



HEALTH AND SOCIO-ECONOMIC IMPACTS OF PHYSICAL DISTANCING FOR COVID-19 IN AFRICA

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1: EXECUTIVE SUMMARY

1.1: Introduction

In the absence of a cure or a vaccine, countries have to rely on a suite of nonpharmaceutical interventions that include 1) testing, contact tracing, isolation and treatment, 2) hand and cough hygiene, and 3) a range of physical distancing measures (1). This brief reviews the health and socio-economic effects of physical distancing restrictions in Africa and provides recommendations on how to mitigate them. The method adopted to develop the brief was a rapid (unsystematic) review of available literature as well as the team's expert knowledge, with a caveat that, understandably, there is very little peer-reviewed literature available.

1.2: Health and Socio-Economic Impacts of Physical Distancing in Africa

The overarching observation is that stringent physical distancing measures that are not adapted to the contextual realities of Africa's settings can or have led to serious negative impacts on the lives and livelihoods of the population (Table 1).

Table 1: Multi-dimensional impacts of physical distancing restrictions

Dimension	Impact
Health system	Reductions in availability and access to essential healthcare services, with negative impacts on health outcomes
Economy	Slow-down of economic growth Financial hardship for households because of lost jobs, and incomes
Food systems	Reduction in availability and access to food leading to food insecurity
Education	Reductions in level of education, widening inequality in learning access and outcomes, and increased school drop outs
Gendered impacts	Disproportionate impacts on health access, financial hardship due to job and income losses, food insecurity, and access to education. Increase in incidence of gender-based violence
Informal settlements, and populations living in forced encampments	Disproportionate impacts on health access, financial hardship due to job and income losses, food insecurity, and access to education Inability to observe physical distance because of small crowded houses. Houses often do not have water, toilets. Residents have to go outside to access these facilities that are shared
Other vulnerable populations (the elderly, disabled, people with chronic diseases and youth)	Disproportionate impacts across all health and socio-economic dimensions

1.2: Key Recommendations

The recommendations outlined here are based on the recognition that while stringent physical distancing measures are expected to have a positive impact on the reduction of COVID-19 transmission, they are also likely to have substantial negative health and socio-economic impacts. These negative impacts are likely to be greater in African countries because of a range of vulnerabilities. African countries therefore need to consider the broader net benefit of measures that they choose to implement and they need to adapt and localize their response to align with the contextual realities of the continent, and to optimize expected benefits of physical distancing, while minimizing the undesired impacts. In considering these recommendations, governments will need to take into account the risks associated with each measure and their feasibility, including financial feasibility and implementation capacity, suitability and acceptability, to their specific contexts.

1.2.1: Cross-Cutting Recommendations

Where feasible, governments should consider:

- **Adapting physical distancing measures:** Adapt physical distancing measures that minimize the negative health, and social-economic impacts of restrictions. Table 2 outlines examples of physical distancing adaptations that have been employed by African countries.

Table 2: Adaptations to physical distancing measures

Physical distancing adaptations	Examples of Countries that have implemented the adaptation
Imposing of dusk to dawn curfews or partial lockdowns rather than full lock downs	Kenya, Senegal
Staggered introduction of physical distancing measures	Kenya, Senegal
Risk based movement restrictions rather than blanket restrictions across the country. For instance, in Kenya, movement restrictions have been imposed in transmission hotspots - Nairobi, and coastal counties, and a residential neighbourhood in Nairobi and Mombasa, rather than the entire country (2)	Kenya, Ghana, Nigeria
Keeping the informal economy operational – allowing food markets and small-scale traders to operate with measures to reduce physical distance such as reducing the number of traders and customers, relocating traders to decongest markets, and hygiene	Kenya, South Africa
“Temporal distancing”(3) – opening markets on specific days and times of the week, and closing them on other days and times. For instance, in Nigeria, markets are open on specific days of the week, and for a shorter time on the open days	Nigeria
Allowing public transport to operate with guidelines reduce carrying capacity, space out seating, and hand hygiene	Ghana, Nigeria, Kenya, Senegal

■ **Augmenting adapted measures to minimize risks:** Less stringent physical distancing measures may come with risks of increased transmissions. Options for minimizing risk include:

- Where possible, ramping up active case finding, testing, and isolation. This may however not be feasible in countries with severe financial constraints, and because of supply chain challenges for testing reagents.
- Advising the public to wear (cloth-based) face masks in public spaces (4).
- The availability and affordability of face masks at scale may be a challenge.
- Setting minimum capacity and spatial proximity requirements in public spaces such as markets, shops, and public transport. There are several examples where business have used innovative approaches such as using paint to draw spots where people can stand while queuing in shops.
- Setting guidelines for promoting hand hygiene for businesses such as washing or sanitizing hands. Challenges that will need to be addressed include availability of clean water, soap, or hand sanitizers.
- **For instance**, instead of a full lockdown, Ghana implemented a partial lockdown backed by aggressive testing and contact tracing. It is worth noting however that Ghana has greater capacity for testing compared to most other African countries. Ghana, Kenya, and several other countries have implemented disinfection programs in informal markets that have been left to operate(5), and provide water and other sanitary facilities to markets and informal settlements (6).

■ **Contextualizing physical distancing practices:** Engage communities to find out how to localize physical distancing measures and communicate risk effectively in ways that will enhance acceptance and compliance, (7).

- For instance, the COVID-19 taskforce in Nigeria has a cultural arm that uses cultural messaging and comedy to reinforce physical distancing interventions (8)

■ **Shielding high risk population groups:** Shielding entails identifying and isolating high risk populating groups to protect them from infection. Shielding could take various forms (9). It could involve requiring elderly persons and/or persons with comorbidities that increase the risk of COVID-19 severity to self-isolate or stay at home while low risk groups can go to work.

- **For instance**, the Kenyan government has asked public servants above the age of 58 to take paid leave and advised the private sector to do the same (10), while the South African government has advised the elderly to shield (11). Shielding should also be considered in forced displacement camps where a separate section of the camp, “a green zone”, could be set up and high risk groups relocated there

temporarily and so they have minimal contact with the rest of the camp residents (9).

- The feasibility of shielding may however meet with resistance and become infeasible to implement. Therefore shielding approaches should be designed in consultation with communities to ensure that they are culturally appropriate and gain acceptance (9).

■ **Leveraging on community structures and networks:** Work with and leverage on community structures, local leaders, respected individuals in the local societies, religious organizations etc to engage communities to enhance compliance of physical distancing measures.

- **For instance** in Ethiopia, the international organization of migration (IOM) is working with local community leaders to enhance the awareness of communities about risks and prevention measures (12).

■ **Facilitating bottom-up community responses:** Facilitate and enable bottom up, community driven initiatives to support communities to cope with the health and socio-economic effects of restrictions.

- **Examples** of such networks include the community action networks (CANs) in South Africa (13,14), and community based organizations like Mutual Aid and Ghetto foundation in Kenya that are helping communities with initiatives such as cash transfers and food distribution (15,16)

■ **Consult and engage with vulnerable populations:** Engage with vulnerable groups to co-produce health, social, and economic responses to COVID-19. This will enhance the sensitivity of these responses to their specific vulnerabilities (17–20).

■ **Make the dissemination of COVID-19 information disability inclusive:** This could include the use of sign language interpreters when making announcements, during briefings and other communication, and distributing braille versions of information, education, and communication materials (21).

■ **Monitoring and responding:** Set up mechanisms to regularly monitor the multi-dimensional impact of physical distancing restrictions to inform timely responses (7). This could include periodically conducting community surveys by leveraging on and working with a network of existing academic and research institutions. It should also include a resident feedback mechanism by setting up a toll-free call center to receive information about citizen experiences, including reporting about human rights violations by security forces.

1.2.2: Recommendations to Mitigate the Impacts on the Health Sector

Where feasible, governments should consider:

■ **Identifying essential services to be prioritized for continuity of service delivery:** Map and identify essential health services and those most susceptible to disruptions and put in place measures to ensure continued availability and access of these services. These measures could include(22):

- Active communication and outreach to engage with citizens about the importance of these services, and their availability under the physical distancing period, and reassure them of their safety should they need to seek care.
- Develop priority lists of essential supplies, stock-pile and pre-position supplies at the national and regional and local levels, and network supplies and redistribute supplies to mitigate supply chain disruptions (22,23).
- Ensure healthcare facilities remain open to provide essential healthcare services (24).
- Provide transportation to healthcare facilities for patients needing very essential services.
 - **For instance,** the City of Nairobi in collaboration with health stakeholders such as Amref and taxi platform company Bolt are providing free transportation for expectant mothers to hospital for delivery.

■ **Leveraging on technology:** Explore innovative models of care such as telemedicine to enhance continuity of care

for services that are amenable to remote consultations. For example Kenya has outlined a plan to establish tele call centers to facilitate continuity of provision of reproductive, maternal, and child health services (24). However, digital technologies carry the risk of exacerbating existing inequalities in access to healthcare services because the poor, those in rural areas, and other vulnerable groups are less likely to have access to digital technologies. For these groups measures to maintain physical access to healthcare services could be explored.

■ **Leverage on community health workers:** Leverage on community health workers to deliver essential health services to communities and households (25,26). While this will likely improve the pro-poorness of mitigation measures, it carries the risk of transmission because of physical contact between community health workers and households. Measures to reduce these risks include equipping community health workers with personal protective equipment and ensuring hand hygiene is observed during household visits.

■ **Facilitating health worker movement in contexts of movement restrictions:** Most African countries have designated health workers as essential frontline workers and provided them with exceptions to move around in places where lockdowns, curfews, and movement restrictions have been imposed. However, the enforcement of these exceptions should be monitored given reports from several African countries that health workers are finding it difficult to get to work and citizens cannot access care (27,28).

