





COVID-19LOCKDOWN EXIT STRATEGIES FOR AFRICA

In the current context of the coronavirus disease 2019 (COVID-19) pandemic, policymakers are confronted with decisions that may prove to be among the most difficult of their careers. To contain the COVID-19 pandemic, unprecedented measures are being taken globally. In Africa, at least 42 countries have imposed partial or full lockdowns on the movements and activities of their people. Experience around the world suggests that such interventions effectively suppress the spread of COVID-19.

The lockdowns, however, pose considerable economic costs that, in turn, threaten lives, put livelihoods at risk and exacerbate poverty.

Consequently, there is great interest in exit strategies for the COVID-19 lockdowns that preserve lives while protecting livelihoods. The challenge is that critical decision-making in these times is fraught with uncertainty.

The present report sets out some of the exit strategies being proposed and tried around the world and outlines the risks involved for African countries.





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Key messages

Excruciating trade-offs	» Lockdowns impose extremely high costs on business and people: up to 2.5 per cent of the gross domestic product (GDP) of Africa is at risk every month. Firms surveyed by ECA report to be operating at only 43 per cent; 70 per cent of slum dwellers report that they are missing meals or eating less as a result of COVID-19.
	» Lockdowns forestall severe vulnerabilities: only 1.8 hospital beds are available per 1,000 people; regionally, the risk of the spread of the infection is high because only 34 per cent of the population in Africa has access to household facilities for washing hands with soap and water.
	Testing and contact tracing while easing restrictions may be possible for countries with sufficient public health systems and that have contained COVID-19 transmission, put in place preventive measures, engaged and educated communities, and minimized risks to vulnerable groups.
No one-size-fits-	» Gradual segmented reopening is being tested in some countries where containment has failed but the disease is nevertheless sufficiently under control; however, this is a higher risk strategy.
all solution to lockdowns	» Further measures to suppress the spread of the disease may be required where the virus is still spreading; in many African countries, the spread of the virus is still accelerating. Spread is growing on average at 30 per cent every week in Africa.
	» Active learning and data collection can help policymakers ascertain risks across the breadth of policy unknowns as they consider recommendations to ease lockdowns and move towards a "new normal".
Timing is everything	Take advantage of being behind the curve: the infection trajectories of most African countries lag behind those of others. This may be an opportunity to learn from the experiences of other regions and their experiments in reopening.
	We the "extra time" afforded by the lockdowns to rapidly put in place testing, treatment systems, preventive measures, and carefully design lockdown exit strategies in collaboration with communities and vulnerable groups.

Estimating the economic cost of lockdowns

ECA estimates that a one-month full lockdown across Africa would cost the continent about 2.5 per cent of its annual GDP, equivalent to about \$65.7 billion per month. This is separate from and in addition to the wider external impact of COVID-19 on Africa of lower commodity prices and investment flows. A full lockdown is assumed to involve the continuation of only essential services (such as food services and grocery shops, and health and security services), with the significant curtailment of other economic activities. Private consumption, investment and labour supply and demand drop significantly while government consumption and trade operate at a relatively normal level.

These results are similar to those forecasted in other regions. The Organization for Economic Cooperation and Development (OECD) estimates a decline in annual GDP growth of up to 2 percentage points for each month that strict containment measures continue among the wealthy group of OECD countries.¹ Official data from the United Kingdom of Great Britain and Northern Ireland and France forecast a fall in economic activity of around 35 per cent for the duration of their lockdowns, equivalent to around a 2.9 percentage points fall in annual

Table 1 Current capacity utilization of companies in Africa, average by sector, 14 to 20 April 2020

Sector	Current capacity utilization (per cent)
Goods	39
Services	45
Sub-sector	Current capacity utilization (per cent)
Financial	66
Professional, scientific and technical activities	52
Information and communication	50
Agriculture, forestry and fishing	48
Government, NGOs and International Services	46
Manufacturing	38
Health, entertainment and utilities	31
Transport and trade	27
Firm size	Current capacity utilization (per cent)
Micro	41
Small	39
Medium	42
Large	54
Average	43

Source: Economic Commission for Africa and International Economics Consulting Ltd., "Insights on African businesses' reactions and outlook to COVID-19", (ECA and IEC, Addis Ababa and Grand Baie, Mauritius, 2020).

Notes: Sample from 14 to 20 April 2020 of 210 businesses operating in 1 up to all 54 African countries, and disaggregated as: 76 micro enterprises, 59 small-sized enterprises, 42 medium sized-enterprises and 33 large enterprises.

¹ Organization for Economic Cooperation and Development, "Evaluating the initial impact of COVID-19 containment measures on economic activity" (Paris, OECD Economics Department, 2020). Available at https://read.oecd-ilibrary.org/view/?ref=126_126496-evgsi2gmqj&title=Evaluating_the_initial_impact_of_COVID-19_containment_measures_on_economic_activity.

GDP per month, but a bounce back is expected quickly thereafter.² In these economies, the sectors to suffer most are education, accommodation and food services, construction and manufacturing. Agriculture and financial services are estimated to suffer least.

Preliminary firm-level survey data for Africa presents a situation that is potentially even more dire (these data, however, include the added impact of the global external shock in addition to lockdown costs). On average, businesses in Africa report to be operating at only 43 per cent, with larger firms reporting to operate at a slightly better capacity. The subsectors of manufacturing, health, entertainment, utilities and transport and trade report to be operating at the lowest possible capacities.

The top challenge reported by African businesses is a drop in demand, followed by lack of operational cash flow, reduction of opportunities to meet new customers and closure of business.

Table 2 Top challenges faced (from highest to lowest) by companies in Africa

1	Drop in demand for products/services
2	Lack of operational cash flow
3	Reduction of opportunities to meet new customers
4	Business is closed
5	Issues with changing business strategies and offering alternative products/services
6	Decline in workers' production/productivity from working at home
7	Many workers cannot return to work
8	Challenges in logistics and shipping of products
9	Difficulties in obtaining supplies of raw materials essential for production

Source: Economic Commission for Africa and International Economics Consulting Ltd., "Insights on African businesses' reactions and outlook to COVID-19", (ECA and IEC, Addis Ababa and Grand Baie, Mauritius, 2020).

Notes: Sample from 14 to 20 April 2020 of 210 businesses operating in 1 up to all 54 African countries, and disaggregated as: 76 micro enterprises, 59 small enterprises, 42 medium-sized enterprises and 33 large enterprises.

² Office for Budget Responsibility, "Coronavirus reference scenario" (London, Office for Budget Responsibility, 2020). Available at https://obr.uk/coronavirus-reference-scenario/; and National Institute of Statistics and Economic Studies (INSEE), "Economic outlook – 26 March 2020" (Paris, INSEE, 2020). Available at www.insee.fr/en/statistiques/4473305?sommaire=4473307&q=point+de+conjoncture+du+26+mars.

Box 1. Impact of lockdowns in slums

About 56 per cent of Africa's urban population live in slums where it is not possible to follow WHO recommendations on regular hand washing, social distancing and avoiding crowded places. Residents often live hand to mouth through informal jobs that require contact with others, and staying at home is not an option. Lockdowns in such contexts are not feasible.

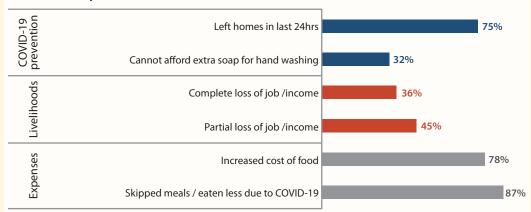
Emerging data based on a study of close to 2,000 residents living under lockdown in five slums in Kenya indicate that:

- » Over 75 per cent of residents left their homes an average of three times in 24 hours;
- » Though 95 per cent of public areas have hand-washing stations, 32 per cent of households cannot afford extra soap for hand washing and 84 per cent cannot afford sanitizer;
- » Face masks were used often, at levels reportedly as high as 73 per cent, however, 19 per cent were unable to afford them;
- » The biggest currently unmet need, reported by 76 per cent, was food, with 98 per cent reporting that the situation was a result of the impact of COVID-19;
- » Missing meals or eating less were reported by 70 per cent.

Slum dwellers may also be more vulnerable to the extreme consequences of the disease: chronic diseases that predispose individuals to the more severe complications of COVID-19, such as hypertension, obesity or diabetes, are more prevalent in populations living in poverty. Access to health facilities and personnel is also acutely limited in slums. In addition to the risk that COVID-19 represents to the lives of slum dwellers, COVID-19 infection may be harboured in slums and could cause the disease to spread throughout the rest of the affected countries.

Governments can work with community organizations within informal settlements to ensure the communication of health-related information on COVID-19 and to improve access to hand-washing stations and affordable face masks. Rapid telephone-based surveys, such as the one conducted by the Ministry of Health in Kenya, can be used to collect information on knowledge, attitudes and practices to identify elements that may contribute to the spread of infection, including behavioural aspects, challenges in preventive measures, misconceptions about transmission and livelihood vulnerabilities.

Responses to the survey on the lockdown from five informal settlements in Nairobi, 22 April 2020



Source: Nairobi informal settlements: COVID-19 knowledge, attitudes, practices and needs—Round 2," COVID-19 Research and Evaluations presentation. Nairobi: Population Council, 2020.

Sources: UN-Habitat, "Water for handwashing in slums is critical to prevent COVID-19 spreading" (Nairobi, UN-Habitat, 2020). Available at https://unhabitat.org/water-for-handwashing-in-slums-is-critical-to-prevent-covid-19-spreading; World Health Organization, "Coronavirus disease (COVID-19) advice for the public" (Geneva, WHO, 2020). Available at www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public; Gavi Alliance, "How do we stop the spread of a pandemic in a slum?" (Geneva and Washington, D.C., Gavi Alliance, 2020). Available at www.gavi.org/vaccineswork/how-do-stop-spread-pandemic-slum.

