

# Impact of COVID-19 in Africa: A scenario analysis to 2030 (July 2020) Annex

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# Annex

Annex 1 Extreme poverty under different scenarios (millions) using US\$1.90

Country		2019	2020	2025	2030
Algeria	Pre-COVID	0.012	0.014	0.017	0.010
	V	0.012	0.012	0.027	0.016
	U	0.012	0.012	0.034	0.019
	L	0.012	0.012	0.044	0.022
Angola	Pre-COVID	12.500	12.980	15.940	16.600
	V	12.500	13.190	16.250	17.090
	U	12.500	13.190	16.660	17.550
	L	12.500	13.190	16.940	17.890
Benin	Pre-COVID	5.717	5.860	6.441	7.037
	V	5.718	5.896	6.574	7.207
	U	5.718	5.896	6.594	7.231
	L	5.718	5.896	6.617	7.291
Botswana	Pre-COVID	0.267	0.261	0.211	0.177
	V	0.267	0.241	0.237	0.203

	U	0.267	0.241	0.270	0.228
	L	0.267	0.241	0.281	0.247
Burkina Faso	Pre-COVID	7.971	7.951	7.379	7.864
	V	7.971	8.051	7.674	8.281
	U	7.971	8.051	7.788	8.474
	L	7.971	8.051	7.885	8.662
Burundi	Pre-COVID	7.999	8.204	9.713	10.910
	V	8.000	8.529	9.939	11.040
	U	8.000	8.529	9.968	11.120
	L	8.000	8.529	10.010	11.200
Cameroon	Pre-COVID	5.914	6.002	6.315	6.596
	V	5.914	6.097	6.814	7.269
	Pre-COVID       7.971       7.951         V       7.971       8.051         U       7.971       8.051         L       7.971       8.051         Pre-COVID       7.999       8.204         V       8.000       8.529         U       8.000       8.529         L       8.000       8.529         Pre-COVID       5.914       6.002	6.097	7.051	7.615	
	L	5.914	6.097	7.285	7.974
Cape Verde	Pre-COVID	0.038	0.039	0.031	0.031
	V	0.038	0.036	0.038	0.039
	U	0.038	0.036	0.039	0.044
	L	0.038	0.036	0.040	0.052
CAR	Pre-COVID	3.197	3.227	3.429	3.959

	V	3.197	3.264	3.511	4.085
	U	3.197	3.264	3.522	4.103
	L	3.197	3.264	3.544	4.137
Chad	Pre-COVID	6.568	6.892	7.649	9.024
	V	6.567	6.875	7.760	9.665
	U	6.567	6.875	8.053	9.840
	L	6.567	6.875	8.539	10.130
Comoros	Pre-COVID	0.167	0.170	0.198	0.213
	V	0.167	0.183	0.206	0.213
	U	0.167	0.183	0.210	0.218
	L	3.197 3.264 3.544  2.	0.215	0.225	
DR Congo	Pre-COVID	63.230	64.780	74.780	84.010
	V	3.197       3.264       3.544         6.568       6.892       7.649         6.567       6.875       7.760         6.567       6.875       8.053         6.567       6.875       8.539         0.167       0.170       0.198         0.167       0.183       0.206         0.167       0.183       0.215         63.230       64.780       74.78         63.250       65.490       77.36         63.250       65.490       77.97         63.250       65.490       78.57         2.018       2.055       2.433         2.018       2.030       2.556         2.018       2.030       2.634	77.360	88.850	
	U	63.250	65.490	77.970	90.250
	L	63.250	65.490	78.570	92.300
Rep of Congo	Pre-COVID	2.018	2.055	2.433	2.839
	V	2.018	2.030	2.556	3.027
	U	2.018	2.030	2.634	3.115
	L	2.018	2.030	2.629	3.106

