



4. Contribution to Impact of COVID-19 and Sustainable Approach in Africa

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ABSTRACT

In this paper an attempt has been made to focus on impact of COVID-19 in African education, health care, hospitality and economy. The COVID- 19 pandemic has dramatically changed everyone lives highlighting the fragility of the system thus providing public services especially education, health care, food supply chain, tourism and hospitality, Aviation tge urgent need to build resilience. The first African case Covid 19 was reported in Egypt, on 14th February 2020, by October 2021 there were 84 million infected, 216,000 deaths reported in Africa accounting for 3.5% 4.4% of World Covid. Many African country's government-imposed restrictions in dealing with this epidemic these include Ghana, Kenya, Liberia, Nigeria, Rwanda and Senegal, out of 24 million doses available as against 75 million committed by Covax multinational vaccines only arrived in Africa in May 2021, many children especially poorest household in Africa were already at risk of pneumonia diarrhea, malaria and other preventable disease requiring other pragmatic way to mitigate against wide spread of Covid-19.

KEYWORDS

Economic Impact, Sustainable Approach, Peace and Security, Socioeconomic, Education.

1. Introduction:

The corona-virus disease 2019 (COVID-19) is no exception. The disease - an epidemic that has become a global pandemic - emerged in WUHAN a densely populated manufacturing and transport hub in central China and has since spread to other countries and regions.

The COVID-19 pandemic arrived at a moment when prospects for many African countries were promising. At the beginning of 2020, Africa was on track to continue its economic expansion, with growth projected to rise from 2.9 per cent in 2019 to 3.2 per cent in 2020, and 3.5 per cent in 2021. It is against this backdrop that African countries must deal with the COVID-19 pandemic as we are now feeling the pandemic's full impact.

The prolonged lack of investment in critical health systems and decades of declining economic growth also exacerbated grievances and inequality thus increasing Africa's vulnerability. The pandemic has morph into humanitarian, socioeconomic, development, and political crisis, with profoundly proven destabilization effects. There are causes for concern. While the virus is present in all African countries, the African Union acted swiftly, thereby endorsing a joint continental strategy in February, complementing public health platform efforts provided by Member States and Regional Economic Communities.

- **Referencing – Nigeria:** Nigeria's economy is still in recovery from the last recession, COVID-19, global recession and the low oil price will put further pressure on the economy. Past analysis may have underestimated the potential economic impact of COVID-19 in Africa. For Nigeria, the potential impacts of both COVID-19 and the global recession, on MSMEs as "they contribute to 50% of Nigeria's GDP and employ nearly 80% of the country's workforce" present more quantitative approach of the impact of Covid-19.

2. Mitigation Against the Impact of Covid -19 In Africa:

To help mitigate the economic impacts in Africa, we hereby propose priority actions that are sustainable and inclusive. This includes and not limited to the following;

- **Addressing the usual suspect - investing in infrastructure** - High-potential sectors to support local productivity, delivering medium-term actions to improve disaster preparedness by investing in healthcare, education, and infrastructure, by providing access to more credit lines to MSMEs.
- **Addressing the unusual suspects** - Closing the inequality gap for women and low-income communities.
- **Addressing the mental health risks** that health-care workers and the broader society faces.
- **Endowing a fund for the arts** to maintain Africa's role as a global influencer of art and culture.
- **Delivering short-term actions**, like providing cash/food aid, securing food supply chains, and expanding credit facilities to reach women and other marginalized groups by revisiting collateral requirements.

3. Sustainable Approach of The Impact of Covid-19 In Africa:

3.1 Peace and Security:

While dealing with the menace of the pandemic, maintaining peace and security in Africa remains paramount. Priorities in this regard include silencing the guns, implementing the Secretary-General's and the African Union Commission Chairperson's appeal for a cease-fire, sustaining peace processes and critical peace operations. The response to COVID-19 needs to be "conflict-sensitive" and avoid generating new tensions. Decisions regarding any planned national elections should be taken in an inclusive and consultative manner.

3.2 Food Crisis:

It is becoming clear that one near-term impact of this pandemic will be a dramatic rise in food insecurity and potentially devastating disruptions to the global food supply chain. Africa is likely to be deeply impacted.

Despite its agricultural resources, Africa a net importer of agricultural and food products, with ten basic foods making up 66 per cent (US\$46 billion) of total African food imports. If unchecked, the current pandemic crisis is likely to escalate to a serious food crisis, with potential implications for peace and security.

Covid-19 has heightened food insecurity in Africa and result in a sharp rise in food prices and rising hunger and malnutrition. Every percentage point drop in global GDP is expected to result in an additional 0.7 million stunted children, along with the pandemic, a second wave of desert locusts is threatening East Africa with estimates that it will be 20 times worse than the February wave that hit eight countries in the region and was the worst outbreak in 70 years. Together, they present an alarming threat to food security and livelihoods in the Horn of Africa.