Box 2. Impact of lockdowns on food security

Among the most sensitive issues facing policymakers is the impact of COVID-19 lockdowns on food security. Four impact channels are identified, as follows:

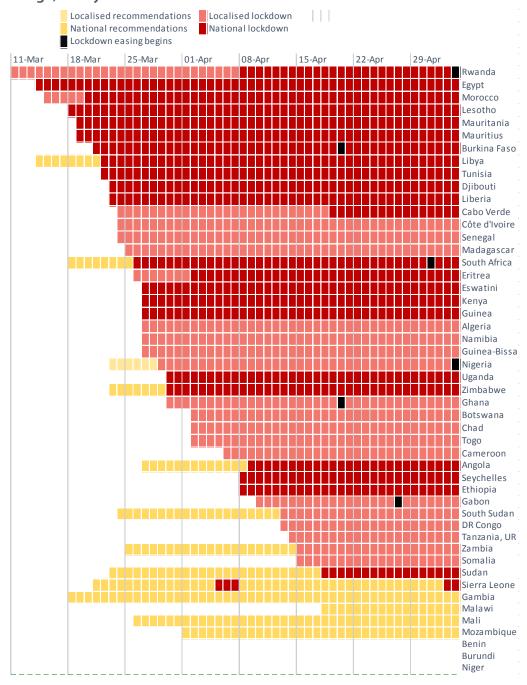
- 1. **Food access:** In East Africa, demand for food is reported to have declined for the sizeable proportion of the population that depends on daily wages owing to a lack of income and reduced purchasing power. Across Africa, a staggering 56 million African children are missing nutritious school meals and snacks owing to school closures, according to estimates from the World Food Programme.
- 2. **Distribution:** Food distribution is more labour intensive in developing countries and more organized and automated in developed countries. Restrictions on movement, border closures, reduced working hours, self-quarantines and night curfews are affecting logistics and reducing supply-chain efficiency. In East Africa, such restrictions have put pressure on staple food prices and had a disproportionate effect on informal cross-border traders, around 80 per cent of whom are women. Emerging anecdotal evidence suggests that the number of trucks delivering goods across the border between Uganda and Kenya has fallen by 40 to 50 per cent.
- 3. **Production:** Household food availability from mid- to late-2020 could also be affected if access to seeds and agricultural inputs becomes constricted. Lockdowns are already reportedly hindering farm inspections by banks, which are needed to provide credit to farms for input purchases.
- 4. Exacerbating challenges: Lockdown restrictions, including movement restrictions, curfews and airport closures, are reportedly frustrating efforts to fight the desert locust infestation threatening crops and livelihoods in East Africa. Africa's imports of staple foods are under threat from export restrictions and limitations being imposed by several of its important suppliers, including Myanmar and Viet Nam for rice and the Russian Federation for wheat. Lockdown restrictions in other countries, such as India, are also disrupting staple food imports.

Sources: Data from: Chemonics International; 2020 East Africa Price Watch, April; World Food Programme, School feeding map, 2020; Faridhah Kulabako, "COVID-19 brings informal cross-border trade to a standstill", New Vision (Kampala), 23 April 2020; Libby George, "COVID-19 is exacerbating food shortages in Africa", World Economic Forum and Reuters, 27 April, 2020.

Lockdowns in place in Africa

Localized or national lockdowns were in place in at least 42 African countries as of 4 May 2020,³ of which 38 lockdowns have been in place for at least 21 days.

Figure I. African lockdowns, by date of application, stringency and geographic coverage, 4 May 2020



Source: Based on data collected by officials at the ECA subregional offices and from University of Oxford, Blavatnik School of Government, Oxford COVID-19 Government Response Tracker. Available at www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker. Data use policy: Creative Commons Attribution CC BY standard.

Note: Lockdowns here are defined as restrictions on internal movement. If no new information is available, existing lockdowns are assumed to be in place as last reported.

³ At the time of writing, the classification data available from five African countries were insufficient.

Each lockdown is different. The Oxford COVID-19 Government Response Tracker Stringency Index combines measures of the strictness of government responses to COVID-19 across seven indicators: school closures, workplace closures, cancellation of public events, public transport closures, public information campaigns, restrictions on domestic and internal movement, and restrictions on international travel. North and Southern African countries tend to impose the strictest lockdown measures. This corresponds with the prevalence of known comorbidities, such as chronic respiratory disease, which is most prevalent in North Africa, and HIV/AIDS, which is particularly prevalent in Southern Africa.

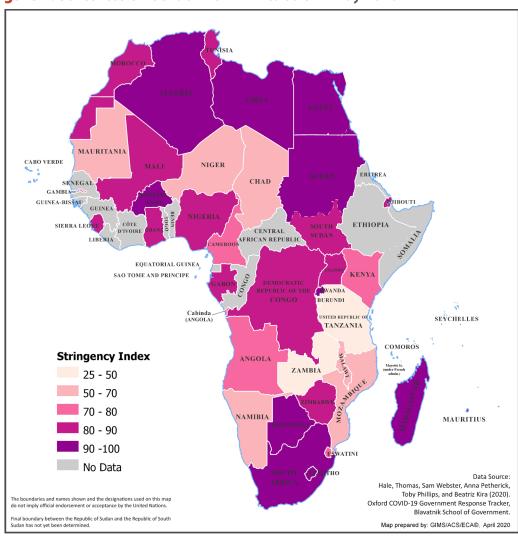


Figure II. Strictness of lockdowns in Africa as of 4 May 2020



Source: Based on data collected by officials at the ECA subregional offices and from University of Oxford, Blavatnik School of Government, Oxford COVID-19 Government Response Tracker. Available at www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker. Data use policy: Creative Commons Attribution CC BY standard.

Note: If no new information is available, existing lockdowns are assumed to be in place as last reported.

* Stringency index as of 4 May 2020 or the most recent date for which data are available, based on information on 7 indicators of government COVID-19 responses: school closures, workplace closures, cancellation of public events, public transport closures, public information campaign, restrictions on domestic/internal movement, and restrictions on international travel).

More developed African countries tend to impose more stringent lockdowns than less developed counterparts in the region. Figure III shows that African countries with a higher (log) GDP per capita measure higher on the Oxford COVID-19 Government Response Tracker Stringency Index.

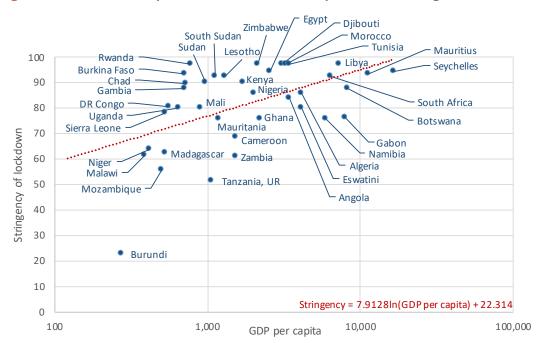


Figure III. More developed African countries impose more stringent lockdowns

Sources: World Bank, world development indicators 2018; and University of Oxford, Blavatnik School of Government, Oxford COVID-19 Government Response Tracker. Available at www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker. Data use policy: Creative Commons Attribution CC BY standard.

Box III. Viet Nam: containing COVID-19 with limited resources

Viet Nam is a lower-middle income country with a GDP per capita similar to that of Ghana or Zimbabwe. It has a moderate income level and shares a 1,400 km border with China (where COVID-19 is believed to originate). Viet Nam has recorded just 271 cases and zero deaths related to the COVID-19 pandemic as of 5 May 2020.

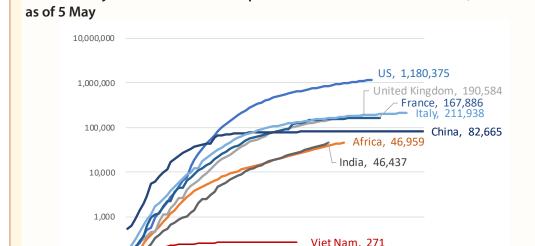
Viet Nam has a population of over 95 million, making mass testing difficult and expensive: it has conducted less than a quarter the number of tests per 1,000 people as were conducted by the Republic of Korea. Through precision lockdowns, a public education campaign, proactiveness, and limited resources, Viet Nam has managed to contain COVID-19.

Firstly, Viet Nam has used very strict, but focused and targeted, lockdowns and quarantines. Though Viet Nam has imposed nationwide lockdowns on occasion, it has more frequently imposed strict lockdowns on individual towns, villages, streets or hotels where cases have been identified. Those who may have come into contact with confirmed cases are rapidly identified, quarantined and tested.

Secondly, the country has mobilized an extensive public education campaign involving cartoons on television, social media and posters that stir patriotic iconography. The Government calls its campaign against the virus the Spring General Offensive of 2020. Police fines are imposed for the spreading of misinformation on COVID-19.

Lastly, Viet Nam has acted swiftly and decisively. Before the end of January 2020, a National Steering Committee for COVID-19 Prevention and Control headed by the Deputy Prime Minister was established. Since then, Viet Nam has procured personal protective equipment, including 450,000 hazmat suits, a 300-bed hospital and now produces enough surgical masks and ventilators for export.

Infection trajectories: Viet Nam's impressive 271 cases and zero deaths,



Source: Based on data from Johns Hopkins University and Africa CDC, 5 May 2020.

100

Sources: "Vietnam's coronavirus offensive wins praise for low-cost model", Financial Times, 24 March 2020; "Vietnam may have the most effective response to COVID-19", Nation (New York), 24 April 2020; "The secret to Vietnam's COVID-19 response success", Diplomat (Washington, D.C.), 18 April 2020.