1.2.3: Recommendations to Mitigate Economic Impacts

Where feasible, governments should consider:

■ **Cushioning firms providing essential services:**

Providing targeted subsidies to firms that provide essential services such as healthcare, electricity, water, agriculture and food production, and communication. For instance, subsidies to telecommunication companies will enable them to support access to cheaper mobile money transactions, and data to enhance their efficiency of employees working from home.

- **For instance**, the South African government is providing financial support to local firms that are providing essential service in the form of credit facilities at subsidized interest rates (29).

■ **Supporting vulnerable groups:** Implement social protection programmes targeted at vulnerable segments of the population especially the poor, those in the informal sector, and people living in informal settlements and forced displacement camps. These include indirect tax reductions, and cash transfers leveraging on the efficiency of mobile money transfers (30–34), waivers for basic services such as electricity, water, money transfer transactions, and moratoriums on individual loan repayments.

- **For instance**, the government of Togo is providing cash support to low income residents of its capital Lome (9) while Kenya, Nigeria, and South Africa are scaling up existing cash transfer programmes to vulnerable households leveraging on mobile money transfer platforms (35). Ghana is helping households by paying their water bills (36).

■ **Providing income support to individuals that lose their jobs:** Provide income support and temporary employment to low income and informal sector employers who lose their jobs because of physical distancing restrictions.

- **For example**, Kenya is providing a daily income

supplement to more than 10,000 youths living in Nairobi's informal settlements in exchange for labour such as disinfecting markets (37). The government of Botswana is contributing to 50% of the salary of furloughed citizens, and providing a subsidy of between USD 80-170 per month to meet their basic needs (15).

■ **Integrate a focus on the vulnerable in socio-economic responses:** Identify the vulnerable— the old, the elderly, women, the poor, the youth, and those with chronic conditions, and specifically target them with social protection measures such as income support (17–20).

■ **Ensuring pro-poorness of interventions:** Align financial aid with the realities of vulnerable and marginalized populations. Reductions in direct taxes are unlikely to benefit the poor and those living in informal settlements or encampments. On the other hand, reductions in informal taxes, and direct cash transfers would.

■ **Providing financial support to small informal businesses:** Provide liquidity support to SME. These include reduced bank loan interest rates, moratoriums on SME loan repayments, relief from business taxes, and specific financial subsidies to allow them to keep and continue to pay staff.

- **For instance**, Botswana is providing a wage subsidy to SME's as an incentive to retain their staff during the lockdown (15).

■ **Debt repayment moratoriums:** Multi-lateral and bilateral lenders should consider suspending debt repayments by African countries to provide temporary debt relief to support macroeconomic stability in the region(30,38). Debt relief will boost liquidity and expand the fiscal space of African countries, boosting their capacity to absorb the economic shocks due to COVID-19 (30,38).

1.2.4: Recommendations to Mitigate Food Security Impacts

Where feasible, governments should consider:

■ **Monitoring access to food and food prices:** In collaboration with other local and international organizations, establish mechanisms for the assessment of supply chains and food markets, availability and access to food, and fluctuations of food prices.

■ **Keeping trade corridors open:** In collaboration with regional, and international organizations, foster cooperation to maintain trade corridors for agricultural inputs and food imports and exports (30). This may however carry the risk of cross-border movement of infected individuals. Mitigating measure could include border screening and testing where feasible.

■ **Keep food supply chains functioning:** Designate workers involved in food supply chains such as transporters as essential frontline workers and enforce movement restriction exceptions for agricultural inputs, produce, and these frontline workers. This will sustain the logistical operations of local food supply chains (39).

■ **Provide income support to vulnerable groups:** This could take the form of cash transfers to vulnerable and food insecure households leveraging on mobile money to improve the efficiency of disbursement and reduction of physical contact. Cash transfers will facilitate the purchase of food where markets are still operational and minimize market

distortions.

■ **Implement food distribution programs to the vulnerable:** Protect vulnerable populations such as the poor, the elderly, individuals living in informal settlement, refugee camps, internally displaced populations, and the homeless by providing and distributing food to households. Several African governments, including South Africa, Senegal, Uganda are implementing food distribution programs to the vulnerable in the community (40–42).

■ **Sustain existing humanitarian and social protection programs:** While COVID-19 will require scaling up existing humanitarian and social protection programs, it is important to maintain and sustain existing programs to avoid disruption.

■ **Set up public food kitchens:** Designate particular food retail outlets as public kitchens. Households could be provided with e-vouchers to purchase fresh, cooked food daily. The e-voucher system would help ensure that the micro-economy of these communities is sustained, while creating market incentives for food chains to keep running.

- **For example,** the opening up of food kitchens in several townships in South Africa that have remained open during the lockdown is reported to have helped vulnerable families in these neighbourhoods (43).

1.2.5: Recommendations to Mitigate Education Impacts

Where feasible, governments should consider:

■ **Implementing equity responsive remote learning:** Implement remote learning programs using multiple rather than single platforms to ensure reach is optimized. The selection of platforms should consider reach, and equity implications. For instance, more people have radio's compared to TVs in Africa, and more people have basic phones compared to smart phones (44–46).

■ **Distributing paper based learning materials to those that need them:** Implement arrangements to make paper based learning material physically available in low income areas with poor access to remote learning platforms (internet, radio, TV) by delivering a basic package of learning materials, including books and writing materials to households (32).

■ **Implement targeted outreach to disadvantaged groups:** Implement targeted outreach and support to students and parents/guardians to enhance uptake of remote learning (44–46).

■ **Training and supporting teachers:** Train teachers on remote learning approaches and equipping them with the resources required to implement these approaches (e.g. hardware, software, internet access) (32,44–46).

■ **Adapting curricula:** Adapt curricula to enhance feasibility

and effectiveness of remote learning. This includes simplifying curricula to prioritize areas that are most consequential for learning progression in the coming school year(46).

■ **Implementing food programs for vulnerable children:** Introducing community food programs for children to replace school food programs and ensure that the nutritional needs of children are still met (32).

■ **Make learning accessible to people with disabilities:** consider delivering remote learning in ways that are accessible to the disabled. This includes including sign language interpreters in online learning, and districting braille paper and braille readers at home (21).

■ **Focusing on the vulnerable:** Finally, all these interventions should pay special attention to the poor, the marginalized and the vulnerable. For instance, pay attention to children from poor and marginalized households (e.g. those living in rural areas, informal settlements, refugee camps), girls that are more likely to be taken on huge burdens of domestic duties, boys who are most likely to drop out of school to take up income generating activities, and cohorts transitioning between schooling levels (primary to secondary, and secondary to college). This includes raising awareness and sensitizing communities on the need to protect these children and support them to continue with home learning.

1.2.6: Recommendations to Mitigate the Gendered Impacts

Where feasible, governments should consider:

■ **Tackling gender-based violence:** Institute multi-agency coordinated responses to tackle gender-based violence.

These include:

- Establishing national toll-free helplines (with the required infrastructure to sustain these numbers) (47).
- Establishing shelters and safehouses, specialized (free) emergency medical and police services. This would also include successful mental health, social and legal services (48).

■ **Implementing gender-responsive social protection programs:** The social protection measures implemented to cushion households from the socio-economic impacts of restrictions should be gender-responsive by paying special attention to the vulnerabilities and disproportionate effects on women.

■ **Paying attention to educational needs and challenges of girls:**

Given the gender-specific risks of school closures, education responses could prioritize the needs of girls and particularly adolescent girls. This requires a community approach that includes all necessary stakeholders such as the youth (to ensure youth-friendly messaging); and leverages on teachers and community members to raise awareness and sensitize communities on the need to protect girls and support them to continue with home learning.

- **For instance,** in the context of Ebola, in countries such as Sierra Leone, villages that established ‘girls clubs’ (i.e. safe spaces) where girls could go to during school closures, reported that fewer girls experienced adverse effects and were more likely to continue their learning (50).

1.2.7: Recommendations to Mitigate the Impacts on Populations Living in Informal Settlements and Forced Displacements

Where feasible, governments should consider:

■ **Stopping forceful evictions:** Forcefully evicting individuals living in informal settlements, or those that are internally displaced puts them at an even greater risk of contracting COVID-19. In addition to declaring a stop to forceful evictions, governments should allocate resources to implement, monitor and prevent extrajudicial evictions (51).

■ **Improving housing and living conditions:** Improve access to water and sanitation amenities in informal settlements and forced displacement encampments. In the short term, this includes supplying water with water tankers, drilling boreholes, and building toilets.

- **For instance,** the Kenyan government has installed hand washing stations and distributed soap in informal settlements in Nairobi (52).

■ **Providing shelter for the homeless:** Provide shelters to the homeless and move them out of the streets into facilities that will keep them safe.

- **For instance,** the South African government has set up shelters for the homeless (53).

■ **Reducing overcrowding:** Consider reducing overcrowding in informal settlements by developing new shelters and upgrading the existing ones to improve the quality of housing.

- **For instance,** the government of Djibouti has provided asylum seekers and refugees with new shelters, while the Somali government has upgraded shelters in high risk camps for internally displaced populations to reduce congestion (51).

However, the relocation of individuals and households should be done with close consultations with those affected and in a humane way to ensure that the rights and dignity of the individuals are safeguarded.

■ **Keep informal supply chains open:** Identify essential services that and informal supply chains that serve the residents of informal settlements and forced displacement encampments and keep them operational. These include supply and sale of food, energy, water, and transportation (51).

