

**Supplementary Table 1:** Five-year Population data for females aged 15 and above in sub-Saharan Africa from 1990-2019

	Location	1990 No x 10 <sup>6</sup> (95% UI)	1995 No x 10 <sup>6</sup> (95% UI)	2000 No x 10 <sup>6</sup> (95% UI)	2005 No x 10 <sup>6</sup> (95% UI)	2010 No x 10 <sup>6</sup> (95% UI)	2015 No x 10 <sup>6</sup> (95% UI)	2019 No x 10 <sup>6</sup> (95% UI)
1.	<b>Sub-Saharan Africa</b>	136.01 (132.85 - 139.23)	157.44 (153.37 - 161.42)	182.94 (177.73 - 188.06)	211.14 (205.75 - 216.51)	244.03 (236.90 - 251.07)	283.37 (274.47 - 292.14)	321.43 (308.98 - 333.36)
2.	<b>Central Sub-Saharan Africa</b>	15.19 (13.96 - 16.34)	17.57 (15.85 - 19.27)	20.45 (18.11 - 22.81)	24.00 (20.81 - 26.95)	28.20 (23.83 - 32.66)	33.11 (27.45 - 38.50)	37.84 (30.29 - 44.92)
3.	Angola	2.75 (2.24 - 3.31)	3.32 (2.68 - 3.97)	4.03 (3.45 - 4.63)	4.96 (4.37 - 5.55)	6.05 (5.49 - 6.69)	7.32 (6.77 - 7.86)	8.50 (7.63 - 9.35)
4.	Central African Republic	0.79 (0.73 - 0.86)	0.90 (0.80 - 1.01)	1.02 (0.94 - 1.11)	1.16 (1.07 - 1.25)	1.33 (1.19 - 1.47)	1.43 (1.23 - 1.65)	1.59 (1.34 - 1.86)
5.	Congo	0.70 (0.62 - 0.77)	0.82 (0.71 - 0.93)	0.96 (0.85 - 1.05)	1.12 (1.03 - 1.22)	1.29 (1.19 - 1.40)	1.48 (1.32 - 1.67)	1.66 (1.42 - 1.90)
6.	Democratic Republic of the Congo	10.54 (9.46 - 11.65)	12.05 (10.44 - 13.79)	13.87 (11.58 - 16.28)	16.09 (12.96 - 19.10)	18.76 (14.31 - 23.34)	21.98 (16.38 - 27.27)	25.07 (17.66 - 32.20)
7.	Equatorial Guinea	0.12 (0.11 - 0.14)	0.15 (0.13 - 0.17)	0.18 (0.15 - 0.21)	0.23 (0.20 - 0.26)	0.28 (0.25 - 0.31)	0.34 (0.32 - 0.37)	0.40 (0.36 - 0.44)
8.	Gabon	0.29 (0.27 - 0.32)	0.33 (0.31 - 0.36)	0.38 (0.33 - 0.42)	0.43 (0.38 - 0.48)	0.49 (0.44 - 0.53)	0.55 (0.51 - 0.60)	0.61 (0.55 - 0.68)
9.	<b>Eastern Sub-Saharan Africa</b>	51.32 (49.71 - 52.97)	59.00 (57.16 - 60.86)	68.31 (65.96 - 70.65)	78.40 (75.78 - 80.84)	90.70 (87.70 - 93.42)	105.78 (101.37 - 110.10)	120.35 (114.25 - 126.18)
10.	Burundi	1.54 (1.44 - 1.64)	1.58 (1.41 - 1.72)	1.71 (1.53 - 1.91)	2.02 (1.85 - 2.18)	2.46 (2.27 - 2.66)	2.82 (2.50 - 3.15)	3.28 (2.83 - 3.72)