10 15 20 25 30 35 40 45 50 55 60 65 70 75 Number of days since 100th case

Menu of lockdown exit options

Seven lockdown exit strategies are identified from proposals and trials around the world. These are assessed with respect to the extent to which each strategy minimizes uncertainty over fatalities and given a corresponding "regret score". Higher regret scores indicate a higher risk that uncertainty impacts negatively and potentially catastrophically on fatalities. In most cases, countries are applying a combination of several strategies, such as testing, contact tracing and gradual segmented reopening.

Table 3 Lockdown exit options, countries attempting each option and regret score

·	
1 Improve testing	
Rapidly scale-up testing to give greater clarity to the geographic extent and growth of COVID-19.	Zero regret (Iceland is leading example)
2 Lockdown until preventive or curative medicines are developed	
Retain reasonably heavy suppression measures until preventive or curative medicines are developed and distributed. Vaccines could take 12–18 months and considerable efforts in manufacture, distribution and administration. Existing medicines could be tested within 6 weeks, but may have limited, if any, impact on COVID-19.	Low regret
3 Contact tracing and mass testing	
Identify those who have the disease and everyone they have come into contact with, then isolate, test and monitor those people. Typically requires considerable human, financial and logistical resources. Effectiveness could be supplemented with advanced surveillance technology, such as TraceTogether (Singapore). Typically, some technologies require mobile phone bluetooth or GPS data and may be difficult to design and administer in African countries with limited mobile phone penetration.	Low regret (Viet Nam, China, Taiwan Province of China, Republic of Korea, Iceland, Australia, New Zealand, Israel and Singapore)
4 Immunity permits	
Antibody tests to identify and grant permits to those with immunity to return to work. May create perverse incentives for people to contract the virus as a way to get back to work or to forge permits.	Low regret (Chile)
5 Gradual segmented reopening	
Gradual opening up certain regions or businesses, or restricting lockdowns to certain hours (curfews) or high-risk demographics (shielding). Can be combined with adaptive triggering to reimpose restrictions if COVID-19 cases begin to rise rapidly. However, some modelling suggests that even a gradual relaxing of some suppression measures will see infections quickly spread again.	Medium regret (Ireland, Germany, Italy, Spain, Denmark, Austria, Czechia, United Kingdom, New Zealand, Australia, and United States of America)
6 Adaptive triggering	
Ease lockdown once infections decline, reimpose when they begin to rise above intensive-care capacity, repeat. Would require regular shutdowns lasting two-thirds of the year, making little difference to permanent lockdown from an economic perspective. African health-care capacity is limited to begin with, meaning capacity would quickly be exceeded, potentially resulting in fatalities. Can be combined with gradual segmented reopening.	High regret (Imperial College London Response Team suggestion)
7 Mitigation	
Gradually allow the infection to spread across the population with some social distancing measures in place. Reportedly working in Sweden, where an estimated 25–40 per cent of Stockholm have contracted COVID-19, but relies on good adherence to basic social distancing measures and strong health-care capacity. Could imply considerable risk in African populations	Very high regret (Sweden, abandoned in United Kingdom)

Source: See endnote

with low health-care access and unknown comorbidities.

An important consideration for many countries following the gradual segmented reopening strategy is the prioritization of economic sectors and the sequencing of their reopening. Ahead of reopening their economies, some countries, such as the United Arab Emirates, have undertaken evaluations of the risks to social distancing and the importance to the economy of various economic subsectors. The examples of Rwanda (box 4), Spain (box 5) and South Africa (box 8) demonstrate three approaches to the gradual lifting of lockdown measures.

Rwanda and Spain are explicitly delaying the reopening of economic activities involving significant physical interaction, such as those in schools, places of worship, sporting and exercise facilities and bars. Where businesses have reopened, they are initially subject to the constraint that they operate at reduced capacity to limit physical interaction.

The South African model provides a checklist of criteria against which the possibility of restarting business operations will be evaluated, including their potential to increase the risk of transmission, the expected impact of the lockdown on the sector and the value of the sector to livelihoods and the broader economy.

In all three cases, the gradual lifting of lockdown restrictions is accompanied by the institution of compulsory preventive measures, such as requirements to wear face masks in public, hand hygiene and social distancing. These measures reflect a "new normal" that may remain long after lockdown measures are lifted.

Box 4. Gradual segmented reopening strategy of Rwanda

Rwanda: After recording more than 1,000 tests daily on average for over 10 days, of which fewer than 1 per cent showed positive for COVID-19, and reported confidence over the identification and isolation of all likely cases, Rwanda is to undertake a gradual segmented reopening strategy from 4 May 2020. This is to be combined with mass testing nationwide as well as preventive measures requiring face masks to be worn in public at all times, promotion of electronic payments, hand hygiene and social distancing. The Rwanda strategy segments the reopening by:

- i. Time: movements are still to be prohibited from 8 p.m. to 5 a.m. Hotels and restaurants are to close by 7 p.m.
- ii. Workers: essential workers are to resume work, while other employees are to continue working from home
- iii. Economic activity: schools, places of worship, sports facilities, bars are to remain closed and markets to operate at less than 50 per cent of registered traders
- iv. Geography: public and private transport between different provinces and Kigali is to remain prohibited

Daily tests and confirmed cases in Rwanda, five-day rolling average



Source: Based on data collated by Our World in Data, 5 April 2020. Available at https://ourworldindata.org/covid-testingcovid-testing

⁴ Government of Dubai. 2020. Guidelines and Protocols for Reopening, presentation on 22 April 2020.

Box 5. Strategy for hard-hit countries: example of Spain

Spain has been among those worst hit by COVID-19, registering 219,329 cases and 25,613 lost lives as of 6 May 2020. Spain's strict lockdown was introduced on 15 March 2020, as new daily cases began to exceed 1,000. Daily cases peaked roughly 12 days later, before falling to back under 1,000 only after 50 days of stringent lockdown.

Spain's "gradual, flexible and adaptive" lockdown exit strategy follows a four phase plan expected to take a minimum of six weeks before resulting in the so-called "new normal":

Phase zero: Preparatory phase for the lockdown de-escalation involving minor easing of movement restrictions, including permitting daily walks and exercises with time slots for residents to leave their homes in towns with over 5,000 residents. Some businesses are allowed to reopen, but for appointments only. Preference hours are introduced for people aged over 65 for vulnerability shielding.

Phase 1: Initial reopening of small businesses and social contact between people who are not considered to be at risk is to be allowed. Restaurants to be allowed to operate at 50 per cent capacity, open-air markets at 25 per cent, and hotels and places of worship at 30 per cent.

Phase 2: Restaurants, theatres and cinemas to reopen with some limitations. Outdoor cultural events with a maximum of 400 seated people and with social distancing measures. Relaxation of rural tourism. Some school reopening with classes limited to 15 students. Concert halls allowed to operate up to 30 per cent capacity and beaches and swimming pools reopened.

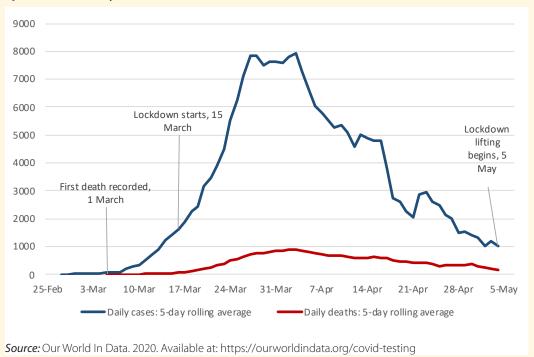
Phase 3: All previous establishments that have been allowed to open will be allowed to increase their capacity utilisation to 50 per cent. Outdoor cultural events are permitted up to a maximum of 800 seated people.

New normal: Preventive measures, including mandatory wearing of face masks, to remain along with social distancing measures, such as the restriction that only half of the seats on public transport may be used. Spain's exit strategy is regionally differentiated, with regions able to progress more or less rapidly through the phases in accordance with their exposure to COVID-19 and epidemiological criteria, including:

- (a) Availability or capacity to install between 1.5 and 2 intensive care beds and between 37 and 49 beds for every 10,000 inhabitants within a five-day period;
- (b) Ability to test and carry out contact tracing on suspected cases.

Some regions that are already COVID-19-free, including several Spanish islands, are already in phase 1, while others with high prevalence are expected to progress more cautiously. This is combined with the coordinated upgrading of capacity to produce at-scale testing diagnostics, personal protective equipment and, when it becomes available, vaccines, while ensuring that access to necessary protections is not constrained by income.

Spain's strict 50-day lockdown



Source: Arancha Gonzalez, "Lifting of lockdown in Spain – full details of all phases", keynote address delivered at the ECA global debate on Africa's COVID-19 lockdown exit strategies, Addis Ababa (online), 7 May 2020

Improve testing to reduce regret

No decision maker knows the true spread of COVID-19 within their country, so any exit strategy bears considerable risk. Testing is the revelatory, zero-regret precondition to ensuring that risk to lives is minimized. Testing reduces uncertainty in all exit strategy options, helping to bring down the possibility of regret.

Unfortunately, the ability of countries to test for COVID-19 is strongly related to their income level. Given that a number of African countries are among the poorest in the world, it is no surprise that they have some of the lowest testing rates per 1,000 people (figure V).⁵

However, as the cases of Viet Nam and Taiwan Province of China show, even if the share of tests per 1,000 people is low, a country may still have the virus relatively under control if the share of tests showing positive for COVID-19 is also low (figure VI). This is because if a country is testing only those showing severe symptoms, then a higher share of its tests will show positive for COVID-19, and it is more likely that a large number of asymptomatic cases are not being recorded. A low share of tests showing positive for COVID-19 could indicate that the country is testing far beyond those showing obvious symptoms.