2: INTRODUCTION

At the time of writing this (May 2020), the COVID-19 pandemic has spread to nearly all countries globally, infecting more than 4.5 million people, and killing more than 300,000 people (54). COVID-19 is an acute respiratory tract infection that is spread through droplet infection (55,56). In the absence of a cure or a vaccine, countries have to rely on a suite of nonpharmaceutical interventions that include 1) testing, contact tracing, isolation and treatment, 2) hand and cough hygiene, and 3) a range of physical distancing measures (1). These measures are aimed at slowing down the transmission of COVID-19 to flatten the epidemiological curve, preserve the health system capacity to meet the healthcare needs of COVID-19 patients and others, and thereby avert morbidity and mortality due to COVID-19 (1,57). This brief reviews the application of physical distancing measures by African countries. Physical distancing encompasses a range of measures that reduce physical contact between individuals in the population and hence slowing transmission (1,57). Examples of physical distancing measures range from less stringent ones like self-isolation for people with symptoms, limiting physical proximity to not less than 2 meters in all spaces (work, public places, at home), to more stringent ones like working from home, curfews, movement restrictions, and lockdowns. While physical distancing measures could yield positive effects such as slowing down transmission, they also result in unintended and undesired health, social, and economic

effects. The risk for these unintended effects are greater in low and middle income countries, and Africa in particular, because of a range of vulnerabilities that include strained health systems, high levels of poverty and inequality, food insecurity, high levels of informality in the economic system, populations living in informal settlements, refugees, and internally displaced populations, homelessness, high population densities and poor living conditions especially in cities, and high prevalence of diseases, that are likely to increase the risk for severe COVID-19 disease, such as HIV/AIDs, TB, malaria, anaemia, and malnutrition (9,30,58,59). These vulnerabilities are compounded by inadequate social safety net systems (30). This brief summarizes 1) the approaches that African governments have taken to implement physical distancing measures to combat COVID-19 2) observed and likely multi-sectoral effects of these measures, and 3) recommendations for African governments to mitigate against the unintended effects of physical distancing. The brief has been developed by a multi-disciplinary team with expertise in economics, health systems, public health, public policy, epidemiology, infectious diseases, agriculture and food systems. The method adopted to develop the brief was a rapid (unsystematic) review of available literature as well as the team's expert knowledge, with a caveat that, understandably, there is very little peer-reviewed literature available.

3: REGIONAL OVERVIEW

■ **Economic characteristics:** 47 of the 48 Sub-Saharan African (SSA) countries are classified as low and middle income (LMIC) (60). SSA has a predominantly informal economy, with 84% of employment coming from the informal sector, 62% working on family farms and 22% working on small household enterprises (61). On average, 6.1% of the labour workforce in SSA is unemployed, with the unemployment rates ranging from 0.3% (Niger) to 27.3% (South Africa) (62). Approximately 42% (419,600,00) of the population in SSA live below the international poverty line (\$1.90 a day) with the poverty rates ranging from 0.2% (Mauritius) to 77.6% (Madagascar) (63). SSA has a predominantly rural population (60%) with estimates ranging from 11% (Gabon) to 87% (Burundi) (64).

■ **Demographic characteristics:** In 2019 SSA had an estimated population of 1.1 billion people with the young accounting for a significant proportion of the population. People aged 0-14 years account for 43% (458,694,475) of the population, with the estimates ranging from 18% (Mauritius) to 50% (Niger) (65). People aged 65 years and above account for the minority of the population (3%) (65). The largely young population puts Africa at an advantage since old age is associated with a higher risk for severe and critical COVID-19 disease (65).

■ **Health system capacity:** Health systems in Africa are underfunded (66). The average public health expenditure as a percentage of gross domestic product (GDP) in the region is 1.9%, with all but Namibia (5.6%) spending less than the recommended 5% threshold (67,68). Health systems in the African continent are often under strain (69,70)2019, the Chinese government officially announced the identification of a new type of coronavirus (SARS-CoV-2) with a majority of health facilities already operating at their maximum capacity (71). For instance, most African countries have less than 5 hospital beds per 10,000 population (72). The continent is estimated to have about 20,000 intensive-care unit (ICU) beds which translates to 1.7 ICU beds per 100,000 people, compared to China and the US which have

3.6, and 29 ICU beds per 100,000 people respectively (9). For instance, Namibia has just 18 ICU beds for a population of 2.5 million people (73). Substantial gaps also exist in essential health interventions relevant to COVID-19. For instance, only 58% of hospital beds in Kenya have access to Oxygen, while 89% of patients needing oxygen in Malawi did not receive it (74,75). The continent has the lowest healthcare worker population globally (76) with less than 30% of SSA countries meeting the WHO target of 4.45 health workers per 1000 people (77-79). Geographical access to emergency hospital care is another challenge, only 16 out of 48 SSA countries and islands had met the international recommendation of having over 80% of the population residing within a 2-hour travel time to the nearest hospital.

■ **Epidemic preparedness and expected vulnerabilities to controlling COVID-19:** Concerns have been raised about the preparedness of African countries for pandemics generally, and COVID-19 in particular. According to the 2019 Global Health Security Index, 14 out of the 18 least prepared countries come from Africa (80). A review of health security capacities showed that 21 out of 47 (45%) of countries in WHO African region have low operational readiness capacity with none ranked as having the highest level of operational readiness (81). However, despite the various challenges, previous Ebola outbreaks offer lessons that can inform COVID-19 response (69). For instance, several African countries were prepared to conduct airport screenings because structures had been put in place during the 2014-2016 Ebola outbreak (82). Similarly, health system capacities built by countries to fight the high HIV and TB prevalence such as Gene-Xpert technologies are being adapted and leveraged testing of COVID-19 (70)2019, the Chinese government officially announced the identification of a new type of coronavirus (SARS-CoV-2). It is however important to ensure that the use of existing platforms such as Gene-Xpert does not displace care for HIV and TB patients.

4: THE APPLICATION OF PHYSICAL DISTANCING IN AFRICA

A range of physical distancing measures have been implemented in countries across Africa to slow the spread of COVID-19: The stringency of these measures varies. For instance, while Uganda and South Africa have introduced full lockdowns, Ghana and Nigeria have opted for partial lockdowns, and Kenya and Senegal are implementing a dusk to dawn curfew and movement restrictions in transmission hotspots. A summary of physical distancing measures implemented in Africa is shown (Figure 1) (83).

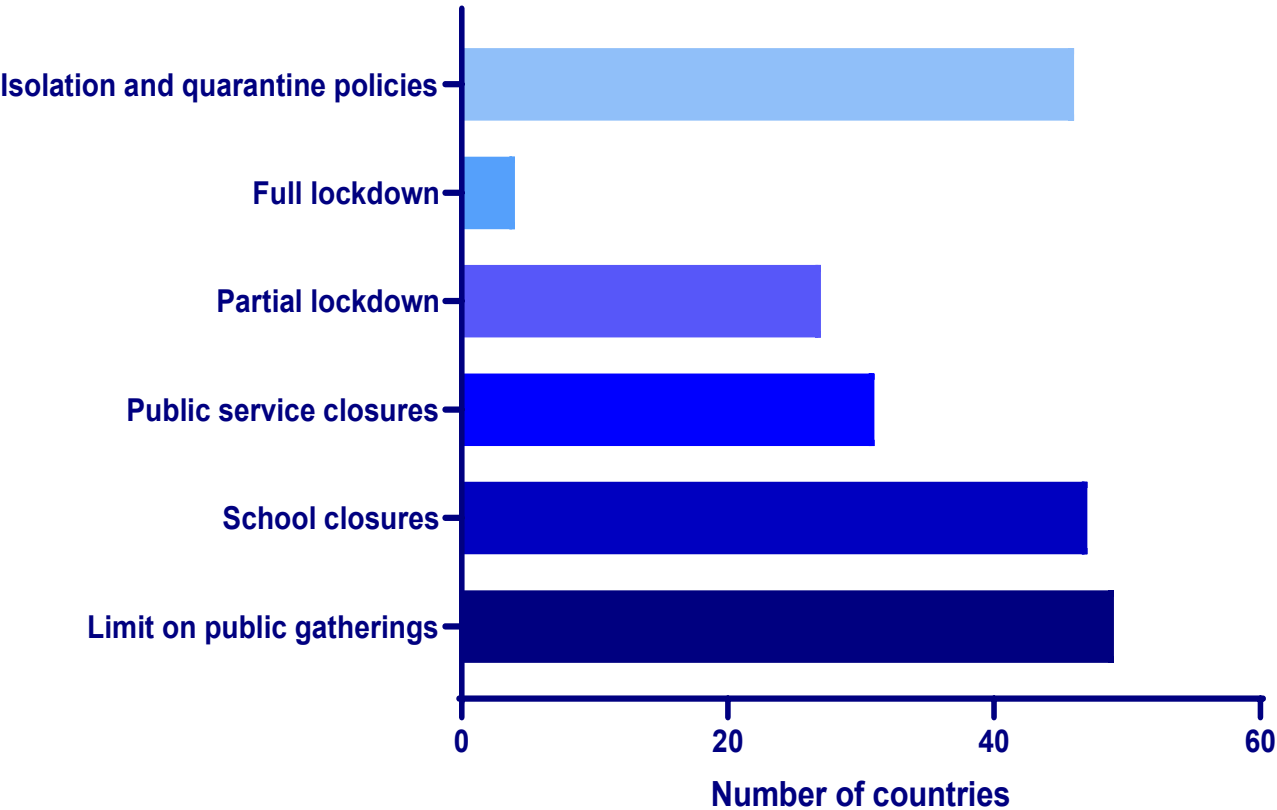


Figure 1: Physical distancing measures implemented in Africa (83)

The effectiveness of physical distancing is influenced largely by compliance by the public: The compliance to physical distancing measures is influenced by several factors (table 1) (84):

Table 3: Factors affecting compliance with physical distance measures (84)

Factor	Description
Economic factors	African economies are predominantly informal. People that work in the informal sector, earning a daily wage, or operating small scale informal business incur huge income losses that threaten their livelihoods when they or their clients stay at home
Population density	High population densities, such as those found in Africa's low-income neighbourhoods in cities, informal settlements, and forced displacement camps, as well as overcrowded institutions such as prisons makes it difficult to keep physical distances
Housing and living conditions	Populations in Africa living in small, often one-roomed, crowded low income housing, informal settlements, forced displacement camps and the homeless find it difficult to comply with social distancing because of space constraints, and the need to share amenities such as water and toilets that are outside
Conflict settings	Over 200 million people live in African countries afflicted by conflict and instability (85,86). The risk of getting harmed during conflict makes it impractical for households to comply with physical distancing directives, if they need to move to avoid conflict
Social structures and networks	African households, especially in rural areas, are typically large and multi-generational. Self-isolation within households, including for vulnerable groups such as the elderly is difficult in these settings
Level of trust in authorities	Communities may be less willing to comply with physical distancing measures if they have less trust in government for political and historical reasons
Understanding of disease causation and healing	Inadequate levels of awareness of the disease and associated risks within the community, or misinformation may reduce compliance to physical distancing directives
Cultural, social and religious practices	Strong belief and observance of cultural and social practices such weddings, and burials, greetings, and religious practices such as group worship may reduce compliance to physical distancing measures

With good compliance, physical distancing measures are expected to drastically change social mixing patterns: Google GPS tracking data shows that there was a 44% drop in retail and recreational activities in African countries while there was a 23% increase in activities at residential places as a result of physical distancing restrictions (Table 2).