11.	Comoros	0.13 (0.12 - 0.14)	0.15 (0.14 - 0.16)	0.16 (0.15 - 0.18)	0.18 (0.17 - 0.20)	0.20 (0.18 - 0.23)	0.22 (0.19 - 0.26)	0.24 (0.20 - 0.28)
12.	Djibouti	0.12 (0.11 - 0.13)	0.14 (0.12 - 0.16)	0.18 (0.15 - 0.20)	0.22 (0.20 - 0.24)	0.27 (0.25 - 0.29)	0.33 (0.29 - 0.36)	0.37 (0.32 - 0.42)
13.	Eritrea	0.81 (0.72 - 0.90)	0.97 (0.85 - 1.10)	1.12 (0.95 - 1.31)	1.37 (1.11 - 1.66)	1.60 (1.21 - 1.98)	1.81 (1.33 - 2.29)	2.04 (1.45 - 2.61)
14.	Ethiopia	13.58 (12.33 - 14.81)	15.84 (14.68 - 17.03)	17.97 (16.22 - 19.81)	20.17 (18.57 - 21.78)	23.20 (21.20 - 25.11)	27.20 (23.93 - 30.33)	30.81 (26.36 - 35.16)
15.	Kenya	6.11 (5.68 - 6.56)	7.35 (6.69 - 8.00)	8.76 (8.10 - 9.40)	10.22 (9.31 - 11.18)	11.84 (10.94 - 12.74)	13.86 (12.31 - 15.23)	15.74 (13.68 - 17.79)
16.	Madagascar	3.26 (2.97 - 3.54)	3.77 (3.48 - 4.08)	4.37 (3.93 - 4.83)	5.09 (4.38 - 5.77)	5.97 (4.92 - 7.02)	7.01 (5.46 - 8.48)	7.96 (6.07 - 9.79)
17.	Malawi	2.66 (2.43 - 2.87)	2.77 (2.54 - 3.01)	3.12 (2.86 - 3.35)	3.49 (3.17 - 3.81)	4.00 (3.67 - 4.32)	4.74 (4.33 - 5.14)	5.51 (5.12 - 5.90)
18.	Mozambique	3.78 (3.35 - 4.22)	4.54 (4.18 - 4.91)	5.09 (4.64 - 5.54)	5.68 (5.23 - 6.11)	6.44 (5.90 - 7.03)	7.42 (6.84 - 8.04)	8.43 (7.73 - 9.08)
19.	Rwanda	1.97 (1.83 - 2.13)	1.68 (1.53 - 1.84)	2.35 (2.15 - 2.55)	2.78 (2.53 - 3.01)	3.16 (2.92 - 3.42)	3.63 (3.33 - 3.94)	4.10 (3.66 - 4.55)
20.	Somalia	1.84 (1.68 - 2.00)	2.25 (1.99 - 2.50)	2.77 (2.33 - 3.18)	3.28 (2.66 - 3.89)	3.79 (2.94 - 4.56)	4.56 (3.43 - 5.61)	5.36 (4.01 - 6.78)
21.	South Sudan	1.51 (1.33 - 1.68)	1.68 (1.45 - 1.92)	1.89 (1.67 - 2.11)	2.16 (1.96 - 2.35)	2.47 (2.26 - 2.67)	2.50 (2.21 - 2.77)	2.62 (2.27 - 3.00)
22.	United Republic of Tanzania	7.26 (6.66 - 7.85)	8.50 (7.63 - 9.41)	9.80 (9.00 - 10.61)	11.18 (10.26 - 12.21)	12.81 (11.87 - 13.76)	14.89 (13.68 - 16.21)	16.89 (15.03 - 18.82)
23.	Uganda	4.58 (4.25 - 4.93)	5.34 (4.83 - 5.82)	6.30 (5.76 - 6.83)	7.42 (6.79 - 8.04)	8.66 (7.84 - 9.44)	10.12 (9.41 - 10.85)	11.54 (10.40 - 12.62)
24.	Zambia	2.15 (2.00 - 2.30)	2.41 (2.17 - 2.66)	2.66 (2.47 - 2.85)	3.08 (2.78 - 3.39)	3.75 (3.52 - 3.99)	4.58 (4.14 - 5.02)	5.35 (4.66 - 6.00)