3.3 Economic Impact:

The COVID-19 pandemic began to impact African economies heavily and destroy livelihoods well before it reached the shores of the continent. Among the factors were: falling demand for Africa's commodities; capital flight from Africa; a virtual collapse of tourism and air transport associated with lockdowns and border closures; and depreciation of local currencies as a result of a deterioration in the current account balance. African countries cannot afford to wait until the virus is contained.

3.4 Education Impact:

Prolonged school closures at all levels, combined with wide-spread economic hardship, risk undermining aspirations and potentials and widening inequalities. In sub-Saharan Africa, close to 90 % of students do not have access to household computers and 82 % are not able to get online. School closures have left over 330 million learners of all levels and over 8.5 million teachers, unable to learn or teach from home.

While mobile phones can support young learners, around 56 million live in areas that are not served by mobile networks, and access numbers are consistently worse for girls and women. Even where computers are provided, unreliable power supply and poor internet connection, coupled with financial costs, undermine the impact of such investments. Increased internet reach can lessen the gap in education access through continued learning and provide a vital source of information and awareness about the pandemic.

3.5 Peace and Security Impacts:

To date, many African countries have managed the political risks associated with the measures to respond to the pandemic. Opposition to lockdowns and other restrictive measures has been sporadic and political tensions surrounding elections have so far been mostly kept in check. In some countries, the COVID-19 context requires strengthened political dialogue among national stakeholders and society-wide mobilization to support national response plans. However, pro-longed suspension of critical economic activity; continued emergency measures, in some cases associated human rights violations; delayed electoral processes and political transitions; as well as inequalities in access to food and basic services disproportionately affecting the poor and other vulnerable groups, including women and girls as well as children caught up in conflict; could coalesce, in some contexts, to spark unrest, (re)ignite conflicts or upset fragile peace processes.

Hence, the political risks associated with the pandemic require close monitoring and management by national and regional actors. The virus could strike hardest in countries with ongoing conflicts or fragile political transitions. As the pandemic unfolds, we are not only likely to witness a shift in dynamics in a number of conflicts, but also a possible deterioration in UN relationships with parties in conflict and communities. Despite increased peacebuilding efforts in recent decades, violence and conflict, at times exacerbated by terrorism and the spread of violent extremism, transnational organized crime, and weak institutions, continue to pose various challenges. Similarly, a challenge in some areas and will inevitably complicate efforts to tackle the COVID-19 and Africa's immediate Emergency preparedness response plan.

4. Summarized Discussion on Covid-19 In Africa:

The first case of COVID-19 on the continent of Africa was reported on 14 February 2020. By 13 May 2020, cases had been reported in all 54 countries. The African Union acted swiftly, endorsing a joint continental strategy in February, and complementing efforts by Member States and Regional Economic Communities by providing a public health platform. The African Union Chairperson, President Cyril Ramaphosa of South Africa, appointed four Special Envoys to mobilize international support for Africa's efforts to address the economic fallout of COVID-19. The Africa Centres for Disease Control and Prevention (Africa CDC), established in 2017, is curating real time information, in close collaboration with the World Health Organization (WHO). The Africa CDC's new Partnership on Accelerated COVID-19 Testing (PACT), which aims to test 10 million people within six months, will complement government efforts while building important inroads into promoting knowledge-based pandemic management. WHO support for a significant ramp up to achieve this target will be vital? Most African countries moved swiftly, enforcing quarantines, lockdowns and border closures. So far, countries with higher levels of testing

have experienced lower infection rates, but limited capacity has rendered it difficult to discern accurate transmission, hospitalization and mortality rates. Regional Economic Communities have also been proactive, unveiling initiatives within their respective regions. African countries are also addressing the economic and humanitarian fallout of the pandemic. Many have already announced remedial fiscal and monetary measures, as well as food distribution and financial support to the most vulnerable groups. More is needed in terms of immediate and direct assistance to cushion against lost income and export earnings, dwindling remittances and decreased.

5. Sustainable Development Approach:

- a. Focus where risks are most acute, strengthen social protection systems and safeguard access to food for the most vulnerable groups, especially for young children, pregnant and breastfeeding women, older people and other at-risk groups.
- b. Set up food banks in major cities and other affected areas and create mechanisms to identify those in need and to mobilize and receive donations (monetary or in-kind) from local and diaspora sources.
- c. Designate the agriculture sector an essential economic activity that must continue regardless of pandemic-related emergency restrictions. In addition to supporting smallholder farmers' ability to increase food production and maintain sufficient liquidity, focus on urgent measures to reduce post-harvest loss through improved storage methods for key food staples.
- d. Establish and protect food supply corridors (for collection, transport and distribution to markets), especially for land-locked and island states. Measures, such as temporary reduction of VAT and other taxes on food, to be encouraged to keep food prices affordable. Africa's development partners to ease existing export restrictions, including export bans on food.
- e. Strengthen energy infrastructure, internet access, and technology use in education, including by exploring reduced cost opportunities with mass media (especially radio) and mobile.
- f. Telecommunication providers should create or expand access to distance/online learning platforms.