Table 4: Mean % mobility changes in response to physical distancing measures implemented by 24 African countries (87)

Area	Mean % change from baseline (95% CI)	Lower range	Upper range
Retail and recreation	-44.3 (-51.66- -37.01)	-71	-18
Grocery and pharmacy	-27.08 (-35.49- -18.68)	-62	37
Parks	-23.54 (-31.42- -15.66)	-47	43
Transit stations	-50.13 (-58.20- -42.05)	-79	-23
Workplaces	-35.75 (-44.04- -27.46)	-70	-12
Residential	23 (18.62-27.38)	11	43

Model-based predictions can give insight into the effect of physical distancing measures on transmission. For instance, physical distancing measures are predicted to slow the spread of the pandemic in Kenya by limiting contact between individuals if they are implemented for 90 days (88) and the same is suggested in Algeria (R_0 reduced to <1)(89). Similarly, increasing the stringency of physical distancing measures by 2% in South Africa was predicted to lead to a 18% decrease in cases (90).

Table 5: Projected reductions in COVID-19 cases if full lockdowns are implemented (91)

Country	Projected reductions in cases
Algeria	40%
Egypt	41%
Libya	38%
Morocco	38%
Sudan	40%
Cameroon	40%
Democratic republic of Congo	40%
Burkina Faso	40%
Ivory Coast	33%
Senegal	35%
Kenya	33%
Rwanda	46%
Uganda	40%
Namibia	46%

Physical distancing measures that are not adapted to Africa’s contextual realities threaten the lives and livelihoods of its people: An overarching observation is that stringent physical distancing measures that are not adapted to the contextual realities of Africa’s settings can or have led to serious negative impacts on the lives and livelihoods of the population, as outlined in detail in the next section of this brief. These negative impacts are multi-dimensional and include direct and indirect health, economic, education, and food systems.

Vulnerable populations bear a disproportionate burden of the undesired impacts of physical distancing: Vulnerable population groups that are likely to be most impacted by the negative health and socio-economic effects of physical distancing include women and girls, the youth, the elderly, and the disabled. It also includes the poor, the homeless, and people living in overcrowded low-income neighbourhoods, informal settlements and forced displacement camps.

Negative health and socio-economic impacts have made it challenging for African countries to implement stringent physical distancing measures: For instance, on average, respondents in a survey across 28 countries in Africa reported that they would run out of money and food in 12 and 10 days respectively because of physical distancing restrictions. In the

same survey, respondents from Nigeria and Kenya reported that hunger was forcing them to violate physical distancing restrictions (7). Further, 59% reported that they lack the physical space to self-isolate (7). Another survey in 12 African countries found that while half of the surveyed respondents reported avoiding public spaces, only 20% reported that they were working from home and 18% were avoiding public transit (52). Compliance was found to be higher in countries that have implemented stringent measure that are typically enforced by the military and the police, and less in countries that have issued advisories rather than directives. For instance, of the sampled countries, 90% of respondents from Rwanda and South Africa reported staying at home, compared to 57% and 58% for Benin and Tanzania respectively (52). Rwanda and South Africa have implemented lockdowns while Benin and Tanzania haven’t (83). However, even in African countries with strict physical distancing measures such as lockdowns, residents with threatened livelihoods often resist these measures as seen in protests in South Africa, Nigeria, and Kenya (92–94). In these countries, the implementation of stringent physical distancing measures has often turned violent. For instance, confrontations between people defying restrictions and security forces have led to injuries and deaths in Uganda, Kenya, Nigeria, South Africa and Rwanda (15,95–97).



5: HEALTH AND SOCIAL-ECONOMIC IMPACTS OF PHYSICAL DISTANCING IN AFRICA

This section explores the multi-dimensional impacts of stringent physical distancing measures such as lockdowns, cessation of public transport and geographic movement restrictions in Africa. While each dimension is explored in turn, the effects are closely linked and intertwined.

5:1 Health System Impacts

Stringent physical distancing measures are likely to have direct and indirect effects on African health systems:

Positive direct health effects include flattening the transmission curve, preserving health system capacity, and averting COVID-19 morbidity and mortality (91). Negative direct effects include the increased incidence of mental health conditions such as depression and anxiety because of, among others, social isolation and the anxiety associated with uncertainty and worry (98–100). For instance, the South African Depression and Anxiety Group has reported an increase in the number of people calling in because of increased anxiety and “feeling down” because of the lockdown in South Africa (101). It has been argued that this might be worse in African settings given communal norms that are characterized by increased integration and interdependence of the individual and the community (102).

Indirect health effects of social distancing are caused by:

1) disruption of supply chains of health commodities because of international and national movement/travel restrictions, 2) reduced citizen access to other health services because of movement restrictions, and 3) reduced citizen utilization of healthcare services because of unwillingness to seek care for health concerns that are not perceived as urgent (103). Fear of harm from security forces in contexts where physical distancing enforcement is characterized by violence also contributes to this unwillingness to seek care (104,105).

Modelling estimates predict substantial impacts on healthcare access and outcomes:

For instance, it is estimated

that reductions in coverage of essential health interventions, including routine childhood immunization, because of disruptions caused by physical distancing may result in between 253,500 - 1,157,000 and 12,190 - 56,700 additional child and maternal deaths respectively in LMICs (103). The WHO predicts that disruptions will reduce the coverage of key malaria interventions such as insecticide treated nets (ITN) which are typically distributed through mass campaigns resulting in the increased risk of malaria infection (106). The analysis reveals that if the mass ITN distribution campaigns that are planned in 26 African countries in 2020 are disrupted by physical distancing measures, there will be a 10% increase in malaria cases and deaths (106). Further, it has been estimated that a 10% reduction in the use of short and long-acting reversible contraceptives will lead to approximately 15 million additional unwanted pregnancies in LMICs, including Africa (107).

These adverse impacts are already evident in some African countries:

For instance, there are reports of mothers dying in labour in Uganda due to inability to access healthcare facilities in a lockdown (27). In Kenya, persons living with chronic diseases have reported concerns over getting medication refills (108). Further, an NGO that provides mobile family planning services to women reported that they have had to reduce their services by 40% due to the pandemic restrictions (109).



5:2 Economic Impacts

5:2:1 Macro-economic Impacts

Macro-economic impacts of stringent physical distancing in Africa are mediated through supply and demand shocks (30,110): On the supply side, disruptions in production and supply chains have affected the delivery and availability of goods and services in the market, while on the demand side, reduced economic activity and consumption have reduced the demand for certain goods and services (30,110). These impacts will translate into negative movements on macroeconomic aggregates such as GDP, inflation, and unemployment rates (30,110). For instance, it is estimated that SSA will experience a GDP growth rate of between -2.1 to -5.1% in 2020, with the contraction reaching as high as -6.9% in the three largest economies (Nigeria, South Africa, and

Angola) due to the COVID-19 pandemic – effectively plunging the region into its first recession in the last quarter century (30,111). Loss of tax revenues due to economic shut or slow-downs will also worsen budget deficits and lead to increasing public debt (112,113). Indeed, revenues are projected to decline by 12% relative to a non-COVID-19 scenario; and coupled with increased pandemic-induced government spending, the fiscal balance of SSA is projected to deteriorate markedly, to around 2.7 percentage points of GDP higher than a non-COVID-19 scenario (114). This state of affairs will likely accentuate an impending debt crisis enhanced by rising borrowing costs partly due to investor pullback from risky assets (38).

5:2:3 Micro-economic Impacts

An immediate microeconomic impact of stringent physical distancing measures is a dramatic decline in household demand: For instance, retail sales in South Africa reduced by two-thirds in the first 2 days of the country's lockdown, and two thirds of consumers in Nigeria are reported to have cut back on their spending (9). A reduction in household demand would result in lost output and income by businesses, a situation which coupled with firms' inability to repay outstanding loans, may result in business closures in extreme cases.

Lower demand and output, as well as stay-at-home directives, may result in furloughs in the short-to-medium term and unemployment over the long-term as businesses lay off workers: UNDP estimates that almost half of the existing jobs could be lost in Africa due to COVID-19 (111) with people working in the informal sector and small and medium enterprises (SMEs) being the most vulnerable since SMEs provide 80% of the jobs in Africa (115). Many SMEs face mounting costs, challenges paying salaries, and are at risk of closure or bankruptcy leading to widespread job losses (31,112,116). For instance, the Ethiopian horticulture industry is said to have lost USD 11 million resulting in a layoff of 150,000 people in the month of March (59). Lost income especially by daily wage earners and other informal workers who account for 84% of all employment in SSA will accentuate demand

pressures, fuelling a vicious cycle (30).

Business closures, income and job losses will in turn push households into or further into poverty: Out of an estimated 49 million people who will be pushed into extreme poverty in 2020 due to the COVID-19 pandemic, 23 million will be from SSA with Nigeria (5 million) and the Democratic Republic of the Congo (2 million) estimated to report the highest numbers (117). In Kenya, it has been estimated that between half a million to 2 million individuals will be pushed into poverty if the country were to go into a full lockdown for 1-3 months (Barasa et al, forthcoming).