25.	<b>Southern Sub-Saharan Africa</b>	16.85 (15.55 - 18.13)	19.35 (18.27 - 20.38)	21.81 (20.54 - 23.02)	23.74 (22.07 - 25.38)	25.31 (23.95 - 26.72)	27.02 (25.14 - 28.96)	28.51 (26.02 - 31.18)
26.	Botswana	0.39 (0.36 - 0.42)	0.47 (0.43 - 0.52)	0.55 (0.51 - 0.59)	0.61 (0.55 - 0.67)	0.69 (0.64 - 0.74)	0.77 (0.70 - 0.85)	0.84 (0.75 - 0.94)
27.	Eswatini	0.23 (0.21 - 0.25)	0.27 (0.25 - 0.29)	0.31 (0.28 - 0.34)	0.33 (0.31 - 0.36)	0.35 (0.32 - 0.38)	0.37 (0.34 - 0.40)	0.39 (0.36 - 0.42)
28.	Lesotho	0.55 (0.50 - 0.59)	0.60 (0.55 - 0.64)	0.64 (0.58 - 0.71)	0.65 (0.60 - 0.70)	0.67 (0.61 - 0.73)	0.70 (0.64 - 0.75)	0.73 (0.67 - 0.79)
29.	Namibia	0.42 (0.39 - 0.46)	0.50 (0.45 - 0.55)	0.57 (0.53 - 0.61)	0.63 (0.57 - 0.69)	0.69 (0.64 - 0.75)	0.76 (0.69 - 0.83)	0.82 (0.72 - 0.92)
30.	South Africa	12.40 (11.11 - 13.72)	14.19 (13.11 - 15.18)	16.10 (14.82 - 17.30)	17.69 (15.98 - 19.33)	18.87 (17.53 - 20.23)	19.98 (18.11 - 21.92)	20.91 (18.50 - 23.60)
31.	Zimbabwe	2.86 (2.63 - 3.08)	3.32 (3.03 - 3.58)	3.64 (3.36 - 3.91)	3.82 (3.48 - 4.15)	4.03 (3.72 - 4.35)	4.43 (4.05 - 4.78)	4.82 (4.28 - 5.35)
32.	<b>Western Sub-Saharan Africa</b>	52.64 (50.54 - 54.61)	61.52 (58.49 - 64.37)	72.38 (68.76 - 76.00)	85.00 (81.76 - 88.20)	99.82 (95.32 - 104.25)	117.47 (112.77 - 122.21)	134.74 (127.44 - 141.39)
33.	Benin	1.32 (1.21 - 1.42)	1.56 (1.43 - 1.70)	1.86 (1.71 - 2.01)	2.20 (2.02 - 2.38)	2.61 (2.38 - 2.84)	3.12 (2.87 - 3.36)	3.59 (3.21 - 3.96)
34.	Burkina Faso	2.63 (2.37 - 2.89)	2.95 (2.73 - 3.17)	3.41 (3.09 - 3.76)	4.04 (3.75 - 4.32)	4.80 (4.35 - 5.25)	5.70 (4.99 - 6.45)	6.54 (5.59 - 7.55)
35.	Cameroon	2.90 (2.65 - 3.16)	3.48 (3.09 - 3.93)	4.26 (3.86 - 4.66)	5.20 (4.87 - 5.54)	6.27 (5.62 - 6.89)	7.51 (6.57 - 8.47)	8.68 (7.39 - 10.03)
36.	Cabo Verde	0.11 (0.10 - 0.12)	0.12 (0.11 - 0.13)	0.14 (0.13 - 0.15)	0.16 (0.14 - 0.17)	0.17 (0.16 - 0.19)	0.19 (0.17 - 0.21)	0.20 (0.18 - 0.23)
37.	Chad	1.64 (1.50 - 1.79)	1.89 (1.74 - 2.03)	2.18 (1.94 - 2.43)	2.53 (2.29 - 2.79)	2.97 (2.75 - 3.19)	3.55 (3.17 - 3.91)	4.14 (3.62 - 4.72)