6. Conclusions:

This study has sought to explore the potential impact of the COVID-19 pandemic on Africa, looking out to 2030 in terms of income, debt, poverty and some elements of the SDGs. The report is necessarily incomplete. It has, for example, not dealt with the food security crisis in the region that the World Bank¹ estimates could follow a contraction in agricultural production of between 2.6% and 7% and reductions in food imports. Nor did the report look at the potential for social protection programs to support workers, especially those in the informal sector including measures such as cash transfers, in-kind transfers (food

¹ The World Bank, For Sub-Saharan Africa, Coronavirus Crisis Calls for Policies for Greater Resilience, 9 April 2020, www.worldbank.org/en/region/afr/publication/for-sub-saharan-africa-coronavirus-crisis-callsfor-policies-for-greater-resilience

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distribution), social grants to disabled people and the elderly, wage subsidies to prevent massive layoffs, and fee waivers for basic services.

The report finds that the pandemic is set to erase much of the progress made in the fight against poverty in recent years, setting back the attainment of the 2030 SDGs and Agenda 2063. At the time of concluding the report it is expected that the health situation will get significantly worse as infections and mortality rates from COVID-19 increase before they improve – although it also offers the continent the opportunity to learn from the experience of others. Bad as it is, high mortality is not expected to be the main driver of suffering in Africa. That will largely come from the economic impact of COVID-19.

To avoid another lost decade, as in the 1980s, appropriate policies need to be implemented to mitigate the pandemic’s short-term negative socio-economic impact, and to boost long-term growth. Policymakers should, therefore, strengthen national health systems and improve access to water and sanitation. Africa needs to leverage digital technologies to accelerate its economic structural transformation. All of these should be underpinned by good governance and will require substantial debt relief.

This report sought to outline alternative prospects for Africa amid unprecedented levels of uncertainty, on a matter which changes on a daily basis. Some of our assumptions are certain to be proven incorrect and will need to be modified as our understanding of the unfolding pandemic improves.

Governments, civil society, and the business community need to forge a shared response to one of the greatest challenges humanities has faced in recent decades. It is our hope that by exploring the impact of the pandemic in this manner, taking a long-term perspective rooted in available evidence, we might contribute to a sensible and effective response.

Annex A: Extreme poverty under different scenarios (millions) using US\$1.90

Country	Scenario	2019	2020	2025	2030
Algeria	Pre-COVID	0.01	0.01	0.02	0.01
	V	0.01	0.01	0.03	0.02
	U	0.01	0.01	0.03	0.02
	L	0.01	0.01	0.04	0.02
Angola	Pre-COVID	12.50	12.98	15.94	16.60
	V	12.50	13.19	16.26	17.08
	U	12.50	13.19	16.66	17.53
	L	12.50	13.19	16.94	17.87
Benin	Pre-COVID	5.72	5.86	6.44	7.04
	V	5.72	5.89	6.57	7.23
	U	5.72	5.89	6.59	7.25
	L	5.72	5.89	6.62	7.31
Botswana	Pre-COVID	0.27	0.26	0.21	0.18

Country	Scenario	2019	2020	2025	2030
	V	0.27	0.24	0.24	0.20
	U	0.27	0.24	0.27	0.23
	L	0.27	0.24	0.28	0.25
Burkina Faso	Pre-COVID	7.97	7.95	7.38	7.86
	V	7.97	8.05	7.67	8.27
	U	7.97	8.05	7.79	8.47
	L	7.97	8.05	7.89	8.65
Burundi	Pre-COVID	8.00	8.20	9.71	10.91
	V	8.00	8.53	9.93	11.06
	U	8.00	8.53	9.96	11.13
	L	8.00	8.53	9.99	11.21
Cameroon	Pre-COVID	5.91	6.00	6.32	6.60
	V	5.91	6.10	6.81	7.26
	U	5.91	6.10	7.05	7.61
	L	5.91	6.10	7.29	7.97
Cape Verde	Pre-COVID	0.04	0.04	0.03	0.03
	V	0.04	0.04	0.04	0.04
	U	0.04	0.04	0.04	0.04
	L	0.04	0.04	0.04	0.05
Central AfR	Pre-COVID	3.20	3.23	3.43	3.96
	V	3.20	3.26	3.51	4.08
	U	3.20	3.26	3.52	4.10
	L	3.20	3.26	3.55	4.14
Chad	Pre-COVID	6.57	6.89	7.65	9.02
	V	6.57	6.88	7.76	9.66
	U	6.57	6.88	8.06	9.84
	L	6.57	6.88	8.55	10.13
Comoros	Pre-COVID	0.17	0.17	0.20	0.21
	V	0.17	0.18	0.22	0.23
	U	0.17	0.18	0.22	0.24
	L	0.17	0.18	0.22	0.24
Congo, Democratic Republic of	Pre-COVID	63.23	64.78	74.78	84.01
	V	63.23	65.45	77.01	87.80
	U	63.23	65.45	77.64	89.21
	L	63.23	65.45	78.25	91.24
Congo, Republic of	Pre-COVID	2.02	2.06	2.43	2.84
	V	2.02	2.03	2.56	3.03
	U	2.02	2.03	2.63	3.11