Reduced household incomes will induce reduced consumption and expenditure: this is especially so in urban areas and among the poor, near-poor and other vulnerable groups (30,112,115,116) with most people only spending on food and essential household items (118). Reduced domestic consumer demand will lead to a further reduction in production and employment (119).

Measures such as school closures will mean that working individuals will allocate some of their time to childcare: this, coupled with poor broadband connectivity in SSA implies that working remotely will likely result in productivity loss.



5:3 Food and Nutritional Security

Food systems in Africa are especially vulnerable to disruptions occasioned by stringent physical distancing measures: This is because of, among others 1) underlying food security challenges – over 50% of the world's acutely food-insecure people live in Africa, 2) conflict and insecurity, 3) climate shocks, 4) poverty and economic challenges, 5) heavy reliance on informal and fragmented food supply chains 6) dependence on food imports (120), and 7) the current locust invasion in East Africa (39,121). Stringent physical distancing measures will disrupt food systems on both the supply side (availability of food), and demand side (access to food) in the following ways (122).

First, the production and processing of food will be affected by labour shortages because people cannot go to work: This effect will be worse because food production and processing in Africa is labour intensive, and informal small holder farmers comprise 60% of the population (122). It is estimated that Africa will have a 7% reduction in agricultural production because of physical distancing measures (30).

Second, movement restrictions will affect the transport of food, increasing delivery times and reducing availability basic food items (121): While movement restriction measures by several African countries have provided exceptions for the supply of food, inadequate clarity about these restrictions, and inconsistent implementation by security forces have made it difficult for food transporters to operate (39). For example, a major trucking logistics firm in Africa reported a 30% decrease in fleet operations in Togo, Uganda, Kenya, Ghana and Nigeria, with reported rotting of agricultural produce in farms and depots (39). The food group most likely to be affected by disruptions in logistics (including storage) and transportation are those with short shelf lives, which include nutrient-dense fresh produce (vegetables and fruits), eggs and fresh milk (123). This is a concern because reduced availability of perishable nutritious foods will reduce the diet quality of foods, leading to malnutrition which in turn will have negative effects on health and development. Fresh foods (e.g. fruits, vegetables, dairy, meat, fish) are more vulnerable to these disruptions because of their complex supply chains – they are seasonal, labour intensive and have a short shelf life that requires good storage and transportation infrastructure.

Third, import and export restrictions will also disrupt the supply of food since Africa is a net food importer (124): The World

Bank estimates that Africa will have a 25% reduction in food imports because of physical distancing restrictions (30). Several countries, including Cambodia, Vietnam, and India, that supply African countries with key foods have either closed their borders or reduced food export (39).

Fourth, last mile supply of food will be severely disrupted by closures of local food markets: This will be especially severe given that informal food supply chains are the cornerstone of the supply of food in Africa. For instance, about 95% of Nigeria's and 90% of Kenya's population buy food from informal markets (125,126).

Fifth, the combined disruptions in local production and imports, as well as local distribution will cause price fluctuations (127): While international food prices appear stable(128), there are indications of fluctuations of local food prices. For example, the average cost of food in Ghana has increased by 8%. On the other hand, exports crops have seen a reduction in prices with for instance the price of cashew nut in Ghana dropping by 63%.

The combination of these factors on the food system threatens food security with disproportionate impacts borne by vulnerable populations in Africa: The poor (and especially urban poor), those living in informal settlements, internally displaced camps, and refugee camps will be especially affected. For instance, the disruption of humanitarian supply chains will impact on the distribution of foods to humanitarian settings such as refugee camps (121). It is reported that refugees in Kenya's Kakuma refugee camp are experiencing challenges with food availability (129), while surveys in informal settlements in Kenya and Senegal have reported decreased access to food by informal settlement residents because of physical distancing restrictions (40,130). Households may suffer from reduced access to healthy, nutritious food and experience increased hunger and malnutrition at the household level, as food choices narrow and more nutritious, highly perishable foods become scarce (123). Respondents in a survey across 12 African countries reported reducing their food intake because of challenges imposed by physical distancing (52). Also, as most households are energy poor, with most lacking access to potable water, they may resort to the use of less-safe and unhealthy food preparation sources, which may lead to an increase in cases of communicable diseases like cholera, and dysentery.



5:4 Education Impacts



Inequalities in learning are expected to increase not only across countries, but also between well resourced (mostly urban) and poorly resourced (mostly rural) regions within countries

School closures, as a means of enforcing physical distancing, have been implemented in all African countries except for Burundi and Morocco (83). The closure of schools will affect education systems in Africa in several ways.

First, the average level and quality of learning among school-goers will reduce (45,131,132): While the pandemic will have substantial impacts on education systems across the globe, Africa will be disproportionately affected because of pre-existing challenges in education systems and infrastructure required to facilitate remote learning (45,132,133).

Second, existing inequalities in access to education and learning outcomes will increase: Inequalities in learning are expected to increase not only across countries, but also between well resourced (mostly urban) and poorly resourced (mostly rural) regions within countries (45). These inequalities will be exacerbated by inadequate and unequal capacity to scale remote learning initiatives. Only 23% of SSA countries are currently implementing remote learning (45). Even though nearly two thirds of individuals in SSA have access to a mobile phone, only about 44% have an active subscription with a mobile phone operator (44). Only a third have smartphones, with the rest having basic phones with limited functionality to access online educational materials, and less than 40% have a radio or television (44,46,133). Access to broadband internet is also limited, with only 36% of individuals in LMICs having access to the internet (45,133). For example, 80% of children in Ethiopia have never used the internet (46).

Marginalized children in poor households are also more vulnerable and will struggle to access remote learning facilities (134).

Third, the rates of school drop-out will increase: Post-pandemic, school enrolments are likely to drop because of both demand and supply factors. On the supply side, financial challenges faced during the pandemic might lead to some school closures, reducing access to schooling. On the demand side, the economic challenges faced by poor households may force children to drop out to engage in income generating activities (131). A report on West Africa and the Sahel reveals that children in poor households face a higher risk of neglect, abuse, and exploitation, and they, especially girls are more likely to drop out (134).

Fourth, children will be at an increased risk of hunger: Many students rely on meals provided by schools for nutrition therefore closures are likely to lead to undernutrition (135). In LMICs, about half the number of school going children depend on food provided at school for their nutritional requirements(136). For instance, it has been reported that nearly 9 million children are at the risk of facing hunger in South Africa after a lockdown was implemented (137).

Fifth, social isolation: Students may lose contact with their peers and miss out on interactions that are essential for their growth and development.

Against this background, measures that are solely reliant on technology are inadequate in ensuring the continuity of learning in Africa (46).



5:5 Gendered Impacts

Disease epidemics and responses to contain them have gendered impacts (138): Gendered impacts of physical distancing are interwoven through all the other multi-sectoral impacts already discussed. While men have a higher risk of severe COVID-19 disease(55,56), women and girls are disproportionately affected by the socio-economic impacts of COVID-19.

First, women in African countries bear the burden of unpaid care work and domestic responsibilities (138): This is likely to be exacerbated during the COVID-19 pandemic – compounded by current school closures - due to gendered norms around caring responsibilities including care of children, the sick and the elderly (50,138,139). These gendered roles also impact on girls' learning during the current period of school closures, as they are required to assist with caring and domestic responsibilities and subsequently have less time for home-schooling (50). COVID-19 related school closures will disproportionately and adversely impact on girls in the African context where already girls have lower school completion rates compared to boys (50).

Second, physical distancing measures will increase the incidence of gender-based violence in Africa (49,109,138): In the Rift Valley region of Kenya, a non-profit NGO reported 40 cases of GBV in one month since COVID-19 restrictions were instituted; which was more than the number of cases that they dealt with in the entire 2019 (109). Similarly, in South Africa, a total of 2320 complaints of GBV were reported to police during the first week of a total lockdown (140). This was 37% higher than the weekly average of GBV cases reported to police in 2019. Adolescent girls in particular, face increased risk of physical and sexual abuse

both from their peers and older men - sometimes resulting in unintended pregnancies – which in turn prevent girls from returning to school post-pandemic (50). In Sierra Leone for example, during the Ebola crisis, some communities reported a 65% increase in adolescent pregnancy, directly attributed to girls being away from the protective environment that schools provided (50). This increase in cases is even more concerning in African settings where GBV support services are either very weak or non-existent; and affected individuals are cut off from their traditional support systems such as extended family and friends as a result of the movement restrictions. In Kenya for example, although there is a national GBV helpline, there is no single shelter or safehouse (countrywide) where survivors of violence can go to seek temporary protection.

Third, women are disproportionately represented in the informal economy: Movement restrictions also disproportionately have an adverse economic impact on women who are over-represented in the informal economy such as small-scale trade in open-air markets and domestic paid work [1, 3, 5]. This increases their vulnerability to increased poverty particularly for female-headed households, and in the context of minimal or absent social protection services. For instance, a survey in Kenya revealed that women living in informal settlements were more affected by increased time doing chores (67% vs 51% of men), and complete income or employment loss compared to men (130). In contexts of already extreme poverty and economic vulnerabilities, this can result in forced early marriages where families marry off daughters in the hope of gaining economic and other protection as was observed in Ebola affected countries such as Sierra Leone (50).



5:6 Impacts on Populations Living in Informal Settlements and Forced Displacement Camps

Africa is home to 25%, 26%, and 40% of the world's informal settlement, refugee camp, and internally displaced population respectively (141–143). For instance, 90% of the urban population in the Central Africa Republic, South Sudan, and Chad live in informal settlements (35).

Individuals and households that live in informal settlements and forced displacement camps, and the homeless are especially vulnerable because of poor living conditions: Their living conditions are characterized by small crowded homes, and they often have to share basic amenities like water and toilets that are located outside, making it impractical to observe physical distance (144–149). For example, 25% of households interviewed in urban informal settlements in Kenya report not having a water source in their house (130). In Kakuma refugee camp in Kenya, a single room accommodates as many as 6 people. Houses are very adjacent to each other and early every morning all refugees go and fetch water,

and every 50 or 100 houses share the same water tub (129,150).