38.	Côte d'Ivoire	3.16 (2.90 - 3.42)	3.92 (3.58 - 4.25)	4.71 (4.35 - 5.07)	5.40 (4.73 - 6.01)	6.06 (5.50 - 6.58)	6.79 (6.34 - 7.29)	7.49 (6.75 - 8.26)
39.	Gambia	0.26 (0.24 - 0.28)	0.32 (0.29 - 0.35)	0.38 (0.35 - 0.41)	0.44 (0.41 - 0.48)	0.51 (0.47 - 0.56)	0.60 (0.55 - 0.65)	0.68 (0.62 - 0.75)
40.	Ghana	4.26 (3.80 - 4.71)	4.93 (4.43 - 5.41)	5.72 (5.32 - 6.08)	6.73 (6.11 - 7.38)	8.02 (7.48 - 8.56)	9.46 (8.49 - 10.41)	10.67 (9.29 - 11.91)
41.	Guinea	1.77 (1.58 - 1.96)	2.05 (1.89 - 2.21)	2.27 (2.07 - 2.46)	2.55 (2.23 - 2.86)	2.90 (2.63 - 3.19)	3.31 (3.07 - 3.55)	3.70 (3.32 - 4.08)
42.	Guinea-Bissau	0.28 (0.26 - 0.30)	0.31 (0.29 - 0.34)	0.35 (0.31 - 0.40)	0.40 (0.37 - 0.44)	0.46 (0.43 - 0.49)	0.52 (0.47 - 0.58)	0.58 (0.51 - 0.66)
43.	Liberia	0.55 (0.49 - 0.61)	0.63 (0.54 - 0.71)	0.82 (0.73 - 0.92)	0.92 (0.84 - 0.99)	1.16 (1.06 - 1.26)	1.30 (1.17 - 1.45)	1.46 (1.26 - 1.65)
44.	Mali	2.38 (2.18 - 2.60)	2.62 (2.40 - 2.84)	3.00 (2.76 - 3.25)	3.52 (3.17 - 3.83)	4.22 (3.89 - 4.55)	5.07 (4.57 - 5.61)	5.94 (5.18 - 6.74)
45.	Mauritania	0.58 (0.54 - 0.63)	0.66 (0.60 - 0.73)	0.75 (0.70 - 0.81)	0.86 (0.78 - 0.94)	0.97 (0.89 - 1.06)	1.11 (1.02 - 1.19)	1.24 (1.10 - 1.37)
46.	Niger	2.03 (1.86 - 2.18)	2.43 (2.18 - 2.69)	2.92 (2.70 - 3.14)	3.43 (3.14 - 3.72)	4.08 (3.75 - 4.39)	4.92 (4.46 - 5.39)	5.80 (5.18 - 6.46)
47.	Nigeria	24.59 (22.71 - 26.41)	28.85 (25.91 - 31.61)	33.99 (30.63 - 37.41)	40.00 (37.05 - 42.92)	47.05 (42.98 - 51.23)	55.66 (51.46 - 60.16)	64.33 (57.84 - 70.85)
48.	Sao Tome and Principe	0.03 (0.03 - 0.04)	0.04 (0.03 - 0.04)	0.04 (0.04 - 0.04)	0.05 (0.04 - 0.05)	0.05 (0.05 - 0.06)	0.06 (0.05 - 0.06)	0.07 (0.06 - 0.07)
49.	Senegal	2.07 (1.91 - 2.24)	2.44 (2.16 - 2.73)	2.86 (2.64 - 3.07)	3.28 (2.98 - 3.57)	3.70 (3.38 - 4.01)	4.16 (3.83 - 4.47)	4.59 (4.09 - 5.11)
50.	Sierra Leone	1.07 (0.96 - 1.17)	1.11 (0.98 - 1.25)	1.29 (1.18 - 1.42)	1.60 (1.47 - 1.71)	1.86 (1.68 - 2.05)	2.19 (2.04 - 2.35)	2.51 (2.28 - 2.75)
51.	Togo	1.00 (0.88 - 1.11)	1.19 (1.02 - 1.39)	1.42 (1.25 - 1.60)	1.67 (1.52 - 1.83)	1.94 (1.82 - 2.08)	2.24 (2.02 - 2.47)	2.51 (2.20 - 2.82)

