	9.8
Sri Lanka	82.7	0	0	0	0	0
Sudan	64.2	0	0.5	0	6.5	4.6
Suriname	60.3	0	0	0	0	0
Sweden	26.0	0	0.5	0	0.4	0.2
Switzerland	51.8	0	0	0	0	0
Syria	65.4	0	0	0	0	0
Taiwan	14.6	0	0.5	0	0	0
Tajikistan	27.9	0	0	0	0	0
Tanzania	22.0	7.8	0.9	0	5.6	13.5
Thailand	59.3	0	0.2	0	2.6	0.6
Timor-Leste	51.0	0	0	0	0	0
Togo	53.0	0	3.2	8.6	0.4	0
Trinidad and Tobago	63.1	0	0	0	0	0
Tunisia	74.1	0	0.2	0	2.2	0.7
Turkey	60.7	0	0	0	0	0
Turkmenistan	22.1	0	0	0	0	0
Uganda	77.7	2.1	1.6	0	9.5	0
Ukraine	79.7	0	0	0	0	0
United Arab Emirates	57.4	0	0	0	0	0
United Kingdom	66.1	6.6	7.6	0	8.2	11.4
United States	55.6	10.1	9.4	3.7	12.6	17.5
Uruguay	47.1	0	0	0	0	0
Uzbekistan	79.1	0	0	0	0	0
Vanuatu	62.7	0	0	0	0	0
Venezuela	71.5	0	0	0	0	0
Vietnam	45.4	0	0	0	0	0
Yemen	26.5	0	0	0	0	0
Zambia	37.7	0	0	0	0	0
Zimbabwe	75.9	4.6	0.2	0	4.8	2.8

Table A5. Oxford COVID-19 Stringency Tracker and Adjusted Stringency Index.

Oxford Stringency Index	Adjusted Stringency Index	Weighting for our index	ID	Name of measure	Coding instructions
Containment and Closure (C)					
included	included	*1	C1	School closing	0 - No measures 1 - recommend closing 2 - Require closing (only some levels or categories, eg just high school, or just public schools) 3 - Require closing all levels No data - blank
included	included	*2	C2	Workplace closing	0 - No measures 1 - Recommend closing (or work from home) 2 - Require closing (or work from home) for some sectors or categories of workers 3 - Require closing (or work from home) all-but-essential workplaces (e.g. grocery stores, doctors) No data - blank
included			C3	Cancel public events	0 - No measures 1 - Recommend cancelling 2 - Require cancelling No data - blank
included	included	*1	C4	Restrictions on (private) gatherings	0 - No restrictions 1 - Restrictions on very large gatherings (the limit is above 1000 people) 2 - Restrictions on gatherings between 101-1000 people 3 - Restrictions on gatherings between 11-100 people 4 - Restrictions on gatherings of 10 people or less No data - blank
included	included	*2	C5	Close public transport	0 - No measures 1 - Recommend closing (or significantly reduce volume/route/means of transport available) 2 - Require closing (or prohibit most citizens from using it)
included	included	*3	C6	Stay at home requirements	0 - No measures 1 - Recommend not leaving the house 2 - Require not leaving the house with exceptions for daily exercise, grocery shopping, and 'essential' trips 3 - Require not leaving the house with minimal exceptions (e.g. allowed to leave only once a week, or only one person can leave at a time, etc.) No data - blank
included	included	*2	C7	Restrictions on internal movement	0 - No measures 1 - Recommend not to travel between regions/cities 2 - Internal movement restrictions in place
included	included	*1	C8	Restrictions on international travel	0 - No measures 1 - Screening 2 - Quarantine arrivals from high-risk regions 3 - Ban on arrivals from some regions 4 - Ban on all regions or total border closure
Health systems (H)					
included			H1	Public information campaign	0 - No COVID-19 public information campaign 1 - Public officials urging caution about COVID-19 2 - Coordinated public information campaign (e.g. across traditional and social media) No data - blank

For indicators C1-C7, the Oxford Stringency Index (and our adjusted index) distinguish between country-wide and targeted (e.g. region or city) lockdown measures, giving a higher weight to country-wide measures.

Table A6. Selected newspapers and reasons for their choice.

Country	Government-affiliated newspaper	Newspaper affiliated to the opposition
Zambia	The Lusaka Times: The major public newspapers (Times of Zambia and Zambia Daily Mail) were not accessible online. The Lusaka Times is available online and derives its contents mainly from these two public newspapers.	The Mast: It is the largest newspaper related to the opposition that is available both in print and online
Ghana	The Daily Graphic: It is the most read newspaper in the country and is owned by the government.	My Joy Online: Opposition-affiliated print newspapers, such as The New Crusading Guide did not deliver any search hits with the Google search. As there are widely read independent online news services in Ghana, such as Ghanaweb and My Joy Online, it was decided to use such a news service instead. My Joy Online was chosen as it had more Facebook likes and produced more search hits in the Google search compared to Ghanaweb.
Benin	La Nation: This is the only newspaper that is issued by a public news agency. There are other newspapers owned by private investors; however, as this newspaper belongs to a public agency, their publications are always in favor of the government.	La Nouvelle Tribune: It is a privately-owned newspaper agency formerly available in print, but now available exclusively online. It is one of the most written and followed online newspapers and is known as an opposition-affiliated newspaper.
Kenya	The Daily Nation: It is a widely read privately-owned newspaper often affiliated with government interests and is available online and in print.	The Standard: It is also a privately owned newspaper, with a slightly lower market share, wide readership, and available online and in print.
Uganda	The New Vision: It is an English state-owned daily newspaper that is circulated widely.	The Daily Monitor: It is a Ugandan independent daily newspaper. The company works in favor of the opposition, though it is not affiliated with any political party.

Table A7. Number of articles (n) located by applying the search method (before the exclusion of articles).

Country	Day of applying the search method	Number of articles	Day of applying the search method	Number of articles	Number of articles
	Government-affiliated newspaper		Opposition-affiliated newspaper		Total
Zambia	May 27, 2020	65	May 27, 2020	233	298
Ghana	June 03, 2020	275	June 03, 2020	299	574
Benin	May 26, 2020	55	May 28, 2020	75	130
Kenya	May 26, 2020	303	May 26, 2020	307	610
Uganda	June 04, 2020	105	June 04, 2020	519	624
Total		803		1,433	2,236

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