These households are also economically vulnerable: They are poor and work in the informal sector earning daily wages (151). For example, in Kenya, a recent survey of urban informal settlements found that 4 out of 5 individuals reported loss of income because of physical distancing measures implemented by the Kenyan government (130).

Imposing stringent physical distancing to these vulnerable groups threatens their lives and livelihoods: measures such as lockdowns, curfews, and work from home directives in these contexts are not only infeasible, but also threatens the livelihoods of these populations (152). For instance, South Africa's lockdown has been met by food protests from informal sector populations (93). In Nigeria, individuals living in urban slums in Lagos report defying physical distancing directives because of income losses (153).

5.7: Impact on Other Vulnerable Populations

In addition to the poor and marginalized (including the homeless, those living in informal settlements, and forced displacement camps), women and girls, health and social economic impacts of stringent physical distancing measures also disproportionately impact other vulnerable groups such as the youth (17), people with chronic diseases (154), elderly (18), and the disabled (19). **The youth** are disproportionately vulnerable to closure of schools, and job losses. **People with chronic diseases** such as diabetes, hypertension are especially vulnerable to health system supply chain disruptions and challenges accessing healthcare facilities because they need regular follow up clinic visits, and prescription refills (154). **Older people** are likely to have more healthcare needs and hence face greater challenges accessing healthcare services (18). The old also require greater support for self-care and to carry out routine activities. Physical distancing measures may separate them from their caregivers and discourage people from offering help that requires close physical contact (18). **People with disabilities** are likely to face several challenges including, reduced support from

caregivers and other individuals when it requires proximity and/or physical contact (19). It may be challenging for disabled people that need more regular help with regular self-care activities to self-isolate or observe 2 metre distance with others (19). Some disabled individuals such as those with impaired visual and hearing may be excluded from health information and communication, as well as remote learning (19). For example, disabled people in Kenya have complained about the inability to get assistance such as pushing of wheelchairs and helping them to get into public transport, access the daily Ministry of Health press briefings on COVID-19 when the cameras are zoomed in on the person giving the briefing and excluding the sign language interpreter, and challenges with remote learning for children with visual and hearing disabilities because of lack of assistive devices such as Braille paper and Braille readers at home, and sign language interpreters or online classes (21). The panic and chaos because of people rushing to beat curfews in Kenya also disorient the disabled and puts them a great physical harm (21).

6: COUNTRY CASE STUDIES



6.1 Case Study 1: South Africa

Context: Despite upper middle income status, South Africa has a high poverty incidence, with 49% of the population living below the poverty line (155), and a significant proportion of South African households (35%) depending on social grants (156–158). The country is characterized by extreme inequality, with specific groups such as black africans, women, disabled people and non-urban dwellers disproportionately disadvantaged (159–161). It is estimated that over 40% of South Africa’s urban population live in townships, which are low income historically black-only neighbourhoods set up to enforce racial segregation during the apartheid era (162,163). Further, over 20% of the population lives in informal settlements (162). For instance, about 73% of people in Johannesburg live in either townships or informal settlements (162). The country has the highest numbers of COVID-19 cases in Africa as at the time of writing this (just over 10000 cases).

COVID-19 response: The South African government has established several governance structures to coordinate the response to COVID-19 that included an inter-ministerial COVID-19 committee, a national command council, and an emergency operations center (164). Early on in the outbreak, infections were driven by social gatherings such as funerals and church services (11,165). The government has, with progressive adaptations and to varying degrees, put in place several measures that include 1) a national state of disaster, and a lockdown 2) closed its borders and banned international travel 3) closure of schools, 4) ban on gatherings of more than 100 people, later reduced to 50 people, 5) targeted testing for people that travelled from high risk countries 6) shut-down of 35 land ports and sea ports 7) ban on non-essential travel by government officials, and 8) ban on prison visits (166). Further, self-isolation for high risk persons (those with comorbidities and the elderly) is encouraged, and measures such as 1.5 meter distancing in facilities, physical distancing in public and private transport, and curfews are being enforced (167). The country has a risk adjusted strategy with five restriction levels for movement and economic activity, with 5 being the most stringent (168).

Physical distancing experiences: While South Africa’s economy was already in recession, it is expected to contract further because

of COVID-19 (169,170). High levels of poverty and, informal labour markets, and overcrowding in informal settlements have posed challenges to the South Africa’s lockdown restrictions, with reports of violations of lockdowns early on (171). Lockdown enforcement by the national defence forces and the police have been characterized by excessive force with 15% of respondents in a recent survey reporting being treated badly by law enforcement (172). Poverty and hunger have increased since the lockdown sparking food protests (170,173). Violence against women and children have increased, with 90,000 cases reported in the second week of the lockdown (174).

Several measures have been undertaken by the South African government, non-government stakeholders, and community groups to mitigate the adverse effects of physical distancing. For example, the government is cushioning distressed businesses and workers through the Unemployment Insurance Fund (UIF) and providing tax subsidies for workers with incomes below a certain threshold (175). Further, vulnerable families are receiving a higher social grant for 6 months and a Covid-19 grant was also created to cover unemployed workers that do not receive grants (175,176). A solidarity fund has been established that, among others, supports the setting up of shelters for the homeless and the distribution of food to the vulnerable (41). The government is also implementing the “re-blocking” or de-densification of informal settlements (177). Further, to sustain supply of essentials and food to low income residents, municipalities have allowed informal markets to operate (178), and some of these informal traders have been relocated to facilitate physical distancing (35). An additional important feature of South Africa’s response is the emergence of community groups organizing at the local level to provide support to communities. For instance, the Community Action Network (CAN) that originated in Cape Town (Cape Town together) and has now spread to other parts of the country (Eastern Cape Together, Gauteng Together) is comprised of a network of decentralized, autonomous self-organizing neighbourhood groups that are solving challenges using local solutions. Among others, CANs are organizing food kitchens for the vulnerable, food programs for children that are out of school, and addressing stigma, fear, and misinformation (13,14).



6.1 Case Study 2: Kenya

Context: An estimated 36% of Kenyans live below the national poverty line, and 83% of the employed individuals work in the informal sector (179). Kenya is home to one of the largest informal settlements in Africa, Kibera, as well as other informal settlements and 2 main refugee camps (Dadaab and Kakuma) with a combined population of about 500,000 individuals (129,150). The first reported case of COVID-19 in Kenya was on 13th March 2020 and at the time of writing, this, the country has slightly over 700 confirmed cases. Modelling estimates predict about 2% of the population could eventually be symptomatically infected (180).

COVID-19 response: Kenya has set up several coordinating and governance structures that include the inter-ministerial National Emergency Response Council (NERC), and the MOH COVID-19, and the COVID-19 emergency operations center (EOC) (2). The country has implemented a range of mitigation measures that include the suspension of international travel, the closure of schools, bars and nightclubs, banning of meetings including religious meetings, social gatherings, political rallies and sporting events, a night time curfew, and movement restrictions in Nairobi and coastal counties, and two within county residential estates that are transmission hotspots – Eastleigh in Nairobi county, and Old Town in Mombasa county (2,10,181).

Physical distancing experiences: The implementation of physical distancing measures in Kenya presented several challenges. There are reports of people missing essential healthcare services such as ANC visits and deliveries because of movement restrictions, night time curfews, and closure of some health facilities outpatient services (2,182). Individuals living in informal settlements and refugee camps have expressed concerns about their ability to observe physical distancing because of shared water and sanitary facilities, and overcrowded neighbourhoods (129,182). The country's GDP growth rate projection for 2020 has been revised to 1% down from 5-6%, while 130,000 job losses have been reported as at the end of April 2020 because of COVID-19 (183,184). Job losses, restricted movements and stay at home advisories have threatened the food security of individuals in the informal economy, and refugee camps with reports of households going hungry because of inability to buy food (129,185).

The Kenyan government, in collaboration with other stakeholders, has implemented several measures to mitigate against these effects.

Unlike other countries, Kenya has not gone into a full lock down. Rather, the country has opted for a combination of night time curfews, and movement restrictions in transmission hot spots (2,10). Initially, cessation of movement into and out of Nairobi and coastal counties was imposed after these counties were identified as hotspots. This was later extended to Eastleigh and Old Town, residential estates in Nairobi and Mombasa respectively. Also, rather than issuing a blanket work from home directive, the government has opted to target protecting the vulnerable by requiring public officers older than 58 years, and those with comorbidities to take leave from work, and encouraging the private sector to do the same. The government is also implementing an economic stimulus program that includes direct and indirect cash subsidies for citizens, as well as a cash transfer program for the poor, the elderly and the disabled, and a food distribution program among the vulnerable communities (10). This cash transfer program uses mobile money transfer to minimize transmission through physical cash exchange and to improve efficiency of transfers. The government also plans to support youths living in informal settlements that have been rendered unemployed by COVID-19 by providing them with a daily income support (37). Kenya has also taken measures to keep the informal economy open, by for example allowing informal markets, and businesses such as barber shops and salons to remain open, and public transport to operate while providing physical distancing guidance to these businesses. The government, private education stakeholders, and media houses are implementing and facilitating remote learning through the internet, TV, radio, and social media platforms. This is however riddled with inequities due to lack of hardware, internet connectivity, and/or power among students from low income households including in refugee camps (129,150). In addition to government action, community organizations are playing a key role to support vulnerable populations. For instance, Kenya mutual aid, a grassroots organization is mobilizing community groups in Nairobi and Mombasa to identify vulnerable groups, crowdsource funds, and purchase and distribute food to these households (15,16). Another community organization, Ghetto foundation, set up by a group of young people in Mathare informal settlement in Nairobi is identifying vulnerable individuals in and sending them cash transfers via mobile money transfer (15,16), while Shinning Hope For Communities (SHOFCO), has established toilets, clean water kiosks, and hand washing stations in Kibera informal settlement (15).