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Country	Scenario	2019	2020	2025	2030
	L	2.02	2.03	2.63	3.10
Côte d'Ivoire	Pre-COVID	5.67	5.74	4.86	4.32
	V	5.67	5.82	5.51	5.37
	U	5.67	5.82	6.01	5.86
	L	5.67	5.82	6.45	6.35
Djibouti	Pre-COVID	0.17	0.18	0.26	0.27
	V	0.17	0.19	0.27	0.29
	U	0.17	0.19	0.27	0.30
	L	0.17	0.19	0.27	0.31
Egypt	Pre-COVID	1.16	1.14	0.84	0.94
	V	1.16	1.19	0.95	1.09
	U	1.16	1.19	1.03	1.17
	L	1.16	1.19	1.11	1.24
Equa Guinea	Pre-COVID	0.00	0.00	0.00	0.00
	V	0.00	0.00	0.00	0.00
	U	0.00	0.00	0.00	0.00
	L	0.00	0.00	0.00	0.00
Eritrea	Pre-COVID	1.60	1.64	1.56	1.70
	V	1.60	1.67	1.58	1.76
	U	1.60	1.67	1.59	1.76
	L	1.60	1.67	1.72	1.87
Ethiopia	Pre-COVID	26.67	25.88	26.42	24.66
	V	26.67	25.73	27.88	26.41
	U	26.67	25.85	28.54	27.24
	L	26.67	25.73	29.08	28.13
Gabon	Pre-COVID	0.05	0.04	0.02	0.01
	V	0.05	0.03	0.02	0.01
	U	0.05	0.03	0.02	0.01
	L	0.05	0.03	0.02	0.01
Gambia	Pre-COVID	0.24	0.25	0.23	0.20
	V	0.24	0.26	0.24	0.23
	U	0.24	0.26	0.25	0.24
	L	0.24	0.26	0.26	0.26
Ghana	Pre-COVID	2.85	2.79	2.77	2.86
	V	2.85	2.70	3.01	3.10
	U	2.85	2.70	3.09	3.20
	L	2.85	2.70	3.16	3.29

Country	Scenario	2019	2020	2025	2030
Guinea	Pre-COVID	4.06	4.54	4.58	4.54
	V	4.06	4.66	4.85	4.84
	U	4.06	4.66	5.02	5.06
	L	4.06	4.66	4.82	5.12
Guinea Bissau	Pre-COVID	1.23	1.23	1.24	1.30
	V	1.23	1.25	1.28	1.37
	U	1.23	1.25	1.30	1.40
	L	1.23	1.25	1.32	1.43
Lesotho	Pre-COVID	1.27	1.31	1.45	1.47
	V	1.27	1.32	1.43	1.50
	U	1.27	1.32	1.44	1.52
	L	1.27	1.32	1.46	1.56
Liberia	Pre-COVID	2.39	2.43	3.34	4.43
	V	2.39	2.54	3.32	4.52
	U	2.39	2.54	3.43	4.56
	L	2.39	2.54	3.43	4.55
Madagascar	Pre-COVID	19.99	20.38	22.23	25.60
	V	19.99	20.53	22.65	26.40
	U	19.99	20.53	22.91	26.84
	L	19.99	20.53	23.11	27.20
Malawi	Pre-COVID	12.40	12.39	13.25	13.76
	V	12.40	12.50	13.32	13.95
	U	12.40	12.50	13.45	14.12
	L	12.40	12.50	13.54	14.27
Mali	Pre-COVID	9.44	9.63	10.95	13.48
	V	9.44	9.79	11.33	14.00
	U	9.44	9.79	11.48	14.28
	L	9.44	9.79	11.59	14.53
Mauritania	Pre-COVID	0.27	0.29	0.44	0.32
	V	0.27	0.28	0.46	0.43
	U	0.27	0.28	0.50	0.47
	L	0.27	0.28	0.56	0.67
Mauritius	Pre-COVID	0.00	0.00	0.00	0.00
	V	0.00	0.00	0.00	0.00
	U	0.00	0.00	0.00	0.00
	L	0.00	0.00	0.00	0.00
Morocco	Pre-COVID	0.08	0.08	0.05	0.04
	V	0.08	0.06	0.07	0.05