Côte d'Ivoire	Pre-COVID	5.665	5.739	4.855	4.321
	V	5.662	5.819	5.514	5.368
	U	5.662	5.819	6.012	5.858
	L	5.662	5.819	6.453	6.351
Djibouti	Pre-COVID	0.165	0.176	0.255	0.267
	V	0.165	0.189	0.265	0.287
	U	0.165	0.189	0.268	0.297
	L	0.165	0.189	0.270	0.307
Egypt	Pre-COVID	1.164	1.135	0.840	0.940
	V	1.164	1.188	1.103	1.255
	U	1.164	1.188	1.027	1.173
	L	5.662       5.819       6.012         5.662       5.819       6.453         ID       0.165       0.176       0.255         0.165       0.189       0.265         0.165       0.189       0.268         0.165       0.189       0.270         ID       1.164       1.135       0.840         1.164       1.188       1.103         1.164       1.188       1.027         1.164       1.188       1.110         ID       0.000       0.000       0.000         0.000       0.000       0.000       0.000         0.000       0.000       0.000       0.000         0.000       0.000       0.000       0.000	1.249		
Egypt  Equatorial Guinea	Pre-COVID	0.000	0.000	0.000	0.000
	V	0.000	0.000	0.000	0.000
	U	0.000	0.000	0.000	0.000
	L	0.000	0.000	0.000	0.000
Eritrea	Pre-COVID	1.595	1.642	1.561	1.697
	V	1.597	1.674	1.599	1.791
	U	1.597	1.674	1.608	1.798

	L	1.597	1.674	1.743	1.902
Ethiopia	Pre-COVID	26.670	25.880	26.420	24.660
	V	26.670	25.740	27.870	26.430
	U	26.670	25.860	28.530	27.270
	L	26.670       25.740       27.870         26.670       25.860       28.530         26.670       25.740       29.060         0.047       0.036       0.015         0.047       0.029       0.017         0.047       0.029       0.018         0.047       0.029       0.019         0.242       0.245       0.226         0.242       0.260       0.243         0.242       0.260       0.253         0.242       0.260       0.262         2.853       2.793       2.767         2.852       2.704       3.007         2.852       2.704       3.091         2.852       2.704       3.161         4.055       4.541       4.582	28.160		
Gabon	Pre-COVID	0.047	0.036	0.015	0.010
	V	0.047	0.029	0.017	0.012
	U	0.047	0.029	0.018	0.013
	L	0.047	0.029	0.019	0.014
Gambia	Pre-COVID	0.242	0.245	0.226	0.203
	V	0.242	0.260	0.243	0.230
	U	0.242	0.260	0.253	0.244
	L	26.670       25.740       27.870         26.670       25.860       28.530         26.670       25.740       29.060         0.047       0.036       0.015         0.047       0.029       0.017         0.047       0.029       0.018         0.047       0.029       0.019         0.242       0.245       0.226         0.242       0.260       0.243         0.242       0.260       0.253         0.242       0.260       0.262         2.853       2.793       2.767         2.852       2.704       3.007         2.852       2.704       3.091         2.852       2.704       3.161         4.055       4.541       4.582	0.257		
Ghana	Pre-COVID	2.853	2.793	2.767	2.860
	V	2.852	2.704	3.007	3.101
	U	2.852	2.704	3.091	3.203
	L	2.852	2.704	3.161	3.290
Guinea	Pre-COVID	4.055	4.541	4.582	4.538
	V	4.055	4.659	4.854	4.845

	U	4.055	4.659	5.021	5.065
	L	4.055	4.659	4.822	5.123
Guinea-Bissau	Pre-COVID	1.227	1.228	1.236	1.300
	V	1.227	1.245	1.280	1.371
	U	1.227	1.245	1.299	1.401
	L	1.227	1.245	1.316	1.429
Kenya	Pre-COVID	18.010	18.200	17.830	18.400
	V	18.000	18.510	19.040	19.860
	U	18.000	18.510	19.560	20.570
	L	18.000	18.510	20.030	21.200
Lesotho	Pre-COVID	1.269	1.306	1.447	1.471
	V	1.269	1.319	1.430	1.500
Lesotho	U	1.269	1.319	1.439	1.518
	L	1.269	1.319	1.456	1.557
Liberia	Pre-COVID	2.387	2.426	3.344	4.430
	V	2.386	2.543	3.318	4.519
	U	2.386	2.543	3.427	4.563
	L	2.386	2.543	3.422	4.544
Madagascar	Pre-COVID	19.990	20.380	22.230	25.600