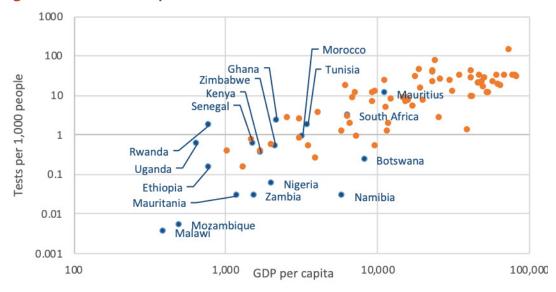


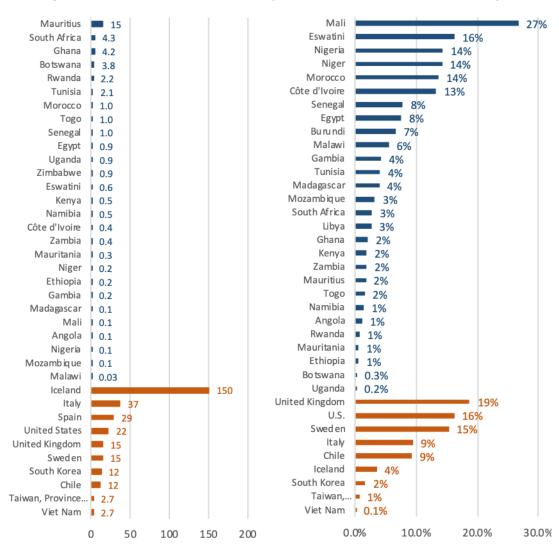
Figure IV. More developed countries can afford to test more

Sources: Based on (a) World Bank, world development indicators 2018; (b) testing data collected by ECA subregional offices, as of 26 April 2020; and (c) public testing data collated by Our World in Data, 30 April 2020. Available at https://ourworldindata.org/covid-testing.

⁵ Many countries are not yet providing official testing figures. Others are not doing so on a regular basis. Those that do often publish data in incomparable forms, for instance including or excluding routine tests on health-care workers or data from private laboratories. Nevertheless, as of 5 May 2020, the Our World in Data research team at the University of Oxford had reasonably comparable data on COVID-19 testing in 77 countries, of which 10 are African. These data were supplemented with country testing data from a further 17 African countries as collected by the ECA subregional offices on 4 May 2020.

Figure V. Tests per 1,000 people, as at 5 May 2020

Figure VI. Share of tests showing positive for COVID-19, as at 5 May 2020



Source: Based on data collected by the ECA subregional offices as at 4 May 2020 and official sources collated by Our World in Data, as at 5 May 2020. Available at https://ourworldindata.org/covid-testing.

Note: Where no data are provided for 5 May 2020, the most recently available data are used instead. Substantial differences exist in terms of whether all country labs are included, the extent to which negative and pending tests are included and other aspects. For more information, see the source.

Box 6. Ramping up testing capacity in Africa

Of the estimated 306 brands of testing kits that are commercially available, only one is manufactured in Africa (in Egypt).* As countries around the world struggle to increase their own testing, reliance on imports becomes problematic and local production becomes important. To address that dilemma, countries such as Ghana have adopted innovative approaches such as "pooled testing". African researchers and manufacturers are working rapidly to ramp up the continent's testing capacity.

Ghana: A diagnostics company has partnered with the Kwame Nkrumah University of Science and Technology to develop a simple-to-use COVID-19 testing kit that gives results in 15 to 20 minutes. The kit is now awaiting approval from the Ghana Food and Drugs Authority.

Senegal: Manufacturers are prototyping a COVID-19 testing kit that will reportedly cost less than \$1, in a collaborative programme involving British and French researchers. Distribution is expected in June 2020.

Uganda: Researchers at Makerere University have developed a swab tube dipstick test for COVID-19 that can reportedly give results within minutes at the cost of just of \$1.

Kenya: The Kenya Medical Research Institute has started manufacturing a simple swab-based COVID-19 rapid testing kit.

South Africa: The firm CapeBio Technologies has reportedly created at test kit that can provide results in 65 minutes.

Sources: Isaac Kaledzi, """Ghana-made' Covid-19 test kit that gives results in 15–20 minutes", Africa Feeds, 28 April 2020; "\$1 testing kits: Senegal's approach to coronavirus", Al Jazeera, 27 April 2020; "Senegal's \$1 COVID-19 testing kit will give you results in 10 minutes", Tech in Africa, 27 April 2020; "South Africans develop COVID-19 test kits that give results in an hour", Face2Face Africa, 21 April 2020; "Covid-19 results in 15 minutes: KEMRI starts manufacturing rapid test kits", Standard Digital (Nairobi), 7 April 2020.

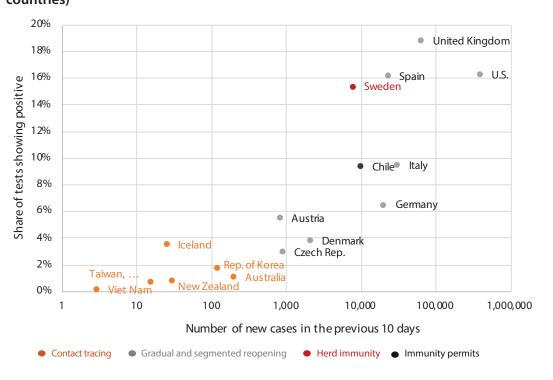
* Organization for Economic Cooperation and Development, "Accelerating the response to COVID-19: what does Africa need?", OECD Development Matters, 1 May 2020. Available at https://oecd-development-matters. org/2020/05/01/accelerating-the-response-to-covid-19-what-does-africa-need/.

Contact-tracing exit strategies are feasible for countries with extensive testing and contained outbreaks

Once containment of the virus has failed, governments are more likely to abandon the contact-tracing exit strategy and resort to a gradual and segmented reopening or other strategies. They have been unable to extensively test and contain the outbreak are instead obliged to take riskier approaches to exiting the lockdown.

Figure VII charts the share of tests showing positive for COVID-19 as at 5 May, against the number of new cases in the previous 10 days. It shows that the countries that have been best able to extensively test and contain their outbreaks, such as Viet Nam, are those that have tended to rely more on the contact-tracing exit strategy (shown in orange). On the other hand, the countries in which COVID-19 has spread uncontrollably have tended instead to resort more to the gradual and segmented reopening exit strategy (shown in grey) or other lockdown exit strategies. Note, however, that many countries are employing a combination of exit strategies.

Figure VII. Better testing brings the contact-tracing exit strategy into play Panel a: Share of tests showing positive for COVID-19 against the number of new cases in the previous 10 days, as at 5 May, for various countries (not including African countries)

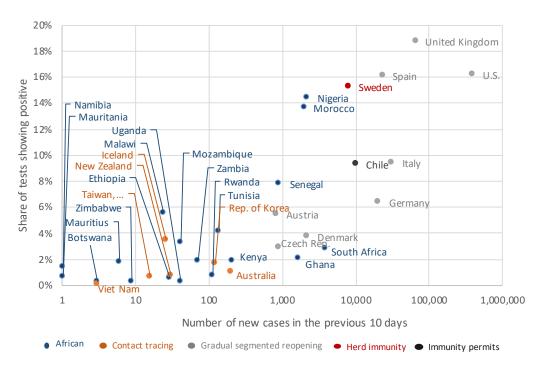


Source: Based on data collected by ECA subregional offices as at 4 May 2020 and official sources collated by Our World in Data, as at 5 May 2020. Available at https://ourworldindata.org/covid-testing.

Note: Where data are not available for 5 May 2020, the most recently available data are used instead. Substantial differences exist in terms of whether all the laboratories in a country are included, the extent to which negative and pending tests are included and other aspects. For more information, see the source.

When overlaying the African countries (for which there are data) in panel b, it can be seen that some are in a position in which contact tracing could be a feasible exit strategy. This situation is evolving rapidly and data are not always reliable. It is possible that countries such as Botswana, Mauritania, Mauritius and Namibia, which have conducted many tests but show few new cases could look to the contact-tracing exit strategy. However, countries such as Morocco and Nigeria, which have a high share of tests showing positive and many new cases, may need to look towards gradual segmented reopening or other riskier strategies.

Panel b. Share of tests showing positive for COVID-19 against the number of new cases in the previous 10 days, as at 5 May, including African countries



Source: Based on data collected by ECA subregional offices as at 4 May 2020 and official sources collated by Our World in Data, as at 5 May 2020. Available at https://ourworldindata.org/covid-testing.

Note: Where data are not available for 5 May 2020, the most recently available data are used instead. Substantial differences exist in terms of whether all the laboratories in a country are included, the extent to which negative and pending tests are included and other aspects. For more information, see the source.

Country-specific considerations: exposure and vulnerability

The suitability of various exit strategies for any individual country depends on the characteristics and COVID-19 exposure status of that country. Countries in which cases are rising rapidly are advised to hold lockdowns in place or strengthen suppression measures. Other countries may have COVID-19 relatively under control but harbour severe vulnerabilities that merit greater caution, such as a high prevalence of HIV/AIDS in their population.