CI, Confidence intervals.

**Supplementary Table 2: Sub-Saharan African Countries and the SDI categories.**

Retrieved from Global Health Database (GHDx) [20].

	<b>Location</b>	<b>SDI</b>
1.	<b>Sub-Saharan Africa</b>	<b>low-middle</b>
2.	Central Sub-Saharan Africa	low-middle
3.	Angola	low-middle
4.	Central African Republic	low
5.	Congo	low-middle
6.	Democratic Republic of the Congo	low
7.	Equatorial Guinea	middle
8.	Gabon	middle
9.	<b>Eastern Sub-Saharan Africa</b>	<b>low</b>
10.	Burundi	low
11.	Comoros	low-middle
12.	Djibouti	low-middle
13.	Eritrea	low
14.	Ethiopia	low
15.	Kenya	low-middle
16.	Madagascar	low
17.	Malawi	low
18.	Mozambique	low
19.	Rwanda	low
20.	Somalia	low
21.	United Republic of Tanzania	low
22.	Uganda	low
23.	Zambia	low-middle
24.	<b>Southern Sub-Saharan Africa</b>	<b>low-middle</b>
25.	Botswana	low-middle

26.	Lesotho	low-middle
27.	Namibia	low-middle
28.	South Africa	low-middle
29.	Eswatini	low-middle
30.	Zimbabwe	low-middle
31.	<b>Western Sub-Saharan Africa</b>	<b>low</b>
32.	Benin	low
33.	Burkina Faso	low
34.	Cameroon	low-middle
35.	Cabo Verde	low-middle
36.	Chad	low
37.	Côte d'Ivoire	low
38.	Gambia	low
39.	Ghana	low-middle
40.	Guinea	low
41.	Guinea-Bissau	low
42.	Liberia	low
43.	Mali	low
44.	Mauritania	low-middle
45.	Niger	low
46.	Nigeria	low-middle
47.	Sao Tome and Principe	low-middle
48.	Senegal	low
49.	Sierra Leone	low
50.	Togo	low
51.	South Sudan	low