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	U	0.08	0.06	0.07	0.06
	L	0.08	0.06	0.08	0.06
Mozambique	Pre-COVID	18.89	19.46	22.23	25.18
	V	18.88	19.66	22.07	26.08
	U	18.88	19.66	22.18	26.27
	L	18.88	19.66	21.83	25.55
Namibia	Pre-COVID	0.40	0.44	0.54	0.54
	V	0.40	0.42	0.56	0.57
	U	0.40	0.42	0.57	0.58
	L	0.40	0.42	0.59	0.60
Niger	Pre-COVID	10.11	10.54	11.80	14.26
	V	10.11	10.86	13.28	17.50
	U	10.11	10.86	12.29	15.61
	L	10.11	10.86	13.73	18.60
Nigeria	Pre-COVID	107.90	110.50	125.80	137.60
	V	107.90	116.60	130.40	145.00
	U	107.90	116.60	132.80	148.70
	L	107.90	116.60	134.90	152.40
Rwanda	Pre-COVID	6.00	5.93	5.56	5.55
	V	6.00	5.95	5.82	5.90
	U	6.00	5.95	5.93	6.10
	L	6.00	5.95	6.04	6.31
Sao Tome and Principe	Pre-COVID	0.07	0.07	0.08	0.09
	V	0.08	0.08	0.09	0.11
	U	0.07	0.07	0.09	0.09
	L	0.08	0.08	0.09	0.11
Senegal	Pre-COVID	5.41	5.48	4.74	4.09
	V	5.41	5.54	4.93	4.32
	U	5.41	5.54	5.01	4.41
	L	5.41	5.54	4.98	4.37
Seychelles	Pre-COVID	0.00	0.00	0.00	0.00
	V	0.00	0.00	0.00	0.00
	U	0.00	0.00	0.00	0.00
	L	0.00	0.00	0.00	0.00
Sierra Leone	Pre-COVID	3.90	3.98	4.73	5.89
	V	3.90	4.32	5.09	6.32
	U	3.90	4.32	5.20	6.58

Country	Scenario	2019	2020	2025	2030
	L	3.90	4.32	5.19	7.05
Somalia	Pre-COVID	8.56	8.67	9.33	10.47
	V	8.56	9.19	9.58	11.04
	U	8.56	9.19	9.66	11.25
	L	8.56	9.19	9.85	11.20
South Africa	Pre-COVID	11.40	11.57	11.75	11.58
	V	11.40	11.57	12.90	12.48
	U	11.40	11.57	13.48	13.01
	L	11.40	11.57	14.19	13.73
Sudan	Pre-COVID	5.70	6.07	7.00	7.26
	V	5.70	6.94	7.75	8.23
	U	5.70	6.94	8.09	8.72
	L	5.70	6.94	8.45	9.34
Sudan South	Pre-COVID	6.29	5.82	4.16	3.22
	V	6.29	6.56	5.13	3.99
	U	6.29	6.56	5.44	4.43
	L	6.29	6.56	5.72	4.91
Swaziland	Pre-COVID	0.55	0.54	0.59	0.69
	V	0.55	0.53	0.62	0.73
	U	0.55	0.53	0.63	0.70
	L	0.55	0.53	0.62	0.69
Tanzania	Pre-COVID	25.18	25.14	23.94	23.32
	V	25.18	25.19	25.00	24.66
	U	25.18	25.19	25.56	25.47
	L	25.18	25.19	25.98	26.26
Togo	Pre-COVID	4.03	4.19	4.73	5.20
	V	4.03	4.21	4.85	5.38
	U	4.03	4.21	4.89	5.49
	L	4.03	4.21	4.94	5.59
Tunisia	Pre-COVID	0.04	0.05	0.04	0.04
	V	0.04	0.05	0.05	0.05
	U	0.04	0.05	0.06	0.06
	L	0.04	0.05	0.07	0.07
Uganda	Pre-COVID	18.65	19.52	23.25	29.58
	V	18.65	19.36	24.04	30.49
	U	18.65	19.36	24.31	30.83
	L	18.65	19.36	24.21	30.70
Zambia	Pre-COVID	10.02	10.32	12.14	14.10

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Country	Scenario	2019	2020	2025	2030
	V	10.02	10.26	12.61	14.58
	U	10.02	10.26	12.88	14.89
	L	10.02	10.26	12.96	15.08
Zimbabwe	Pre-COVID	2.87	3.08	3.36	3.39
	V	2.87	3.61	3.81	3.97
	U	2.87	3.61	3.99	4.27
	L	2.87	3.61	4.10	4.61