WHO recommends that, in lifting lockdowns, countries consider six criteria:6

- COVID-19 transmission is under control, being limited to sporadic cases and clusters of cases, all from known contacts or importations; at a minimum, new cases would be reduced to a level that the health-care system could manage based on health-care capacity.
- 2. Sufficient public health workforce and health system capacities are in place to enable the major shift from detecting and treating mainly serious cases to detecting and isolating all cases, irrespective of severity and whether there is local transmission or importation.
- **3. Outbreak risks in high-vulnerability settings are minimized,** which requires that all major drivers or amplifiers of COVID-19 transmission have been identified, with appropriate measures in place to maximize physical distancing and minimize the risk of new outbreaks.
- 4. Preventive measures are established in workplaces.
- **5.** The management of the risk of exporting cases from and importing cases into communities at high risk of transmission.
- **6. Communities are fully engaged and educated** to understand that the transition away from large-scale movement restrictions and public health and social measures from detecting and treating serious cases to detecting and isolating all cases is a"new normal" in which preventive measures would be maintained, and that all people have key roles to play in preventing a resurgence in cases.

In the following section, comparable data for African countries is considered for criteria 1 and 3.

COVID-19 transmission in African countries

Whether countries attempt lockdown exit strategies, and the exit strategies they in turn choose, depends on how COVID-19 is being transmitted within those countries.

The countries currently attempting the contact-tracing exit strategy have suppressed the weekly growth rate of COVID-19 infections to below 5 per cent and have transmission occurring through clusters of cases (table 4). The countries attempting other exit strategies tend to have weekly infection growth rates under 30 per cent (and as low as zero per cent in the case of

⁶ World Health Organization, COVID-19 daily press briefing of 13 April 2020. Available at www.youtube.com/watch?v=NCy-qvcDDl4.

Denmark), but with infection occurring through community transmission. In countries in which the spread of COVID-19 is accelerating, exiting lockdowns is not the immediate priority.

Community transmission was reported by WHO in only 8 African countries as at 5 May. While that is promising, the weekly infection growth rate is very high for many African countries. Only 12 African countries have weekly infection growth rates of less than 10 per cent, with a further 13 having weekly infection growth rates below 30 per cent. In the view of many and for most African countries, the peak of the virus has yet to arrive and further suppressing its spread remains the immediate challenge rather than lockdown exit strategies.

Table 4 COVID-19 exposure in selected comparator countries, as at 5 May 2020

	Confirmed cases	Weekly growth rate	Transmission classification*			
	C	(percentage) ontact tracing				
Iceland	1 786	0.4	Community transmission			
Australia	107	2	Clusters of cases			
New Zealand	1 486	1	Clusters of cases			
Republic of Korea	10 804	0.5	Clusters of cases			
Viet Nam	271	0.4	Clusters of cases			
Taiwan Province of China	438	2.1	N/A			
	Gradual s	egmented reopenir	ng			
Austria	15 621	2	Community transmission			
Czechia	7 819	5	Community transmission			
Denmark	187	0	Pending			
Germany	166 152	5	Community transmission			
Italy	211 938	6	Community transmission			
Spain	228 022	4	Community transmission			
United Kingdom	190 584	5	Community transmission			
United States	1 180 375	19	Community transmission			
Mitigation						
Sweden	21 092	26	Pending			
Immunity permits						
Chile	16 023	49	Community transmission			

Source: Based on data from Johns Hopkins University and World Health Organization, Coronavirus disease (COVID-19) situation report 107, 6 May 2020.

Notes: Sporadic cases: Countries/territories/areas with one or more cases, imported or locally detected. Clusters of cases: Countries/territories/areas experiencing cases, clustered in time, geographic location and/or by common exposures. Community transmission: Countries/area/territories experiencing larger outbreaks of local transmission defined through an assessment of factors including, but not limited to: large numbers of cases not linkable to transmission chains; large numbers of cases from sentinel lab surveillance; or multiple unrelated clusters in several areas of the country/territory/area.

^{*}Case classifications based on WHO case definitions for COVID-19.

 Table 5 COVID-19 exposure in African countries, 5 May 2020

	Confirmed cases	Weekly growth rate	Transmission classification*
F ::		(percentage)	c li
Eritrea	39	0	Sporadic cases
Namibia	16	0	Sporadic cases
Seychelles	11	0	Sporadic cases
Mauritius	332	0	Community transmission
Libya	63	3	Clusters of cases
Botswana	23	5	Sporadic cases
Mozambique	80	5	Sporadic cases
Tunisia	1 018	5	Community transmission
Burkina Faso	672	6	Community transmission
Zimbabwe	34	6	Sporadic cases
Niger (the)	755	8	Clusters of cases
Djibouti	1 116	8	Clusters of cases
Ethiopia	140	13	Clusters of cases
Malawi	41	14	Sporadic cases
Mauritania	8	14	Sporadic cases
Madagascar	149	16	Clusters of cases
Congo (the)	236	18	Clusters of cases
Equatorial Guinea	315	22	Clusters of cases
Morocco	5 053	23	Clusters of cases
Uganda	97	23	Sporadic cases
Côte d'Ivoire	1 432	23	Clusters of cases
Cameroon	2 104	23	Clusters of cases
Rwanda	261	26	Clusters of cases
Togo	126	29	Clusters of cases
Angola	35	30	Sporadic cases
Algeria	4 648	32	Community transmission
Liberia	166	34	Clusters of cases
Kenya	490	35	Clusters of cases
Burundi	15	36	Sporadic cases
Mali	580	42	Clusters of cases
Egypt	6 813	42	Clusters of cases
Guinea	1 710	47	Community transmission
Democratic Republic of the Congo	682	49	Clusters of cases
Benin	96	50	Sporadic cases
South Africa	7 220	51	Community transmission
Zambia	,	56	,
	137		Sporadic cases
Somalia	756	58	Sporadic cases
United Republic of Tanzania	480	61	Clusters of cases
Cabo Verde	175	61	Sporadic cases
Gambia (the)	17	70	Sporadic cases
Senegal	1 271	73	Clusters of cases
Gabon	367	74	Clusters of cases
Ghana	2 719	75	Clusters of cases
Eswatini	116	78	Sporadic cases
Sierra Leone	178	91	Clusters of cases
Nigeria	2802	110	Community transmission

	Confirmed cases	Weekly growth rate (percentage)	Transmission classification*
Sudan (the)	678	147	Sporadic cases
Chad	117	154	Clusters of cases
Central African Republic	85	347	Sporadic cases
Guinea-Bissau	413	466	Sporadic cases
Sao Tome and Principe	23	475	Sporadic cases
South Sudan	46	667	Sporadic cases

Source: Based on data from Johns Hopkins University and World Health Organization, Coronavirus disease (COVID-19) situation report 107, 6 May 2020.

*Notes: Sporadic cases: Countries/territories/areas with one or more cases, imported or locally detected. Clusters of cases: Countries/territories/areas experiencing cases, clustered in time, geographic location and/or by common exposures. Community transmission: Countries/area/territories experiencing larger outbreaks of local transmission defined through an assessment of factors including, but not limited to: large numbers of cases not linkable to transmission chains; large numbers of cases from sentinellabsurveillance; or multiple unrelated clusters in several areas of the country/territory/area. * Case classifications based on WHO case definitions for COVID-19.

COVID-19 African country vulnerabilities

Many African countries have underlying health vulnerabilities that could make COVID-19 more lethal, and the premature exiting of lockdowns riskier. Many African countries also have limited health care capacity, with the continent having an average of only 1.8 hospital beds per 1,000 people, and limited ability to reduce disease transmission, with only 34 per cent of Africans having access to household handwashing facilities.⁷

Levels of COVID-19-related hospitalization and mortality of are highly correlated with age and the existence of underlying conditions, according to data emerging from hard-hit regions. Cardiovascular disease, respiratory disease, kidney disease, and immunocompromised conditions, including HIV/AIDS and tuberculosis, have proved particularly dangerous. While Africa has a favourable demographic profile (nearly 60 per cent of the population is below the age of 25), the high prevalence of HIV/AIDS in Southern Africa and high levels of chronic respiratory disease and kidney disease in certain countries, along with tuberculosis and malnutrition, are causes for concern.

⁷ Economic Commission for Africa, *COVID-19 in Africa: Protecting Lives and Economies* (Addis Ababa, ECA Publications and Conference Management Section, 2020).