**Supplementary Table 3: DALYs from breast cancer 1990 – 2019 in sub-Saharan Africa and its temporal trends**

	Location	1990		2019		1990 - 2019	
		DALY No x 10 <sup>2</sup> (95% UI)	ASR DALY per 100,000 no. x 10 <sup>2</sup> (95% UI)	DALY No x 10 <sup>2</sup> (95% UI)	ASR DALY per 100,000 no. x 10 <sup>2</sup> (95% UI)	Change in DALYs No %	EAPC No (95% CI)
1.	<b>Sub-Saharan Africa</b>	6391.05 (5525.14 - 7510.65)	4.93 (4.27 - 5.79)	17817.08 (14736.79 - 21015.43)	5.89 (4.92 - 6.92)	178.78%	0.61 (0.20 - 1.03)
2.	<b>Central Sub-Saharan Africa</b>	781.94 (612.62 - 964.62)	5.17 (4.10 - 6.31)	2286.43 (1657.04 - 3001.84)	6.28 (4.52 - 8.28)	192.40%	1.20 (0.80 - 1.59)
3.	Angola	110.07 (75.71 - 151.80)	4.19 (2.93 - 5.71)	450.75 (315.24 - 610.99)	5.58 (4.02 - 7.52)	309.51%	1.26 (0.83 - 1.70)
4.	Central African Republic	45.25 (34.02 - 59.21)	5.72 (4.34 - 7.41)	91.28 (56.62 - 148.66)	5.93 (3.74 - 9.53)	101.75%	-0.83 (-1.25 - -0.41)
5.	Congo	51.06 (34.57 - 72.19)	7.42 (5.07 - 10.33)	146.49 (85.27 - 222.13)	8.38 (5.04 - 12.47)	186.92%	-1.34 (-1.72 - -0.95)
6.	Democratic Republic of the Congo	549.67 (417.64 - 717.37)	5.18 (3.97 - 6.65)	1526.67 (1072.84 - 2050.32)	6.33 (4.49 - 8.57)	177.74%	0.43 (0.03 - 0.84)
7.	Equatorial Guinea	5.64 (3.60 - 8.10)	4.24 (2.73 - 6.07)	24.09 (12.97 - 41.15)	6.95 (3.81 - 11.56)	326.86%	2.49 (2.08 - 2.90)
8.	Gabon	20.26 (15.29 - 26.15)	6.33 (4.76 - 8.15)	47.17 (30.20 - 67.73)	7.29 (4.70 - 10.39)	132.77%	-0.73 (-1.12 - -0.33)
9.	<b>Eastern Sub-Saharan Africa</b>	2135.07 (1742.34 - 2533.63)	4.48 (3.69 - 5.28)	5412.57 (4546.13 - 6336.49)	5.02 (4.28 - 5.81)	153.51%	-0.80 (-1.28 - -0.32)
10.	Burundi	79.25 (55.70 - 108.71)	5.25 (3.75 - 7.19)	134.77 (91.49 - 191.08)	4.66 (3.22 - 6.58)	70.05%	-0.41 (-0.84 - 0.02)
11.	Comoros	5.37 (2.35 - 8.03)	4.18 (1.96 - 6.13)	15.98 (11.28 - 21.58)	5.55 (3.97 - 7.44)	197.71%	0.98 (0.54 - 1.43)
12.	Djibouti	3.90 (2.45 - 5.47)	3.99 (2.59 - 5.48)	20.48 (12.80 - 30.26)	5.45 (3.65 - 7.72)	424.76%	0.99 (0.53 - 1.44)
13.	Eritrea	33.04 (18.91 - 49.66)	4.28 (2.49 - 6.40)	124.88 (86.07 - 178.49)	6.44 (4.54 - 9.12)	277.99%	-0.46 (-0.93 - 0.02)
14.	Ethiopia	705.93 (487.14 - 915.14)	5.55 (3.40 - 7.21)	1206.17 (935.73 - 1515.57)	4.67 (3.73 - 5.70)	70.86%	-0.06 (-0.47 - 0.35)
15.	Kenya	160.39 (105.41 - 241.16)	3.12 (2.08 - 4.62)	706.76 (507.97 - 987.43)	4.80 (3.51 - 6.58)	340.65%	3.57 (3.11 - 4.03)
16.	Madagascar	143.23 (114.99 - 179.47)	4.43 (3.58 - 5.46)	385.48 (268.20 - 527.40)	4.95 (3.50 - 6.74)	169.13%	0.22 (-0.23 - 0.67)
17.	Malawi	100.07 (77.08 - 126.06)	3.98 (3.07 - 4.99)	219.71 (154.90 - 293.01)	4.60 (3.33 - 6.02)	119.56%	0.82 (0.36 - 1.27)
18.	Mozambique	164.43 (123.45 - 213.76)	4.20 (3.23 - 5.33)	448.07 (291.09 - 638.61)	5.87 (3.97 - 8.28)	172.50%	1.55 (1.13 - 1.98)
19.	Rwanda	126.18 (92.42 - 168.56)	6.52 (4.82 - 8.65)	227.63 (163.90 - 312.84)	5.48 (4.05 - 7.34)	80.40%	-0.60 (-0.98 - -0.21)
20.	Somalia	68.56 (45.19 - 102.90)	3.62 (2.43 - 5.30)	181.52 (112.75 - 285.63)	3.75 (2.32 - 5.92)	93.90%	1.85 (1.39 - 2.30)
21.	South Sudan	45.48 (32.68 - 60.69)	3.60 (2.62 - 4.78)	88.19 (54.94 - 130.11)	3.58 (2.30 - 5.13)	164.78%	1.73 (1.28 - 2.20)
22.	Uganda	168.79 (116.84 - 224.22)	4.24 (2.99 - 5.61)	654.83 (479.67 - 856.65)	6.56 (4.86 - 8.59)	287.96 %	0.92 (0.48 - 1.36)