	V	19.990	20.530	22.650	26.410
	U	19.990	20.530	22.910	26.840
	L	19.990	20.530	23.110	27.210
Malawi	Pre-COVID	12.400	12.390	13.250	13.760
	V	12.400	12.500	13.590	14.150
	U	12.400	12.500	13.440	14.110
	L	12.400	12.500	13.530	14.270
Mali	Pre-COVID	9.438	9.632	10.950	13.480
	V	9.437	9.795	11.330	14.010
	U	9.437	9.795	11.480	14.290
	L	9.437	9.795	11.590	14.550
Mauritania	Pre-COVID	0.271	0.285	0.435	0.323
	V	19.990       20.530       23.         D       12.400       12.390       13.         12.400       12.500       13.         12.400       12.500       13.         12.400       12.500       13.         D       9.438       9.632       10.         9.437       9.795       11.         9.437       9.795       11.         9.437       9.795       11.         0.271       0.285       0.4         0.271       0.282       0.4         0.271       0.282       0.4         0.271       0.282       0.5         D       0.000       0.000       0.00         0.000       0.001       0.0         0.000       0.001       0.0	0.457	0.427	
	U	0.271	0.282	0.495	0.467
	L	0.271	0.282	0.556	0.671
Mauritius	Pre-COVID	0.000	0.000	0.000	0.000
	V	0.000	0.001	0.000	0.000
	U	0.000	0.001	0.000	0.000
	L	0.000	0.001	0.000	0.000

Morocco	Pre-COVID	0.075	0.075	0.051	0.039
	V	0.075	0.055	0.067	0.049
	U	0.075	0.055	0.074	0.056
	L	0.075	0.055	0.079	0.063
Mozambique	Pre-COVID	18.890	19.460	22.230	25.180
	V	18.880	19.660	22.060	26.090
	U	18.880	19.660	22.170	26.290
	L	18.880	19.660	21.810	25.580
Namibia	Pre-COVID	0.402	0.444	0.537	0.537
	V	0.402	0.416	0.558	0.565
	U	0.402	0.416	0.569	0.580
	L	0.075 0.055 0.074  0.075 0.055 0.079  18.890 19.460 22.230  18.880 19.660 22.170  18.880 19.660 21.810  COVID 0.402 0.414 0.537  0.402 0.416 0.558  0.402 0.416 0.569  0.402 0.416 0.585  COVID 10.110 10.540 11.800  10.110 10.860 12.280  10.110 10.860 13.720	0.595		
Niger	Pre-COVID	10.110	10.540	11.800	14.260
	V	10.110	10.860	13.280	17.510
	U	10.110	10.860	12.280	15.640
	L	10.110	10.860	13.720	18.620
Nigeria	Pre-COVID	107.900	110.500	125.800	137.600
	V	107.900	118.700	132.000	147.900
	U	107.900	118.700	135.200	152.600

	L	107.900	118.700	137.800	158.400
Rwanda	Pre-COVID	6.004	5.925	5.559	5.547
	V	6.003	5.949	5.819	5.910
	U	6.003	5.949	5.932	6.110
	L	6.003	5.949	6.037	6.325
São Tomé and Príncipe	Pre-COVID	0.069	0.071	0.083	0.092
	V	0.075	0.080	0.093	0.108
	U	0.069	0.070	0.086	0.089
	L	0.075	0.080	0.094	0.109
Senegal	Pre-COVID	5.406	5.480	4.741	4.086
	V	5.405	5.542	4.928	4.327
	U	5.405	5.542	5.015	4.423
	L	6.003       5.949       5.819         6.003       5.949       5.932         6.003       5.949       6.037         0.069       0.071       0.083         0.075       0.080       0.093         0.075       0.080       0.094         5.406       5.480       4.741         5.405       5.542       4.928         5.405       5.542       5.015         5.405       5.542       4.978         0.000       0.000       0.000         0.000       0.000       0.000         0.000       0.000       0.000         0.000       0.000       0.000	4.377		
Seychelles	Pre-COVID	0.000	0.000	0.000	0.000
	V	0.000	0.000	0.000	0.000
	U	0.000	0.000	0.000	0.000
	L	0.000	0.000	0.000	0.000
Sierra Leone	Pre-COVID	3.901	3.979	4.725	5.893
	V	3.901	4.323	5.093	6.319

	U	3.901	4.323	5.199	6.585
	L	3.901	4.323	5.182	7.054
Somalia	Pre-COVID	8.563	8.672	9.325	10.470
	V	8.565	9.195	9.541	11.170
	U	8.565	9.195	9.671	11.170
	L	8.565	9.195	9.883	11.180
South Africa	Pre-COVID	11.400	11.570	11.750	11.580
	V	11.400	11.700	12.980	12.510
	U	11.400	11.700	14.210	13.690
	L	11.400	11.700	15.260	14.710
Sudan	Pre-COVID	5.697	6.066	7.002	7.264
	V	5.693	6.932	7.752	8.328
	U	5.693	6.932	8.089	8.817
	L	5.693	6.932	8.466	9.441
South Sudan	Pre-COVID	6.294	5.819	4.157	3.222
	V	6.300	6.571	5.166	4.044
	U	6.300	6.571	5.475	4.491
	L	6.300	6.571	5.765	4.997
Eswatini	Pre-COVID	0.547	0.535	0.587	0.686