 Table 6 Population vulnerabilities to COVID-19

Burundi		Undernourish- ment, % of population	Chronic respiratory disease, % of population	Chronic kidney disease, % of population		HIV/AIDS, % of population	Incidence of tuberculosis, number per 100,000
Benin 10 5 6 3 1 166	Angola	25	7	5	3	1	315
Burkina Faso 20 5 6 3 0.5 214 Botswana 26 7 9 4 17 369 Central African Republic Cote d'Ivoire 19 5 7 3 2 191 Cameroon 10 5 6 3 2 173 Democratic Republic of the Congo Congo (the) 40 7 7 3 2 315 Comoros N/D 6 7 4 0.0 221 Cabo Verde 13 5 11 6 1 120 Dijbiouti 19 5 7 4 1 312 Algeria 4 9 9 9 6 0.03 36 Egypt 5 9 8 5 0.00 19 Eritrea N/D 5 5 3 0.5 462 Ethiopia 21 5 5 3 1 200 Gabon 11 7 8 4 2 272 Ethiopia 17 6 6 3 1 226 Gambia (the) 10 5 7 3 1 220 Guinea-Bissau 28 5 6 3 2 161 Equatorial Suinea Equatorial Suinea Equatorial Suinea Equatorial Suinea Morocco 3 8 10 7 9 4 17 609 Morocco 3 8 10 7 9 4 17 609 Morocco 3 8 10 7 9 4 17 609 Madagascar 44 6 5 3 1 1 221 Liboya N/D 8 9 6 0.02 25 Lesotho 13 7 9 4 17 609 Morocco 3 8 10 7 0.04 140 Madagascar 44 6 5 3 7 4 17 609 Malai 6 5 6 3 1 1 200 Maritius 7 8 18 9 0.3 18 Mali 6 5 6 3 1 1 120 Maritius 7 8 18 9 0.3 18 Mali 6 5 6 3 1 1 120 Maritius 7 8 18 9 0.3 18 Malai 6 5 6 3 1 1 120 Maritius 7 8 18 9 0.3 18 Malai 6 5 6 3 2 2 17 Maritius 7 8 18 9 0.3 18 Malai 6 5 6 3 1 1 120 Maritius 7 8 18 9 0.3 18 Malai 6 5 6 3 2 2 231 Maritius 7 8 18 9 0.3 18 Malai 6 5 6 3 2 2 231 Maritius 7 8 18 9 0.3 18 Malai 6 5 6 3 2 2 231 Maritius 7 8 18 9 0.3 18 Malai 6 5 6 3 2 2 231 Maritius 7 8 18 9 0.3 18 Malaiwi 18 6 6 3 3 2 231 Maritius 7 8 18 9 0.3 18 Malaiwi 18 6 6 3 3 2 231 Maritius 7 8 18 9 0.3 18 Malaiwi 18 6 6 3 3 2 231 Maritius 7 8 18 9 0.3 18 Malaiwi 18 6 6 6 3 2 2 231 Maritius 7 8 18 8 9 0.3 18 Malaiwi 18 6 6 6 3 2 2 231 Maritius 7 6 3 2 2 231 Maritius 7 6 3 2 2 231 Maritius 7 6 3 3 2 231 Maritius 7 7 6 3 3 2 231 Maritius 7 8 18 18 9 0.3 18 Maritius 7 8 18 7 7 4 0.4 191 Maritius 7 6 7 4 0.4 191 Maritius 7 7 6 7 4 0.4 191 Maritius 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Burundi	N/D	5	5	3	1	521
Botswana 26	Benin	10	5	6	3	1	166
Central African African African African African Republic Cote d'Ivoire 19 5 7 3 2 191 Cameroon 10 5 6 3 2 173 Democratic Republic of the Congo Congo (the) 40 7 7 3 2 315 Congo (the) 40 7 7 3 2 315 Congo (the) 40 7 7 4 0.0 221 Cabo Verde 13 5 11 6 1 120 Djibouti 19 5 7 4 1 312 Algeria 4 9 9 9 6 0.03 36 Egypt 5 9 8 5 0.00 19 Eritrea N/D 5 5 3 0.5 462 Ethiopia 21 5 5 3 1 200 Ethiopia 21 5 5 3 1 200 Gabon 11 7 8 4 2 272 Ethiopia 17 6 6 3 1 226 Gambia (the) 10 5 7 3 1 230 Guinea-Bissau 28 5 6 3 2 161 Equatorial N/D 6 6 6 3 1 226 Gambia (the) 10 5 7 3 1 230 Guinea-Bissau 28 5 6 3 2 161 Equatorial Culinea 37 5 7 3 1 221 Ethiopia 37 5 7 3 1 221 Ethiopia 4 6 5 8 4 1 219 Morocco 3 8 10 7 9 4 17 609 Morocco 3 8 10 7 9 9 4 17 609 Morocco 3 8 10 7 9 9 4 17 609 Morocco 3 8 10 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Burkina Faso	20	5	6	3	0.5	214
African Republic Côte d'Ivoire 19 5 7 3 2 191 Cameroon 10 5 6 3 2 173 Democratic Republic of the Congo Congo (the) 40 7 7 7 3 2 3 15 Comoros N/D 6 7 4 0.0 221 Cabo Verde 13 5 11 6 1 120 Djibouti 19 5 7 4 1 312 Algeria 4 9 9 9 6 0.03 36 Egypt 5 9 8 5 0.00 19 Eritrea N/D 5 5 3 0.5 462 Ethiopia 21 5 5 3 1 20 Gabon 11 7 8 4 2 272 Ghana 6 5 8 4 1 219 Guinea 17 6 6 6 3 1 226 Guinea 17 6 6 6 3 1 226 Guinea 17 6 6 6 3 2 216 Cuinea 17 6 6 6 3 3 2 161 Equatorial Cuinea 185sau 28 5 6 3 2 161 Equatorial Cuinea 17 7 7 3 1 230 Cuinea 17 7 7 1 3 1 230 Cuinea 17 7 8 8 4 2 272 Cuinea 17 8 8 8 9 8 9 8 9 9 9 9 9 9 9 9 9 9 9 9	Botswana	26	7	9	4	17	369
Côte d'Ivoire 19 5 7 3 2 191 Cameroon 10 5 6 3 2 173 Democratic Republic of the Congo Congo (the) 40 7 7 7 3 2 2 315 Comoros N/D 6 7 4 0.0 221 Cabo Verde 13 5 11 6 1 120 Djibouti 19 5 7 4 1 312 Algeria 4 9 9 9 6 0.03 36 Egypt 5 9 8 5 0.00 19 Efritrea N/D 5 5 3 0.5 462 Ethiopia 21 5 5 3 0.5 462 Ethiopia 21 5 5 3 1 200 Gabon 11 7 8 4 2 272 Ghana 6 5 8 4 1 219 Guinea 17 6 6 3 1 226 Gambia (the) 10 5 7 3 1 230 Guinea-Bissau 28 5 6 3 2 161 Equatorial N/D 6 6 3 3 2 161 Equatorial N/D 6 6 6 3 3 2 2 161 Equatorial N/D 6 6 6 3 4 272 Liberia 37 5 7 3 1 221 Libya N/D 8 9 6 0.02 25 Lesotho 13 7 9 4 17 609 Madagascar 44 6 5 3 4 17 609 Morocco 3 8 10 7 0.04 140 Madagascar 44 6 5 3 7 4 11 Mauritius 7 8 18 9 0.3 18 Malii 6 5 6 3 1 120 Mozambique 28 5 5 6 3 6 3 2 17 Maliawi 18 6 6 3 3 1 120 Mauritius 7 8 18 9 0.3 18 Malii 6 5 6 3 1 1 120 Mozambique 28 5 5 6 3 0.1 188 Malii 6 5 6 3 6 3 2 2 17 Mauritius 7 8 18 9 0.3 102 Mauritius 7 8 18 9 0.3 102 Mauritius 7 8 18 9 0.3 102 Mauritius 7 8 18 9 0.3 12 Mauritius 7 8 18 9 0.3 12 Nigeria 13 5 6 3 2 231 Nigeria 13 5 6 3 2 230 Senegal 11 5 7 4 0.4 191 Sierra Leone 26 5 7 4 1 1 275	Central African	60	6	6	3	2	539
Cameroon 10 5 6 3 2 173 Democratic Republic of the Congo N/D 6 6 3 0.5 438 Mee Congo (the) 40 7 7 3 2 315 Comoros N/D 6 7 4 0.0 221 Cabo Verde 13 5 11 6 1 120 Dijbouti 19 5 7 4 1 312 Algeria 4 9 9 6 0.03 36 Egypt 5 9 8 5 0.00 19 Eritrea N/D 5 5 3 0.5 462 Ethiopia 21 5 5 3 1 200 Gabon 11 7 8 4 2 272 Ghana 6 5 8 4 1 219 Guinea 17 6 </td <td></td> <td>10</td> <td>5</td> <td>7</td> <td>2</td> <td>2</td> <td>101</td>		10	5	7	2	2	101
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Comoros N/D 6 7 4 0.0 221 Cabo Verde 13 5 11 6 1 120 Djibouti 19 5 7 4 1 312 Algeria 4 9 9 6 0.03 36 Egypt 5 9 8 5 0.00 19 Eritrea N/D 5 5 3 0.5 462 Ethiopia 21 5 5 3 0.5 462 Ethiopia 21 5 5 3 1 200 Gabon 11 7 8 4 2 272 Ghana 6 5 8 4 1 219 Ghana 6 5 8 4 1 219 Ghana 17 6 6 3 1 226 Gambia (the) 10 5 7 <t< td=""><td>Democratic Republic of the Congo</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Democratic Republic of the Congo						
Cabo Verde 13 5 11 6 1 120 Djibouti 19 5 7 4 1 312 Algeria 4 9 9 6 0.03 36 Egypt 5 9 8 5 0.00 19 Eritrea N/D 5 5 3 0.5 462 Ethiopia 21 5 5 3 0.5 462 Ethiopia 21 5 5 3 1 200 Gabon 11 7 8 4 2 272 Ghana 6 5 8 4 1 219 Guinea 17 6 6 3 1 226 Gambia (the) 10 5 7 3 1 230 Guinea 17 6 6 3 2 161 Equatorial (the) 10 5 7	Congo (the)	40	7	7	3	2	315
Dijbouti 19 5 7 4 1 312 Algeria 4 9 9 6 0.03 36 Egypt 5 9 8 5 0.00 19 Eritrea N/D 5 5 3 0.5 Gabon 11 7 8 4 2 272 Ghana 6 5 8 4 1 219 Guinea 17 6 6 3 1 230 Gambia (the) 10 5 7 3 1 230 Guinea 17 6 6 3 3 2 2161 Equatorial Guinea N/D 6 6 3 3 3 258 Equatorial Guinea N/D 8 9 6 0.02 Liberia 37 5 7 3 1 221 Libya N/D 8 9 6 0.02 Lesotho 13 7 9 4 17 609 Morocco 3 8 10 7 0.04 140 Madagascar 44 6 5 3 0.1 188 Mali 6 5 6 3 1 120 Mozambique 28 5 5 3 7 414 Mauritania 10 6 7 4 0.03 102 Mauritius 7 8 18 9 0.3 18 Malawi 18 6 6 3 6 324 Namibia 27 6 8 4 10 489 Namibia 27 6 8 4 10 489 Sudan (the) 20 7 6 4 0.2 83 Senegal 11 5 7 4 0.4 191 Sierra Leone 26 5 7 4 1 275 Digeria 27 6 4 0.2 83 Senegal 11 5 7 4 0.4 191	Comoros	N/D	6	7	4	0.0	221
Algeria 4 9 9 9 6 0.03 36 Egypt 5 9 8 5 0.00 19 Eritrea N/D 5 5 3 0.5 462 Ethiopia 21 5 5 3 1 200 Gabon 11 7 8 4 2 272 Ghana 6 5 8 4 1 219 Guinea 17 6 6 6 3 1 226 Gambia (the) 10 5 7 3 1 230 Guinea Bissau 28 5 6 3 2 161 Equatorial Guinea 8 Guinea 8 Kenya 29 5 6 3 4 272 Liberia 37 5 7 3 1 221 Libya N/D 8 9 6 0.02 25 Lesotho 13 7 9 4 17 609 Morocco 3 8 10 7 0.04 140 Madagascar 44 6 5 3 0.1 188 Mali 6 5 6 3 1 120 Mozambique 28 5 5 3 7 414 Mauritania 10 6 7 4 0.03 102 Mauritius 7 8 18 9 0.3 18 Malawi 18 6 6 3 6 324 Namibia 27 6 8 4 10 489 Namibia 27 6 8 4 10 498 Namibia 37 7 6 3 2 231 Nigeria 13 5 6 3 3 2 239 Nigeria 14 0.4 191 Nigeria 15 7 4 0.4 191 Nigeria 16 5 7 4 0.4 191 Nigeria 16 5 7 4 0.4 191 Nigeria 17 5 7 4 0.4 191	Cabo Verde	13	5	11	6	1	120
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Ethicpia 21 5 5 3 0.5 462 Ethiopia 21 5 5 3 1 200 Gabon 11 7 8 4 2 272 Ghana 6 5 8 4 1 219 Guinea 17 6 6 6 3 1 226 Gambia (the) 10 5 7 3 1 230 Guinea-Bissau 28 5 6 3 2 161 Equatorial Guinea 8 Kenya 29 5 6 3 4 272 Liberia 37 5 7 3 1 221 Libya N/D 8 9 6 0.02 25 Lesotho 13 7 9 4 17 Morocco 3 8 10 7 0.04 140 Madagascar 44 6 5 3 0.1 188 Mali 6 5 6 3 1 120 Mozambique 28 5 5 3 7 414 Mauritania 10 6 7 4 0.03 102 Mauritius 7 8 18 9 0.3 18 Malawi 18 6 6 3 6 3 2 231 Rwanda 37 7 6 3 2 290 Sudan (the) 20 7 6 4 0.2 83 Senegal 11 5 7 4 0.4 191 Sierra Leone 26 5 7 4 0.4	Algeria	4	9	9	6	0.03	36
Ethiopia 21 5 5 3 1 200 Gabon 11 7 8 4 2 272 Ghana 6 5 8 4 1 219 Guinea 17 6 6 3 1 226 Gambia (the) 10 5 7 3 1 230 Guinea-Bissau 28 5 6 3 2 161 Equatorial Guinea N/D 6 6 3 2 161 Equatorial Guinea N/D 6 6 3 3 258 Guinea 29 5 6 3 4 272 Liberia 37 5 7 3 1 221 Libbya N/D 8 9 6 0.02 25 Lesotho 13 7 9 4 17 609 Morocco 3 8 <t< td=""><td>Egypt</td><td>5</td><td>9</td><td>8</td><td>5</td><td>0.00</td><td>19</td></t<>	Egypt	5	9	8	5	0.00	19
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Ghana 6 5 8 4 1 219 Guinea 17 6 6 3 1 226 Gambia (the) 10 5 7 3 1 230 Guinea-Bissau 28 5 6 3 2 161 Equatorial Guinea N/D 6 6 3 3 258 Kenya 29 5 6 3 4 272 Liberia 37 5 7 3 1 221 Libya N/D 8 9 6 0.02 25 Lesotho 13 7 9 4 17 609 Morocco 3 8 10 7 0.04 140 Madagascar 44 6 5 3 0.1 188 Mali 6 5 6 3 1 120 Mozambique 28 5 5<	Ethiopia	21	5	5	3	1	200
Guinea 17 6 6 3 1 226 Gambia (the) 10 5 7 3 1 230 Guinea-Bissau 28 5 6 3 2 161 Equatorial Guinea N/D 6 6 3 2 28 Kenya 29 5 6 3 4 272 Liberia 37 5 7 3 1 221 Libya N/D 8 9 6 0.02 25 Lesotho 13 7 9 4 17 609 Morocco 3 8 10 7 0.04 140 Madagascar 44 6 5 3 0.1 188 Mali 6 5 6 3 1 120 Mozambique 28 5 5 3 7 414 Mauritius 7 8 <td< td=""><td>Gabon</td><td>11</td><td>7</td><td>8</td><td>4</td><td>2</td><td>272</td></td<>	Gabon	11	7	8	4	2	272
Gambia (the) 10 5 7 3 1 230 Guinea-Bissau 28 5 6 3 2 161 Equatorial Guinea N/D 6 6 3 3 258 Guinea Kenya 29 5 6 3 4 272 Liberia 37 5 7 3 1 221 Libya N/D 8 9 6 0.02 25 Lesotho 13 7 9 4 17 609 Morocco 3 8 10 7 0.04 140 Madagascar 44 6 5 3 0.1 188 Mali 6 5 6 3 1 120 Mozambique 28 5 5 3 7 414 Mauritius 7 8 18 9 0.3 18 Malawi 18	Ghana	6	5	8	4	1	219
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Equatorial Guinea N/D 6 6 3 3 258 Guinea Kenya 29 5 6 3 4 272 Liberia 37 5 7 3 1 221 Libya N/D 8 9 6 0.02 25 Lesotho 13 7 9 4 17 609 Morocco 3 8 10 7 0.04 140 Madagascar 44 6 5 3 0.1 188 Mali 6 5 6 3 1 120 Mozambique 28 5 5 3 7 414 Mauritius 7 8 18 9 0.3 18 Malawi 18 6 6 3 6 324 Namibia 27 6 8 4 10 489 Nigeria 13 5	Gambia (the)	10	5	7	3	1	230
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Niger (the) 17 5 5 3 0.2 171 Nigeria 13 5 6 3 2 231 Rwanda 37 7 6 3 2 290 Sudan (the) 20 7 6 4 0.2 83 Senegal 11 5 7 4 0.4 191 Sierra Leone 26 5 7 4 1 275	Malawi	18	6	6	3	6	324
Nigeria 13 5 6 3 2 231 Rwanda 37 7 6 3 2 290 Sudan (the) 20 7 6 4 0.2 83 Senegal 11 5 7 4 0.4 191 Sierra Leone 26 5 7 4 1 275	Namibia	27	6	8	4	10	489
Rwanda 37 7 6 3 2 290 Sudan (the) 20 7 6 4 0.2 83 Senegal 11 5 7 4 0.4 191 Sierra Leone 26 5 7 4 1 275	Niger (the)	17	5	5	3	0.2	171
Sudan (the) 20 7 6 4 0.2 83 Senegal 11 5 7 4 0.4 191 Sierra Leone 26 5 7 4 1 275	Nigeria	13	5	6	3	2	231
Senegal 11 5 7 4 0.4 191 Sierra Leone 26 5 7 4 1 275	Rwanda	37	7	6	3	2	290
Sierra Leone 26 5 7 4 1 275	Sudan (the)	20	7	6	4	0.2	83
	Senegal	11	5	7	4	0.4	191
Somalia N/D 5 5 3 0.2 287	Sierra Leone	26	5	7	4	1	275
	Somalia	N/D	5	5	3	0.2	287