23.	United Republic of Tanzania	230.38 (181.77 - 285.16)	3.51 (2.79 - 4.29)	735.19 (555.16 - 928.32)	4.72 (3.63 - 5.88)	219.13%	1.15 (0.67 - 1.63)
24.	Zambia	98.51 (75.09 - 126.99)	5.29 (4.14 - 6.67)	258.60 (181.47 - 348.63)	5.53 (4.01 - 7.44)	162.50%	-0.20 (-0.62 - 0.22)
25.	<b>Southern Sub-Saharan Africa</b>	937.91 (846.8 - 1028.84)	5.33 (4.80 - 5.91)	2065.74 (1815.78 - 2351.92)	5.88 (5.18 - 6.67)	120.25%	-1.79 (-2.26 - -1.32)
26.	Botswana	19.66 (13.66 - 27.44)	5.40 (3.82 - 7.49)	74.55 (45.71 - 111.75)	7.92 (5.04 - 11.79)	279.18%	1.29 (0.90 - 1.67)
27.	Eswatini	9.01 (6.36 - 11.69)	4.57 (3.23 - 5.89)	23.77 (13.83 - 36.97)	6.14 (3.67 - 9.43)	163.72%	0.75 (0.32 - 1.17)
28.	Lesotho	21.22 (15.44 - 29.32)	3.67 (2.69 - 5.00)	63.26 (37.94 - 97.89)	7.84 (4.78 - 12.02)	198.19%	1.87 (1.42 - 2.32)
29.	Namibia	21.36 (15.33 - 27.57)	5.08 (3.67 - 6.50)	78.17 (51.29 - 116.80)	8.66 (5.82 - 12.83)	265.96%	-0.45 (-0.89 - -0.02)
30.	South Africa	741.48 (661.22 - 827.26)	5.48 (4.85 - 6.20)	1444.55 (1254.84 - 1663.51)	5.30 (4.62 - 6.09)	94.82%	0.59 (0.20 - 0.99)
31.	Zimbabwe	125.18 (101.92 - 152.66)	5.04 (4.10 - 6.09)	381.47 (258.29 - 543.98)	7.82 (5.33 - 11.01)	204.71%	0.71 (0.30 - 1.12)
32.	<b>Western Sub-Saharan Africa</b>	2536.12 (2038.41 - 3190.24)	5.14 (4.13 - 6.43)	8052.34 (6191.55 - 10272.92)	6.51 (5.06 - 8.19)	217.51%	0.29 (-0.13 - 0.70)
33.	Benin	44.44 (32.88 - 57.46)	3.70 (2.75 - 4.75)	142.85 (99.75 - 198.78)	4.45 (3.17 - 6.07)	221.42%	2.05 (1.60 - 2.50)
34.	Burkina Faso	133.20 (101.20 - 170.67)	4.97 (3.78 - 6.29)	356.35 (267.11 - 459.54)	5.67 (4.37 - 7.15)	167.53%	0.90 (0.49 - 1.31)
35.	Cabo Verde	4.96 (4.19 - 5.90)	4.11 (3.45 - 4.90)	10.04 (8.07 - 12.29)	4.02 (3.23 - 4.91)	102.20%	1.28 (0.84 - 1.72)
36.	Cameroon	139.38 (108.28 - 173.85)	5.00 (3.92 - 6.21)	484.90 (321.09 - 715.22)	6.19 (4.22 - 9.01)	247.89%	0.19 (-0.23 - 0.61)
37.	Chad	52.73 (38.23 - 71.59)	3.20 (2.35 - 4.31)	136.70 (92.69 - 188.50)	4.03 (2.79 - 5.43)	159.23%	1.31 (0.82 - 1.81)
38.	Côte d'Ivoire	95.88 (70.42 - 123.52)	3.72 (2.81 - 4.68)	303.23 (213.19 - 411.29)	4.49 (3.25 - 5.98)	216.25%	0.89 (0.42 - 1.36)
39.	Gambia	4.28 (3.00 - 5.82)	2.10 (1.48 - 2.82)	20.51 (13.12 - 29.76)	3.55 (2.26 - 5.12)	379.27%	3.40 (2.83 - 3.97)
40.	Ghana	304.78 (227.90 - 391.75)	7.43 (5.65 - 9.44)	952.69 (719.55 - 1239.25)	8.63 (6.65 - 11.11)	212.59%	-1.39 (-1.77 - -1.00)
41.	Guinea	84.92 (68.74 - 102.43)	4.56 (3.68 - 5.53)	182.52 (130.73 - 250.17)	5.52 (3.96 - 7.46)	114.95%	2.12 (1.72 - 2.52)
42.	Guinea-Bissau	14.28 (9.69 - 19.77)	5.29 (3.64 - 7.23)	35.14 (23.54 - 52.70)	6.66 (4.55 - 9.69)	146.11%	0.36 (-0.04 - 0.77)
43.	Liberia	25.06 (19.68 - 31.59)	4.38 (3.46 - 5.47)	70.03 (46.50 - 106.62)	5.28 (3.57 - 8.04)	179.42%	-0.29 (-0.76 - 0.17)
44.	Mali	114.37 (93.56 - 137.90)	4.56 (3.71 - 5.55)	259.07 (186.46 - 342.60)	5.03 (3.71 - 6.58)	126.51%	1.13 (0.72 - 1.55)
45.	Mauritania	29.06 (20.98 - 39.26)	5.06 (3.69 - 6.83)	58.68 (40.56 - 78.86)	4.88 (3.39 - 6.54)	101.89%	-1.18 (-1.64 - -0.72)
46.	Niger	52.76 (37.63 - 72.92)	2.98 (2.13 - 4.13)	158.33 (105.38 - 239.53)	3.15 (2.13 - 4.73)	200.11%	1.04 (0.52 - 1.56)
47.	Nigeria	1263.84 (886.35 - 1830.43)	5.58 (3.92 - 8.07)	4354.00 (3021.54 - 6198.64)	7.46 (5.27 - 10.30)	244.51%	0.76 (0.37 - 1.15)
48.	Sao Tome and Principe	1.26 (0.92 - 1.58)	3.60 (2.66 - 4.50)	3.98 (2.50 - 5.94)	5.92 (3.73 - 8.80)	215.67%	2.76 (2.32 - 3.20)
49.	Senegal	95.42 (72.46 - 119.40)	4.90 (3.72 - 6.10)	279.09 (192.58 - 371.98)	6.03 (4.19 - 7.94)	192.48%	-0.22 (-0.65 - 0.22)
50.	Sierra Leone	37.06 (26.03 - 49.84)	3.51 (2.50 - 4.69)	114.01 (78.55 - 167.55)	5.13 (3.58 - 7.43)	207.64%	2.81 (2.37 - 3.26)
51.	Togo	38.35 (30.34 - 47.51)	4.40 (3.52 - 5.39)	130.11 (94.34 - 177.22)	4.99 (3.70 - 6.68)	239.31%	1.84 (1.43 - 2.25)