	V	0.547	0.529	0.617	0.728
	U	0.547	0.529	0.630	0.701
	L	0.547	0.529	0.618	0.689
Tanzania	Pre-COVID	25.180	25.140	23.940	23.320
	V	25.180	25.190	25.000	24.680
	U	25.180	25.190	25.550	25.490
	L	25.180	25.190	25.980	26.290
Togo	Pre-COVID	4.033	4.186	4.733	5.198
	V	4.033	4.209	4.849	5.384
	U	4.033	4.209	4.887	5.493
	L	4.033	4.209	4.935	5.590
Tunisia	Pre-COVID	0.043	0.047	0.040	0.037
	V	0.547 0.529 0.618  10 25.180 25.140 23.940  25.180 25.190 25.000  25.180 25.190 25.550  25.180 25.190 25.980  10 4.033 4.186 4.733  4.033 4.209 4.849  4.033 4.209 4.887  4.033 4.209 4.935  10 0.043 0.047 0.040  10 0.043 0.049 0.052  10 0.043 0.049 0.059  10 0.043 0.049 0.070	0.052	0.051	
	U		0.059	0.060	
	L	0.043	0.049	0.070	0.071
Uganda	Pre-COVID	18.650	19.520	23.250	29.580
	V	18.650	19.360	24.040	30.510
	U	18.650	19.360	24.310	30.840
	L	18.650	19.360	24.200	30.720

Zambia	Pre-COVID	10.020	10.320	12.140	14.100
	V	10.020	10.260	12.610	14.580
	U	10.020	10.260	12.880	14.900
	L	10.020	10.260	12.960	15.080
Zimbabwe	Pre-COVID	2.872	3.077	3.359	3.393
	V	2.871	3.613	3.811	3.979
	U	2.871	3.613	3.988	4.273
	L	2.871	3.613	4.104	4.615

# Annex B Progress towards SDGs under different scenarios

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	33.5	35.39	36.13	37.15	3
Goal 2: HUNGER					
Indicator 2.1.1a -	12.99	13.64	14.02	14.5	3

Percentage of undernourished population					
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 newborns	34.59	35.96	36.55	37.21	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	0.3291	0.3487	0.3574	0.3682	0
Indicator 3.7.1 - Contraception use as percentage of fertile women	41.52	40.62	40.23	39.79	97
Goal 4: EDUCATION					

Indicator 4.1.1c - Primary education gross completion rate - Total	86.6	86.16	85.99	85.8	97
Indicator 4.1.1e - Lower secondary education graduation rate - Total	53.95	53.04	52.65	52.23	97
Indicator 4.1.1g - Upper secondary education graduation rate - Total	39.57	38.62	38.23	37.8	97
Indicator 4.5.1i - Upper secondary education gross enrolment rate parity index (female/male)	0.9621	0.9597	0.9586	0.957	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	0.8536	0.8531	1
Goal 6: WATER AND SANITATION					
Indicator 6.1.1 -	83.2	82.5	82.3	82.1	98

Percentage of people with access to improved water					
Indicator 6.2.1 - Percentage of people with access to sanitation services - Improved	50.0	48.2	47.6	47.1	98
Indicator 6.3.1a - Percentage of people connected to wastewater collection system	21.6	21.4	21.3	21.3	98
Indicator 6.3.1b - Percentage of people connected to wastewater treatment system	18.58	18.24	18.12	18	98
Goal 7: ENERGY					
Indicator 7.1.1 - Percentage of population with access to electricity - Total	57.4	56.2	55.8	55.2	98
Indicator 7.2.1 - Renewable energy as percentage of total final energy consumption	10.7	10.8	10.9	11.0	
Goal 8: GROWTH AND					