	Undernourish- ment, % of population	Chronic respiratory disease, % of population	Chronic kidney disease, % of population	Chronic cardiovascular disease, % of population	HIV/AIDS, % of population	Incidence of tuberculosis, number per 100,000
South Sudan	N/D	6	5	3	1	280
Sao Tome and Principe	7	6	8	4	0.01	96
Eswatini	21	6	8	4	19	482
Seychelles	N/D	7	13	7	0.1	24
Chad	38	5	5	3	1	233
Togo	16	5	7	3	1	203
Tunisia	4	8	11	7	0.03	27
United Republic of Tanzania	31	7	6	3	3	293
Uganda	41	6	5	3	4	335
South Africa	6	6	11	5	13	427
Zambia	47	5	5	3	7	374
Zimbabwe	51	6	7	4	9	498

Source: World Bank, world development indicators, and Global Burden of Disease Study 2017, Lancet, November 2018.

Box 7 Fatality rates for COVID-19 in Africa

A case fatality rate is the number of reported deaths per number of reported cases. Estimated case fatality rates for COVID-19 vary widely due to large differences in testing, reporting and attribution across countries, and data collection delays in such a highly dynamic situation. As more data are collected, African countries can better ascertain the impact of population vulnerabilities, like tuberculosis or malnutrition, on COVID-19 mortality.

Of the countries with the lowest number of COVID-19 cases per 1,000 people, African countries are represented among both countries with the highest measured case fatality rates and countries with the lowest.

In North Africa, Algeria and Egypt have estimated case fatality rates of 11.5 per cent and 7.2 per cent, respectively, putting them among the top 12 countries worldwide in terms of fatality rates. These are also the two African countries with the highest prevalence of respiratory disease, a known co-morbidity. Cameroon, Morocco and Nigeria have case fatality rates around 3 per cent, while Côte d'Ivoire, Djibouti, Ghana, Guinea and South Africa all have fatality rates below 2 per cent.