Annex B: Progress Towards SDGs Under Different Scenarios

Goal	Indicators	Pre-COVID by 2030	V by 2030	U by 2030	L by 2030	Target Value
Goal 1: Poverty	Indicator 1.1.1b - Percentage of population below \$1.90 (2011\$ PPP) per day; Lognormal	33.47	35.39	36.11	37.08	3
Goal 2: Hunger	Indicator 2.1.1a - Percentage of undernourished population	12.98	13.65	14.02	14.49	3
	Indicator 2.2.2c - Severe Acute Malnutrition (weight for height <-3 SD) among children under 5	2.294	2.317	2.325	2.336	1
Goal 3: Health	Indicator 3.2.2 - Infant mortality rate in deaths per thousand new-born's	34.58	35.96	36.55	37.18	12
	Indicator 3.3.1a - HIV cases as percentage of population	1.461	1.461	1.461	1.461	0
	Indicator 3.3.1b - AIDS death rate as percentage of population	0.0319	0.0319	0.0319	0.0319	0
	Indicator 3.3.3 - Malaria death rate per thousand	0.3287	0.3488	0.3577	0.3688	0

Goal	Indicators	Pre-COVID by 2030	V by 2030	U by 2030	L by 2030	Target Value
	Indicator 3.7.1 - Contraception use as percentage of fertile women	41.53	40.62	40.24	39.81	97
Goal 4: Education	Indicator 4.1.1c - Primary education gross completion rate - Total	86.61	86.17	86.02	85.86	97
	Indicator 4.1.1e - Lower secondary education graduation rate - Total	53.96	53.04	52.65	52.24	97
	Indicator 4.1.1g - Upper secondary education graduation rate - Total	39.58	38.62	38.23	37.81	97
	Indicator 4.5.1i - Upper secondary education gross enrolment rate parity index (female/male)	0.9621	0.9597	0.9586	0.9571	1
	Indicator 4.5.1j - Upper secondary education graduation rate parity index (female/male)	1.009	1.005	1.004	1.002	1
	Indicator 4.5.1k - Years of education obtained by population 15+ parity index (female/male)	0.8551	0.854	0.8537	0.8532	1
	Goal 5: Water and Sanitation	Indicator 5.1.1 - Percentage of people with access to improved water	83.24	82.49	82.28	82.07
Indicator 5.2.1 - Percentage of people with access		50.04	48.15	47.6	47.04	98

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Goal	Indicators	Pre-COVID by 2030	V by 2030	U by 2030	L by 2030	Target Value
	to sanitation services - Improved					
	Indicator 5.3.1a - Percentage of people connected to wastewater collection system	21.63	21.4	21.33	21.27	98
	Indicator 5.3.1b - Percentage of people connected to wastewater treatment system	18.58	18.24	18.12	18.01	98
Goal 6: Energy	Indicator 6.1.1 - Percentage of population with access to electricity - Total	57.44	56.23	55.77	55.28	98
	Indicator 6.2.1 - Renewable energy as percentage of total final energy consumption	10.68	10.81	10.89	10.97	
Goal 7: Growth and Employment	Indicator 7.1.1 - Annual growth rate of real GDP per capita	1.926	1.811	1.645	1.561	
	Indicator 7.2.1 - Percentage of informal employment (non-agricultural)	56.54	57	57.12	57.3	
Goal 8: Infrastructure; Industrialization and Innovation	Indicator 8.1.1 - Percentage of rural people living within two km of an all weather road	54.64	54.28	54.14	53.98	
	Indicator 8.2.1a - Manufacturing value added as a % of GDP	18.87	18.72	18.66	18.57	
	Indicator 8.3.1 - Research and development	0.414	0.3995	0.3925	0.3861	

Goal	Indicators	Pre-COVID by 2030	V by 2030	U by 2030	L by 2030	Target Value
	spending as % of GDP					
	Indicator 8.c.1b - Connections per hundred people to mobile broadband technology	102	101.1	100.7	100.4	
Goal 9: Inequality	Indicator 9.4.1b - Labour share of GDP; comprising wages and social protection transfers as percentage of GDP	80.45	80.45	80.45	80.44	81
Goal 10: Cities and Settlements	Indicator 10.3.1a - Ratio of crop land to population; in hectares per million people	0.1705	0.1703	0.1702	0.1701	
Goal 11: Peace and Justice	Indicator 11.1.1a - Number of victims of intentional injuries per thousand	0.161	0.1621	0.1626	0.1631	
	Indicator 11.1.1b - Years of life lost to intentional injuries per thousand	8.005	8.073	8.103	8.137	
Goal 12: Global Partnership	Indicator 12.1.1a - Total government revenue as % of GDP	26.18	26.29	26.4	26.53	
	Indicator 12.1.1b - Household taxes as % of GDP	12.69	12.74	12.77	12.82	
	Indicator 12.1.1c - Firm taxes as % of GDP	2.6	2.621	2.632	2.641	
	Indicator 12.1.2 - Percentage of domestic budget funded by domestic taxes	98.46	99.74	100.4	101.2	