6.3 Case Study 3: Senegal



The government and stakeholders are implementing a range of mitigation measures. Rather than a full lockdown, the country has opted for a dusk to dawn curfew. The government has further allowed public transport to continue operating, and provided guidance for physical distancing that include ensuring that they are filled to half capacity (196–198).

Context: Like other African countries, Senegal has a high proportion of its citizens living below the poverty line (47%) (186) and a predominantly informal labour market (92%) (187,188). About 40% of the urban population in Senegal live in informal settlements(189). Urban areas are characterized by high population densities; for instance, Dakar covers 0.3% of Senegal’s land mass but has 23% of the country’s population including informal settlements (190). The high population density in Dakar, estimated at 6,637 inhabitants/km against the national estimate of 84 inhabitants/km makes physical distancing challenging to implement (190). The first reported case of COVID-19 in Senegal was on 2nd March 2020 (191). At the time of writing this there were slightly over 1,800 cases.

COVID-19 response: The COVID-19 response in Senegal is coordinated by the National epidemics management committee which is also responsible for the implementation of the country’s National COVID-19 Response Plan (192). Mitigation measures implemented by the government include 1) the closure of learning institutions, 2) banning of public gatherings, 3) closure of the country’s borders, 4) decongestion of prisons 5) a state of emergency that, among other restricts movement across regions and a nationwide curfew (193–199). Authority has also been given to local government leads to make decisions about the containment of COVID-19, which has led to localized and targeted lockdowns (200,201).

Physical distancing experiences: It is estimated

that Senegal’s economic growth (GDP) will slow down from 6% to 3% because of COVID-19 (202). A survey of early experiences with COVID-19 found that an estimated 87% respondents had lost income, and the number of people reporting a reduction in meal size had sharply increased (40). The survey also reported a substantial increase in the price of food (40). While schools are implementing remote learning, 30% of children reported not participating in any learning activities highlighting significant differences in access to remote learning platforms (40). There are also challenges with compliance of physical distancing guidelines with some transport companies not complying with the inter-regional movement restrictions (203,204).

The government and stakeholders are implementing a range of mitigation measures. Rather than a full lockdown, the country has opted for a dusk to dawn curfew. The government has further allowed public transport to continue operating, and provided guidance for physical distancing that include ensuring that they are filled to half capacity (196–198). A solidarity fund, FORCE-COVID, has been established (205). The government is also implementing a social protection program that includes tax reductions for firms to keep their workforce(175), and a food distribution programme targeting 1 million households (175,206). To cushion households, the government is implementing a program to pay for the water and electricity bills of vulnerable households (175,207).

7: KEY RECOMMENDATIONS

The recommendations outlined here are based on the recognition that while stringent physical distancing measures are expected to have a positive impact on the reduction of COVID-19 transmission, they are also likely to have substantial negative health and socio-economic impacts. These negative impacts are likely to be greater in African countries because of a range of vulnerabilities. African countries therefore need to consider the broader net benefit of measures that they choose to implement and they need to adapt and localize their response to align with the contextual realities of the continent, and to optimize expected benefits of physical distancing, while minimizing the undesired impacts. In considering these recommendations, governments will need to take into account the risks associated with each measure and their feasibility, including financial feasibility and implementation capacity, suitability and acceptability, to their specific contexts.

7.1: Cross-Cutting Recommendations

Where feasible, governments should consider:

- **Adapting physical distancing measures:** Adapt physical distancing measures that minimize the negative health, and social-economic impacts of restrictions. Table 2 outlines examples of physical distancing adaptations that have been employed by African countries.

Table 6: Adaptations to physical distancing measures

Physical distancing adaptations	Examples of Countries that have implemented the adaptation
Imposing of dusk to dawn curfews or partial lockdowns rather than full lock downs	Kenya, Senegal
Staggered introduction of physical distancing measures	Kenya, Senegal
Risk based movement restrictions rather than blanket restrictions across the country. For instance, in Kenya, movement restrictions have been imposed in transmission hotspots - Nairobi, and coastal counties, and a residential neighbourhood in Nairobi and Mombasa, rather than the entire country (2)	Kenya, Ghana, Nigeria
Keeping the informal economy operational – allowing food markets and small-scale traders to operate with measures to reduce physical distance such as reducing the number of traders and customers, relocating traders to decongest markets, and hygiene	Kenya, South Africa
“Temporal distancing”(3) – opening markets on specific days and times of the week, and closing them on other days and times. For instance, in Nigeria, markets are open on specific days of the week, and for a shorter time on the open days	Nigeria
Allowing public transport to operate with guidelines reduce carrying capacity, space out seating, and hand hygiene	Ghana, Nigeria, Kenya, Senegal

■ **Augmenting adapted measures to minimize risks:**

Less stringent physical distancing measures may come with risks of increased transmissions. Options for minimizing risk include:

- Where possible, ramping up active case finding, testing, and isolation. This may however not be feasible in countries with severe financial constraints, and because of supply chain challenges for testing reagents.
- Advising the public to wear (cloth based) face masks in public spaces (4). The availability and affordability of face masks at scale may be a challenge.
- Setting minimum capacity and spatial proximity requirements in public spaces such as markets, shops, and public transport. There are several examples where business have used innovative approaches such as using paint to draw spots where people can stand while queuing in shops.
- Setting guidelines for promoting hand hygiene for businesses and communities such as washing or sanitizing hands. Challenges that will need to be addressed include availability of clean water, soap, or hand sanitizers.
- **For instance**, instead of a full lockdown, Ghana implemented a partial lockdown backed by aggressive testing and contact tracing. It is worth noting however that Ghana has greater capacity for testing compared to most other African countries. Ghana, Kenya, and several other countries have implemented disinfection programs in informal markets that have been left to operate(5), and provide water and other sanitary facilities to markets and informal settlements (6).

■ **Contextualizing physical distancing practices:**

Engage communities to find out how to localize physical distancing measures and communicate risk effectively in ways that will enhance acceptance and compliance (7).

- **For instance**, the COVID-19 taskforce in Nigeria has a cultural arm that uses cultural messaging and comedy to reinforce physical distancing interventions (8)

■ **Shielding high risk population groups:** Shielding entails identifying and isolating high risk populating groups to protect them from infection. Shielding could take various forms (9). It could involve requiring elderly persons and/ or persons with comorbidities that increase the risk of COVID-19 severity to self-isolate or stay at home while low risk groups can go to work.

- **For instance**, the Kenyan government has asked public servants above the age of 58 to take paid leave and advised the private sector to do the same (10), while the South African government has advised the elderly to shield (11). Shielding should also be considered in

forced displacement camps where a separate section of the camp, “a green zone”, could be set up and high risk groups relocated there temporarily and so they have minimal contact with the rest of the camp residents (9).

- The feasibility of shielding may however meet with resistance and become infeasible to implement. Therefore shielding approaches should be designed in consultation with communities to ensure that they are culturally appropriate and gain acceptance (9).

■ **Leveraging on community structures and networks:**

Work with and leverage on community structures, local leaders, respected individuals in the local societies, religious organizations etc to engage communities to enhance compliance of physical distancing measures.

- **For instance**, in Ethiopia, the international organization of migration (IOM) is working with local community leaders to enhance the awareness of communities about risks and prevention measures (12).

■ **Facilitating bottom up community responses:**

Facilitate and enable bottom-up, community driven initiatives to support communities to cope with the health and socio-economic effects of restrictions.

- **Examples** of such networks include the community action networks (CANs) in South Africa (13,14), and community based organizations like Mutual Aid and Ghetto foundation in Kenya that are helping communities with initiatives such as cash transfers and food distribution (15,16)

■ **Consult and engage with vulnerable populations:**

Engage with vulnerable groups to co-produce health, social, and economic responses to COVID-19. This will enhance the sensitivity of these responses to their specific vulnerabilities (17–20).

■ **Make the dissemination of COVID-19 information disability inclusive:** This could include the use of sign language interpreters when making announcements, during briefings and other communication, and distributing braille versions of information, education, and communication materials (21).

■ **Monitoring and responding:** Set up mechanisms to regularly monitor the multi-dimensional impact of physical distancing restrictions to inform timely responses (7). This could include periodically conducting community surveys by leveraging on and working with a network of existing academic and research institutions. It should also include a resident feedback mechanism by setting up a toll-free call center to receive information about citizen experiences, including reporting about human rights violations by security forces.

7.3: Recommendations to Mitigate the Impacts on the Health Sector

Where feasible, governments should consider:

■ **Identifying essential services to be prioritized for continuity of service delivery:** Map and identify essential health services and those most susceptible to disruptions and put in place measures to ensure continued availability and access of these services. These measures could include(22):

- Active communication and outreach to engage with citizens about the importance of these services, and their availability under the physical distancing period, and reassure them of their safety should they need to seek care.
- Develop priority lists of essential supplies, stock-pile and pre-position supplies at the national and regional and local levels, and network supplies and redistribute supplies to mitigate supply chain disruptions (22,23).
- Ensure healthcare facilities remain open to provide essential healthcare services (24).
- Provide transportation to healthcare facilities for patients needing very essential services.
 - **For instance,** the City of Nairobi in collaboration with health stakeholders such as Amref and taxi platform company Bolt are providing free transportation for expectant mothers to hospital for delivery.

■ **Leveraging on technology:** Explore innovative models of care such as telemedicine to enhance continuity of care

for services that are amenable to remote consultations. For example Kenya has outlined a plan to establish tele call centers to facilitate continuity of provision of reproductive, maternal, and child health services (24). However, digital technologies carry the risk of exacerbating existing inequalities in access to healthcare services because the poor, those in rural areas, and other vulnerable groups are less likely to have access to digital technologies. For these groups measures to maintain physical access to healthcare services could be explored.