What is needed is active learning: investing the resources and time needed to actively collect the data on this critical issue. More African countries need to collect and publish detailed testing and case data.

Sources: Harvard University Center for International Development, "Smart containment with active learning: a proposal for a data-responsive and graded response to COVID-19" (Cambridge, Massachusetts, 2020). Available at www.hks.harvard.edu/centers/cid/publications/smart-containment-with-active-learning; Centre for Evidence-Based Medicine, "Global COVID-19 case fatality rates" (Oxford, CEBM Research, Oxford COVID-19 Evidence Service, 2020). Available at www.cebm.net/covid-19/global-covid-19-case-fatality-rates/.

Timing an exit strategy

Timing is everything. If COVID-19 is widespread and likely to resurge in a country, then prematurely exiting from a lockdown is likely to result in a false economy; a re-opening that leads to another COVID-19 outbreak would likely cause economic activity to plummet once more.

Maintaining a lockdown may pose an immediate economic cost, but offers two great advantages. First, it provides "extra time" to put in place the systems needed to better suppress the disease's spread and to treat those who do contract it, by upgrading health care system capacity; implementing preventive measures in workplaces, schools and public places; and educating and engaging with communities on COVID-19.

Second, it allows time to watch and learn from other countries that are at a more advanced stage in their outbreaks. In the words of the Ghanaian writer Ernest Agyemang Yeboah, "Don't rush, just because you have reasons! Reason with the reasons and take definite action in the right direction."

In terms of putting in place the right systems to address COVID-19, Africa has much work ahead of it. Preliminary estimates suggest that the cumulative demand for personal protective equipment in Africa could exceed 884 million pieces, while 74 million testing kits may be needed, depending on how widely the virus spreads. Peak demand for hospital intensive care beds could reach from 0.1 to 1.6 million, and peak demand for ventilators 30 to 40 thousand.⁸ Some countries are severely undersupplied; Guinea-Bissau reportedly has no ventilators, while Malawi has 25 intensive-care-unit beds for a population of 17 million.⁹ Scaling up supply will prove challenging beyond funding; absorptive capacity and bottlenecks, like trained physicians, are difficult to address in a short period of time.

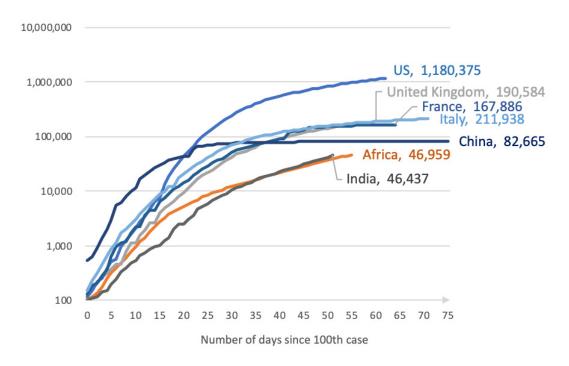
However, African countries have the advantage of currently being further behind other countries and regions in their infection trajectories (figures VIII and IX). Using the time afforded by those trajectories to look ahead and learn from others as they implement various exit strategies could help to confirm or dispel concerns over those exit strategies, and save decision-makers from regret.

As African countries start to reopen, doing so gradually, with heightened testing and with close attention to any spike in recorded cases, will allow risks to be minimized.

⁸ Note: preliminary estimates shared by McKinsey.

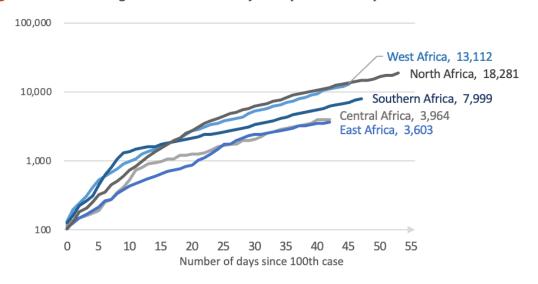
⁹ Riku Elovainio and Alexander Pick, "COVID-19 and beyond: How can Africa's health systems cope?" *OECD Development Matters*, 7 April 2020. Available at https://oecd-development-matters.org/2020/04/07/covid-19-and-beyond-how-can-africas-health-systems-cope/; Katharine Houreld, David Lewis and Ryan McNeill, "Exclusive: virus exposes gaping holes in Africa's health systems", Reuters, 7 May 2020.

Figure VIII Africa's infection trajectory versus comparators, as at 5 May 2020



Source: Based on data from Johns Hopkins University and Africa Centres for Disease Control and Prevention, 5 May 2020.

Figure IX Africa's regional infection trajectory, as at 5 May 2020



Source: Based on data from Johns Hopkins University and Africa Centres for Disease Control and Prevention, 5 May 2020.

Box 8 South Africa: three system risk-adjusted approach to gradually reopening

Proposals for a three-system, risk-adjusted approach are being developed for South Africa to manage its response to COVID-19 over the next 6 to 8 months, while transitioning out of a strict lockdown period.

System 1 would use four measures to determine the stringency of lockdown measures, varying from minimum restrictions to a full lockdown; depending on:

- i. The rate at which the proportion of the population being tested is increasing;
- ii. The rate at which the proportion of positive tests is increasing;
- iii. The rate of increase in fixed and makeshift hospital beds in the public and private sectors per
- iv. The rate at which the proportion of hospital beds being utilized for COVID-19 is increasing.

System 2 would identify and sequence possible priority economic sectors on which restrictions could be eased after the lockdown period in accordance with:

- i. Their potential to increase the risk of transmission;
 ii. The expected impact on the sector should the lockdown continue;
- iii. The value of the sector to the broader economy;
- iv. Their role in promoting community well-being and the livelihoods of the most vulnerable.

System 3 would enhance public health and social-distancing arrangements through, for instance, encouraging workers who can to work from home to do so, allowing workers age 60 and above and those with comorbidities to work from home or remain on leave, and creating workplace protocols for disease surveillance.

Source: South African Department of Cooperative Governance and Traditional Affairs, "COVID-19: risk-adjusted approach: important documents", posted 25 April 2020. Available at www.cogta.gov.za/?p=8017.

Governance during COVID-19 and lockdowns

African Governments have rightly used fiscal stimulus to support the response to COVID-19. Prudent use of these resources can limit the adverse impact of the pandemic and lead to effective recovery. Stimulus measures can also address the disruptions caused by lockdown measures.

In some countries, existing governance structures were bypassed and new structures set up, some of which proved to be fraught with challenges related to politicization of the response, alleged corruption in the procurement of relief supplies, lack of fiscal transparency and resistance to accountability.¹⁰ Even oversight bodies, like parliament,¹¹ were caught flat-footed, allocating resources to themselves ostensibly to raise awareness about COVID-19 in their constituencies, providing relief packages without accountability frameworks and inadvertently competing with other government processes set up for this purpose.

Lockdown measures heavily curb freedom of movement and peaceful assembly either through the outright banning of all gatherings or by limiting gatherings to smaller crowds. Citizens are locked down, with restricted access to livelihoods and in some cases little or no access to basics such as foodstuffs. For African countries, a lack of access to food could inflame tempers and galvanize uncontrollable riots. Countries are redirecting substantial resources to support vulnerable families and communities during this difficult time. The success of the lockdown strategies will depend on the robustness of the safety-net measures put in place. Governments need to strengthen the social contract between State and citizen in the fight against COVID-19 and must adopt strict governance measures to ensure transparent targeting and use of resources. Below are some actions recommended by the Open Budget network that could strengthen governance, ensuring that actions to mitigate the spread of COVID-19 and the resulting economic effects are effective:

- Publish complete and detailed information about supplementary budgets and budget reallocations that are approved in response to the crisis, including emergency response and fiscal stimulus measures. Governments should make transparent both increases and reductions in public spending. They should also publish the guidelines and policies that will direct spending, such as beneficiary criteria for relief packages, adjusted rules for government spending and procurement, and the mandate and governance of any extrabudgetary funds established and deployed during the crisis response.
- » Release real-time information of the expenditure of funds budgeted to implement emergency measures and to provide fiscal stimulus, either through existing websites or portals or, when these do not yet exist, using available tools and resources to publish data, such as the Global Initiative for Fiscal Transparency (GIFT) Open Fiscal Data

¹⁰ Jonathan Kamoga, "Ugandan officials arrested for inflating relief food prices", *East African* (Nairobi), 9 April 2020. Available at www.theeastafrican.co.ke/news/ea/Ugandan-officials-arrested-for-inflating-relief-food-prices/4552908-5519676-qxf2y1/index.html.

^{11 &}quot;Uganda president criticises MPs for coronavirus payment", *Africanews* (Pointe-Noire), 29 April 2020. Available at www.africanews.com/2020/04/29/uganda-president-criticises-mps-for-coronavirus-payment/.

Package. Spending channelled through extrabudgetary funds must also be reported alongside budgetary measures.

- » Expand collaboration with civil society in monitoring the implementation of emergency and stimulus measures. Civil society can conduct spot checks to ensure that funding and services are reaching the intended beneficiaries. Governments should actively solicit public feedback on problems encountered in gaining access to emergency and economic support programmes.
- » Ensure that State audit institutions conduct expedited auditing of emergency and stimulus funding, including extrabudgetary funding. Reports and findings from these audits should be released to the public and to legislatures as rapidly as possible, to strengthen oversight and address issues that arise during government implementation of the emergency response.
- Strengthen reporting on new and total debt obligations, including any new fiscal risks that arise from the crisis. This should include reporting on total debt projections for forthcoming budget years, including whether the debt is domestic or external, the maturity profile, and the interest rates on debt. Governments should also disclose new contingent liabilities or debt guarantees that are extended to the private sector and public corporations.

Endnote

Adapted and expanded from:

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