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Goal	Indicators	Pre-COVID by 2030	V by 2030	U by 2030	L by 2030	Target Value
	Indicator 12.2.1 - Net official development assistance as % of GDP (Sender is negative; Recipient is positive)	2.252	2.337	2.411	2.495	-0.7

The 2020 values in IFs for government for countries where data are available are listed in the table below and used for all three scenarios. The value for all other countries was set at an average of 1.1794. In the U scenario the additional social grants were interpolated to 1 in 2022. In the L scenario the additional social grants were interpolated to 1 in 2023

Annex C: Adjustments Made Within Ifs

Growth rate adjustments.

All adjustments are to gdpnext with GDP adjustment switch gdpadsw set to 0.

Adjustments made in V scenario for 2021 to moderate the aggressive upward bounce in growth rates in that year. The adjustments revert the 2021 forecast to the IMF Oct 2019 growth forecast within IFs:

- Algeria from 6.196 to 1.754
- Burundi from 4.205 to 0.50
- Chad from 6.10 to 4.815
- Cote d'Ivoire from 3.039 to 7.006
- Djibouti from 8.499 to 6.00
- Egypt from 2.789 to 5.955
- Equatorial Guinea from 2.289 to -5.261
- Eritrea from 5.901 to 4.03
- Ethiopia from 4.32 to 7.126
- Gambia from 6.501 to 5.60

- Ghana from 5.90 to 4.222
- Guinea from 7.60 to 5.99
- Guinea-Bissau from 3.005 to 5
- Lesotho from 5.142 to 3.68
- Liberia from 4.063 to 1.253
- Malawi from 2.50 to 5.5
- Mauritania from 4.20 to 5.851
- Mauritius from 5.90 to 3.93
- Morocco from 4.8 to 4.13
- Mozambique from 4.70 to 4
- Namibia from 3.20 to 2.433
- Niger from 8.103 to 5.594 also in 2022 from 11.9 to 5.83 to correct growth spike
- Rep of Congo from 3.40 to 1.92
- Rwanda from 6.70 to 8.20
- Sao Tome & Principe from 6.726 to 4.00 also in 2019 from 10.11 to 3.0855 to correct growth spike
- Senegal from 5.50 to 6.959
- Seychelles from 8.015 to 4.024
- South Africa from 3.9958 to 1.439
- South Sudan from -2.986 to 5.015
- Sudan from -3 to -1.065
- Swaziland from 4.929 to 0.638
- Tanzania from 4.60 to 5.99

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- Togo from 4.001 to 5.41
- Tunisia from 4.1 to 2.889
- Uganda from 4.40 to 6.142
- Angola from 2.6 to 2.874
- Mali from 4.1 to 4.9
- Sierra Leone from 4.002 to 4.782
- Nigeria from 2.4 to 2.516
- Cameroon from 4.1 to 4.511
- Chad from 6.1 to 4.815
- Kenya from 6.1 to 5.815
- DRC from 3.5 to 3.393

In the U scenario IFs interpolates growth rates from 2020 to 2021.

Country growth rates for U and L scenarios

	For U scenario			For L scenario			
	2020	2021	2022	2020	2021	2022	2023
Algeria	-5.20	-1.90	1.40	-5.20	-3.13	-1.07	1.00
Angola	-1.40	0.95	3.30	-1.40	0.43	2.27	4.10
Benin	4.50	5.60	6.70	4.50	5.23	5.97	6.70
Botswana	-5.40	-0.75	3.90	-5.40	-2.30	0.80	3.90
Burkina Faso	2.00	4.00	6.00	2.00	3.33	4.67	6.00
Burundi	-5.50	-2.50	0.50	-5.50	-3.50	-1.50	0.50
Cameroon	-1.20	1.90	5.00	-1.20	0.93	3.07	5.20
Cape Verde	-6.20	-0.60	5.00	-6.20	-2.47	1.27	5.00
Central AfR	1.00	3.00	5.00	1.00	2.33	3.67	5.00
Chad	-0.20	2.55	5.30	-0.20	1.23	2.67	4.10
Comoros	-1.20	1.15	3.50	-1.20	0.37	1.93	3.50