EMPLOYMENT					
Indicator 8.1.1 - Annual growth rate of real GDP per capita	1.925	1.813	1.65	1.568	
Indicator 8.3.1 - Percentage of informal employment (non-agricultural)	56.6	57.0	57.1	57.3	
Goal 9: INFRASTRUCTURE; INDUSTRIALIZATIO AND INNOVATION					
Indicator 9.2.1a - Manufacturing value added as a % of GDP	18.9	18.7	18.7	18.6	
Indicator 9.5.1 - Research and development spending as % of GDP	0.4	0.4	0.4	0.4	
Indicator 9.c.1b - Connections per hundred people to mobile broadband technology	101.9	101.1	100.7	100.4	
Goal 10: INEQUALITY					
Indicator 10.4.1b - Labour share of GDP; comprising wages and social protection	80.45	80.45	80.45	80.45	81

transfers as percentage of GDP					
Goal 16: PEACE AND JUSTICE					
Indicator 16.1.1a - Number of victims of intentional injuries per thousand	0.161	0.1621	0.1626	0.1632	
Indicator 16.1.1b - Years of life lost to intentional injuries per thousand	8.006	8.073	8.103	8.138	
Goal 17: GLOBAL PARTNERSHIP					
Indicator 17.1.1a - Total government revenue as % of GDP	26.2	26.3	26.4	26.5	
Indicator 17.1.1b - Household taxes as % of GDP	12.7	12.7	12.8	12.8	
Indicator 17.1.1c - Firm taxes as % of GDP	2.6	2.6	2.6	2.6	
Indicator 17.1.2 - Percentage of domestic budget funded by domestic taxes	98.5	99.7	100.3	101.1	

#### Annex C

Adjustments made within IFs

Growth rate adjustments

The 2020 and 2021 growth rates for the following countries were adjusted to the June 2020 update from the IMF Selected Economies Real GDP Growth

- Egypt 2.0 in 2020 and 2021
- Nigeria -5.4 in 2020 and 2.6 in 2021
- South Africa -8.0 in 2020 and 3.5 in 2021

All adjustments are to gdprext 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 October 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
- Côte d'Ivoire from 3.039 to 7.006
- Djibouti from 8.499 to 6.00
- 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
- Republic of Congo from 3.40 to 1.92
- Rwanda from 6.70 to 8.20
- São Tomé and Príncipe 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 Sudan from -2.986 to 5.015
- Sudan from -3 to -1.065
- Eswatini from 4.929 to 0.638
- Tanzania from 4.60 to 5.99
- 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
- Cameroon from 4.1 to 4.511
- Chad from 6.1 to 4.815

- Kenya from 6.1 to 5.815
- DR Congo 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 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
CAR	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
DR Congo	-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

Côte 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
Equatorial 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	-5.40	-1.35	2.70	-5.40	-2.73	-0.07	2.60
Rwanda	3.50	5.75	8.00	3.50	4.83	6.17	7.50
São Tomé and Príncipe	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
Sierra Leone	-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	-8.00	-3.10	1.80	-8.00	-4.73	-1.47	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
Eswatini	-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: 2.039 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-19, at www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19.

The 2020 values in IFs for govhhtrmwelm for countries where data is 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.

	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
Senegal	1.05
South Africa	1.169
Sudan	1.8
Tunisia	1.045

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Dr Jakkie Cilliers is the ISS's founder and former executive director of the ISS. He currently serves as chair of the ISS Board of Trustees and head of the African Futures and Innovation (AFI) programme at the Pretoria oce of the ISS. His 2017 best-seller Fate of the Nation addresses South Africa's futures from political, economic and social perspectives. His three most recent books, Africa First! Igniting a Growth Revolution (March 2020), The Future of Africa: Challenges and Opportunities (April 2021), and Africa Tomorrow: Pathways to Prosperity (June 2022) take a rigorous look at the continent as a whole.

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Scenarios and forecasting can help Africa identify and respond to opportunities and threats. The work of the African Futures & Innovation (AFI) program at the Institute for Security Studies aims to understand and address a widening gap between indices of wellbeing in Africa and elsewhere in the world. The AFI helps stakeholders understand likely future developments. Research findings and their policy implications are widely disseminated, often in collaboration with in-country partners. Forecasting tools inspire debate and provide insights into possible trajectories that inform planning, prioritisation and effective resource allocation. Africa's future depends on today's choices and actions by governments and their non-governmental and international partners. The AFI provides empirical data that informs short- and medium-term decisions with long-term implications. The AFI enhances Africa's capacity to prepare for and respond to future challenges. The program is headed by Dr Jakkie Cilliers.

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