■ **Leverage on community health workers:** Leverage on community health workers to deliver essential health services to communities and households (25,26). While this will likely improve the pro-poorness of mitigation measures, it carries the risk of transmission because of physical contact between community health workers and households. Measures to reduce these risks include equipping community health workers with personal protective equipment and ensuring hand hygiene is observed during household visits.

■ **Facilitating health worker movement in contexts of movement restrictions:** Most African countries have designated health workers as essential frontline workers and provided them with exceptions to move around in places where lockdowns, curfews, and movement restrictions have been imposed. However, the enforcement of these exceptions should be monitored given reports from several African countries that health workers are finding it difficult to get to work and citizens cannot access care (27,28).

7.4: Recommendations to Mitigate Economic Impacts

Where feasible, governments should consider:

■ **Cushioning firms providing essential services:**

Providing targeted subsidies to firms that provide essential services such as healthcare, electricity, water, agriculture and food production, and communication. For instance, subsidies to telecommunication companies will enable them to support access to cheaper mobile money transactions, and data to enhance the efficiency of employees working from home.

- **For instance**, the South African government is providing financial support to local firms that are providing essential service in the form of credit facilities at subsidized interest rates (29).

■ **Supporting vulnerable groups:** Implement social protection programmes targeted at vulnerable segments of the population especially the poor, those in the informal sector, and people living in informal settlements and forced displacement camps. These include indirect tax reductions, and cash transfers leveraging on the efficiency of mobile money transfers (30–34), waivers for basic services such as electricity, water, money transfer transactions, and moratoriums on individual loan repayments.

- **For instance**, the government of Togo is providing cash support to low income residents of its capital Lome (9) while Kenya, Nigeria, and South Africa are scaling up existing cash transfer programmes to vulnerable households leveraging on mobile money transfer platforms (35). Ghana is helping households by paying their water bills (36).

■ **Providing income support to individuals that lose their jobs:** Provide income support and temporary employment to low income and informal sector employers who lose their jobs because of physical distancing restrictions.

- **For example**, Kenya is providing a daily income

supplement to more than 10,000 youths living in Nairobi's informal settlements in exchange for labour such as disinfecting markets (37). The government of Botswana is contributing to 50% of the salary of furloughed citizens, and providing a subsidy of between USD 80-170 per month to meet their basic needs (15).

■ **Integrate a focus on the vulnerable in socio-economic responses:** Identify the vulnerable– the old, the elderly, women, the poor, the youth, and those with chronic conditions, and specifically target them with social protection measures such as income support (17–20).

■ **Ensuring pro-poorness of interventions:** Align financial aid with the realities of vulnerable and marginalized populations. Reductions in direct taxes are unlikely to benefit the poor and those living in informal settlements or encampments. On the other hand, reductions in informal taxes, and direct cash transfers would.

■ **Providing financial support to small informal businesses:** Provide liquidity support to SME. These include reduced bank loan interest rates, moratoriums on SME loan repayments, relief from business taxes, and specific financial subsidies to allow them to keep and continue to pay staff

- **For instance**, Botswana is providing a wage subsidy to SME's as an incentive to retain their staff during the lockdown (15).

■ **Debt repayment moratoriums:** Multi-lateral and bilateral lenders should consider suspending debt repayments by African countries to provide temporary debt relief to support macroeconomic stability in the region(30,38). Debt relief will boost liquidity and expand the fiscal space of African countries, boosting their capacity to absorb the economic shocks due to COVID-19 (30,38).

7.5: Recommendations to Mitigate Food Security Impacts

Where feasible, governments should consider:

- **Monitoring access to food and food prices:** In collaboration with other local and international organizations, establish mechanisms for the assessment of supply chains and food markets, availability and access to food, and fluctuations of food prices.
- **Keeping trade corridors open:** In collaboration with regional, and international organizations, foster cooperation to maintain trade corridors for agricultural inputs and food imports and exports (30). This may however carry the risk of cross-border movement of infected individuals. Mitigating measure could include border screening and testing where feasible.
- **Keep food supply chains functioning:** Designate workers involved in food supply chains such as transporters as essential frontline workers and enforce movement restriction exceptions for agricultural inputs, produce, and these frontline workers. This will sustain the logistical operations of local food supply chains (39).
- **Provide income support to vulnerable groups:** This could take the form of cash transfers to vulnerable and food insecure households leveraging on mobile money to improve the efficiency of disbursement and reduction of physical contact. Cash transfers will facilitate the purchase of food

where markets are still operational and minimize market distortions.

- **Implement food distribution programs to the vulnerable:** Protect vulnerable populations such as the poor, the elderly, individuals living in informal settlement, refugee camps, internally displaced populations, and the homeless by providing and distributing food to households. Several African governments, including South Africa, Senegal, Uganda are implementing food distribution programs to the vulnerable in the community (40–42).
- **Sustain existing humanitarian and social protection programs:** While COVID-19 will require scaling up existing humanitarian and social protection programs, it is important to maintain and sustain existing programs to avoid disruption.
- **Set up public food kitchens:** Designate particular food retail outlets as public kitchens. Households could be provided with e-vouchers to purchase fresh, cooked food daily. The e-voucher system would help ensure that the micro-economy of these communities is sustained, while creating market incentives for food chains to keep running.
 - **For example,** the opening up of food kitchens in several townships in South Africa that have remained open during the lockdown is reported to have helped vulnerable families in these neighbourhoods (43).

7.6: Recommendations to Mitigate Education Impacts

Where feasible, governments should consider:

- **Implementing equity responsive remote learning:** Implement remote learning programs using multiple rather than single platforms to ensure reach is optimized. The selection of platforms should consider reach, and equity implications. For instance, more people have radio's compared to TVs in Africa, and more people have basic phones compared to smart phones (44–46).
- **Distributing paper based learning materials to those that need them:** Implement arrangements to make paper based learning material physically available in low income areas with poor access to remote learning platforms (internet, radio, TV) by delivering a basic package of learning materials, including books and writing materials to households (32).
- **Implement targeted outreach to disadvantaged groups:** Implement targeted outreach and support to students and parents/guardians to enhance uptake of remote learning (44–46).
- **Training and supporting teachers:** Train teachers on remote learning approaches and equipping them with the resources required to implement these approaches (e.g. hardware, software, internet access) (32,44–46).
- **Adapting curricula:** Adapt curricula to enhance feasibility

and effectiveness of remote learning. This includes simplifying curricula to prioritize areas that are most consequential for learning progression in the coming school year(46).

- **Implementing food programs for vulnerable children:** Introducing community food programs for children to replace school food programs and ensure that the nutritional needs of children are still met (32).
- **Make learning accessible to people with disabilities:** consider delivering remote learning in ways that are accessible to the disabled. This includes including sign language interpreters in online learning, and districting braille paper and braille readers at home (21).
- **Focusing on the vulnerable:** Finally, all these interventions should pay special attention to the poor, the marginalized and the vulnerable. For instance, pay attention to children from poor and marginalized households (e.g. those living in rural areas, informal settlements, refugee camps), girls that are more likely to be taken on huge burdens of domestic duties, boys who are most likely to drop out of school to take up income generating activities, and cohorts transitioning between schooling levels (primary to secondary, and secondary to college). This includes raising awareness and sensitizing communities on the need to protect these children and support them to continue with home learning.

7.7: Recommendations to Mitigate the Gendered Impacts

Where feasible, governments should consider:

■ **Tackling gender-based violence:** Institute multi-agency coordinated responses to tackle gender-based violence.

These include:

- Establishing national toll-free helplines (with the required infrastructure to sustain these numbers) (47).
- Establishing shelters and safehouses, specialized (free) emergency medical and police services. This would also include successful mental health, social and legal services (48).

■ **Implementing gender-responsive social protection programs:** The social protection measures implemented to cushion households from the socio-economic impacts of restrictions should be gender-responsive by paying special attention to the vulnerabilities and disproportionate effects on

women (49).

■ **Paying attention to educational needs and challenges of girls:** Given the gender-specific risks of school closures, education responses could prioritize the needs of girls and particularly adolescent girls. This requires a community approach that includes all necessary stakeholders such as the youth (to ensure youth-friendly messaging); and leverages on teachers and community members to raise awareness and sensitize communities on the need to protect girls and support them to continue with home learning.

- For instance, in the context of Ebola, in countries such as Sierra Leone, villages that established 'girls clubs' (i.e. safe spaces) where girls could go to during school closures, reported that fewer girls experienced adverse effects and were more likely to continue their learning (50).

7.8: Recommendations to Mitigate the Impacts on Populations Living in Informal Settlements and Forced Displacements

Where feasible, governments should consider:

■ **Stopping forceful evictions:** Forcefully evicting individuals living in informal settlements, or those that are internally displaced puts them at an even greater risk of contracting COVID-19. In addition to declaring a stop to forceful evictions, governments should allocate resources to implement, monitor and prevent extrajudicial evictions (51).

■ **Improving housing and living conditions:** Improve access to water and sanitation amenities in informal settlements and forced displacement encampments. In the short term, this includes supplying water with water tankers, drilling boreholes, and building toilets.

- **For instance,** the Kenyan government has installed hand washing stations, and distributed soap in informal settlements in Nairobi (52).

■ **Providing shelter for the homeless:** Provide shelters to the homeless and move them out of the streets into facilities that will keep them safe.

- **For instance,** the South African government has set up

shelters for the homeless (53).

■ **Reducing overcrowding:** Consider reducing overcrowding in informal settlements by developing new shelters and upgrading the existing ones to improve the quality of housing.

- **For instance,** the government of Djibouti has provided asylum seekers and refugees with new shelters, while the Somali government has upgraded shelters in high risk camps for internally displaced populations to reduce congestion (51).

However, the relocation of individuals and households should be done with close consultations with those affected and in a humane way to ensure that the rights and dignity of the individuals are safeguarded.

■ **Keep informal supply chains open:** Identify essential services and informal supply chains that serve the residents of informal settlements and forced displacement encampments and keep them operational. These include supply and sale of food, energy, water, and transportation (51).

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