	For U scenario			For L scenario			
Congo, Democratic Republic of	-2.20	1.15	4.50	-2.20	-0.03	2.13	4.30
Congo, Republic of	-2.30	-1.15	0.00	-2.30	-1.10	0.10	1.30
Cote d'Ivoire	-3.30	1.70	6.70	-3.30	-0.03	3.23	6.50
Djibouti	1.00	3.50	6.00	1.00	2.67	4.33	6.00
Egypt	2.00	4.00	6.00	2.00	3.33	4.67	6.00
Equa Guinea	-5.50	-5.55	-5.60	-5.50	-4.73	-3.97	-3.20
Eritrea	0.10	3.65	7.20	0.10	1.63	3.17	4.70
Ethiopia	3.20	5.10	7.00	3.20	4.33	5.47	6.60
Gabon	-1.20	1.65	4.50	-1.20	0.70	2.60	4.50
Gambia	2.50	3.95	5.40	2.50	3.37	4.24	5.10
Ghana	1.50	3.05	4.60	1.50	2.67	3.83	5.00
Guinea	2.90	4.10	5.30	2.90	3.60	4.30	5.00
Guinea Bissau	-1.50	1.80	5.10	-1.50	0.73	2.97	5.20
Kenya	1.00	3.40	5.80	1.00	2.60	4.20	5.80
Lesotho	-5.20	-0.35	4.50	-5.20	-3.00	-0.80	1.40
Liberia	-2.50	-1.90	-1.30	-2.50	-1.84	-1.17	-0.50
Madagascar	0.40	2.65	4.90	0.40	1.87	3.33	4.80
Malawi	1.00	3.50	6.00	1.00	2.83	4.67	6.50
Mali	1.50	3.20	4.90	1.50	2.60	3.70	4.80
Mauritania	-2.00	3.60	9.20	-2.00	0.83	3.67	6.50
Mauritius	-6.80	-1.40	4.00	-6.80	-3.20	0.40	4.00
Morocco	-3.70	0.30	4.30	-3.70	-1.00	1.70	4.40
Mozambique	2.20	3.10	4.00	2.20	4.53	6.87	9.20
Namibia	-2.50	0.35	3.20	-2.50	-0.37	1.77	3.90
Niger	1.00	6.45	11.90	1.00	2.70	4.40	6.10
Nigeria	-3.40	-0.35	2.70	-3.40	-1.40	0.60	2.60
Rwanda	3.50	5.75	8.00	3.50	4.83	6.17	7.50
Sao Tome & Principe	3.52	4.02	4.51	3.52	3.84	4.17	4.50
Senegal	3.00	5.70	8.40	3.00	5.87	8.73	11.60
Seychelles	-10.80	-3.40	4.00	-10.80	-5.93	-1.07	3.80

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	For U scenario			For L scenario			
Sierra Leo	-2.30	1.15	4.60	-2.30	0.03	2.37	4.70
Somalia	-2.50	0.50	3.50	-2.50	-0.50	1.50	3.50
South Africa	-5.80	-2.00	1.80	-5.80	-3.27	-0.73	1.80
Sudan	-7.20	-3.50	0.20	-7.20	-4.47	-1.73	1.00
Sudan South	-7.20	-0.65	5.90	-7.20	-3.03	1.13	5.30
Swaziland	-4.90	-2.20	0.50	-4.90	-3.07	-1.23	0.60
Tanzania	2.00	4.15	6.30	2.00	3.50	5.00	6.50
Togo	1.00	3.20	5.40	1.00	2.47	3.93	5.40
Tunisia	-4.30	-0.25	3.80	-4.30	-1.57	1.17	3.90
Uganda	3.50	4.80	6.10	3.50	4.93	6.37	7.80
Zambia	-3.50	-0.95	1.60	-3.50	-1.83	-0.17	1.50
Zimbabwe	-7.40	-2.45	2.50	-7.40	-4.20	-1.00	2.20

Mortality:

Respiratory infections (hlmortm) were adjusted as follows for Africa (without Libya):

- V: 1.375 in 2020
- U: 2.030 in 2020 and interpolate to 1 over two years
- L: 2.69 in 2020 and interpolate to 1 over three years

Additional Social Grants:

The data for additional social grants is taken from IMF, Policy Responses to COVID, at <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

Country	2020 value
Algeria	1.0112
Chad	1.2
Egypt	1.001
Ethiopia	1.23
Kenya	1.018
Malawi	1.39
Mauritius	1.85
Nigeria	1.013

Country	2020 value
Senegal	1.05
South Africa	1.169
Sudan	1.8
Tunisia	1.045

On 23 March 2020, the United Nations Secretary-General called for a global ceasefire to fight the COVID-19 pandemic.

- African countries have largely taken a middle-of-the-road approach to prevention, maintaining some level of economic activity. Ghana, for example, opted for a partial lockdown for a limited period and enforced close monitoring of people's movements, providing sanitary facilities.
- African Countries with digitization actively employed digital technologies to shift to cashless transactions, for example, through the use of mobile money in East Africa, which has helped reduce the risk of the spread. In Ethiopia and
- UN "Solidarity Flights," led by WHO, the World Food Programme (WFP), the African Union and Africa CDC, are delivering urgently needed medical equipment to all African nations in the fight against COVID-19.

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