ASR DALY, Age-standardized rates for Disability adjusted life years, DALY, Disability Adjusted Life Years, UI, Uncertainty intervals, CI, Confidence intervals.

**Supplementary Table 4:** Age-standardized death rate, DALY rate per 100 000 population for all risk factors to breast cancer by SDI between 1990–2019.

	<b>1990</b> (95% UI)	<b>1995</b> (95% UI)	<b>2000</b> (95% UI)	<b>2005</b> (95% UI)	<b>2010</b> (95% UI)	<b>2015</b> (95% UI)	<b>2019</b> (95% UI)
<b>ASMR</b>							
<b>Low SDI</b>							
Alcohol	0.65 (0.41 - 0.95)	0.67 (0.42 - 0.98)	0.68 (0.43 - 0.98)	0.67 (0.43 - 0.99)	0.68 (0.43 - 1.00)	0.73 (0.45 - 1.09)	0.78 (0.47 - 1.19)
High Body mass index	0.20 (0.00 - 0.52)	0.22 (0.00 - 0.56)	0.25 (0.01 - 0.62)	0.28 (0.01 - 0.70)	0.34 (0.03 - 0.82)	0.40 (0.03 - 0.96)	0.45 (0.04 - 1.07)
High Fasting plasma glucose	0.66 (0.12 - 1.57)	0.62 (0.11 - 1.51)	0.69 (0.13 - 1.68)	0.77 (0.14 - 1.85)	0.84 (0.16 - 2.02)	0.95 (0.18 - 2.29)	1.00 (0.19 - 2.44)
Low Physical activity	0.10 (0.05 - 0.20)	0.11 (0.06 - 0.20)	0.11 (0.06 - 0.21)	0.12 (0.06 - 0.22)	0.12 (0.06 - 0.23)	0.13 (0.07 - 0.25)	0.13 (0.07 - 0.26)
Tobacco Smoking	0.12 (0.06 - 0.20)	0.12 (0.06 - 0.20)	0.13 (0.06 - 0.21)	0.13 (0.06 - 0.21)	0.13 (0.06 - 0.22)	0.14 (0.07 - 0.23)	0.14 (0.07 - 0.23)
<b>Low-Middle SDI</b>							
Alcohol	0.75 (0.48 - 1.10)	0.78 (0.49 - 1.14)	0.86 (0.54 - 1.27)	0.94 (0.59 - 1.38)	1.03 (0.65 - 1.50)	1.10 (0.68 - 1.65)	1.14 (0.68 - 1.74)
High Body mass index	0.42 (0.01 - 0.98)	0.48 (0.03 - 1.13)	0.60 (0.05 - 1.35)	0.69 (0.06 - 1.58)	0.81 (0.08 - 1.79)	0.93 (0.10 - 2.03)	0.98 (0.11 - 2.15)
High Fasting plasma glucose	0.69 (0.12 - 1.64)	0.90 (0.17 - 2.16)	1.07 (0.20 - 2.59)	1.26 (0.24 - 3.04)	1.43 (0.27 - 3.41)	1.57 (0.30 - 3.74)	1.59 (0.30 - 3.84)
Low Physical activity	0.15 (0.08 - 0.29)	0.17 (0.08 - 0.31)	0.19 (0.09 - 0.35)	0.20 (0.09 - 0.37)	0.21 (0.10 - 0.39)	0.23 (0.11 - 0.42)	0.23 (0.11 - 0.44)
Tobacco Smoking	0.23 (0.13 - 0.36)	0.24 (0.13 - 0.37)	0.26 (0.15 - 0.41)	0.27 (0.15 - 0.42)	0.28 (0.16 - 0.43)	0.28 (0.16 - 0.44)	0.26 (0.15 - 0.41)
<b>Middle SDI</b>							
Alcohol	1.61 (1.05 - 2.28)	1.69 (1.09 - 2.37)	1.87 (1.17 - 2.69)	2.07 (1.23 - 3.14)	2.18 (1.27 - 3.42)	2.33 (1.33 - 3.65)	2.52 (1.42 - 4.00)
High Body mass index	0.32 (-0.01 - 0.85)	0.41 (0.00 - 1.03)	0.59 (0.01 - 1.43)	0.83 (0.04 - 1.96)	1.02 (0.10 - 2.37)	1.21 (0.15 - 2.74)	1.36 (0.16 - 3.11)
High Fasting plasma glucose	0.52 (0.09 - 1.28)	1.02 (0.19 - 2.43)	1.24 (0.23 - 2.94)	1.51 (0.29 - 3.73)	1.68 (0.30 - 4.18)	1.86 (0.34 - 4.56)	1.98 (0.37 - 5.00)
Low Physical activity	0.21 (0.10 - 0.40)	0.24 (0.10 - 0.44)	0.27 (0.12 - 0.51)	0.31 (0.13 - 0.61)	0.34 (0.13 - 0.68)	0.38 (0.15 - 0.77)	0.41 (0.16 - 0.82)
Tobacco Smoking	0.10 (0.05 - 0.17)	0.10 (0.05 - 0.17)	0.11 (0.06 - 0.19)	0.12 (0.06 - 0.22)	0.13 (0.06 - 0.24)	0.13 (0.06 - 0.25)	0.14 (0.06 - 0.26)
<b>ASR DALY</b>							
<b>Low SDI</b>							
Alcohol	20.77 (13.00 - 30.38)	21.17 (13.14 - 31.23)	21.27 (13.48 - 31.23)	21.00 (13.33 - 31.08)	21.07 (13.25 - 31.43)	22.56 (13.83 - 34.28)	24.07 (14.36 - 36.94)
High Body mass index	2.61 (-3.33 - 9.84)	2.89 (-3.36 - 10.62)	3.30 (-3.52 - 11.81)	3.93 (-3.76 - 13.45)	4.91 (-3.77 - 15.76)	5.89 (-4.47 - 18.56)	6.62 (-4.95 - 20.76)

High Fasting plasma glucose	16.61 (2.96 - 40.68)	14.36 (2.57 - 35.32)	15.88 (2.85 - 39.04)	17.46 (3.18 - 42.86)	19.18 (3.51 - 46.75)	21.58 (3.98 - 52.93)	22.85 (4.15 - 56.64)
Low Physical activity	2.51 (1.35 - 5.10)	2.55 (1.38 - 5.18)	2.63 (1.42 - 5.35)	2.70 (1.45 - 5.41)	2.78 (1.48 - 5.54)	3.00 (1.57 - 6.04)	3.13 (1.63 - 6.31)
Tobacco Smoking	2.84 (1.28 - 4.80)	2.93 (1.34 - 4.97)	3.01 (1.39 - 5.07)	3.01 (1.39 - 5.10)	3.08 (1.43 - 5.23)	3.23 (1.50 - 5.48)	3.25 (1.50 - 5.54)
<b>Low-Middle SDI</b>							
Alcohol	23.53 (14.95 - 34.58)	24.14 (15.02 - 35.89)	26.56 (16.37 - 39.93)	28.85 (17.86 - 43.07)	31.40 (19.66 - 46.27)	33.59 (20.31 - 51.04)	34.44 (20.32 - 53.29)
High Body mass index	5.10 (-6.35 - 18.13)	6.14 (-6.43 - 20.68)	7.68 (-7.10 - 24.59)	8.88 (-8.39 - 28.49)	10.83 (-8.68 - 32.93)	12.61 (-9.51 - 37.23)	13.17 (-9.66 - 39.16)
High Fasting plasma glucose	14.36 (2.54 - 34.79)	20.05 (3.62 - 49.27)	23.75 (4.34 - 58.86)	28.26 (5.23 - 69.59)	32.28 (6.07 - 78.66)	35.39 (6.62 - 86.18)	35.72 (6.55 - 87.81)
Low Physical activity	3.70 (1.81 - 7.28)	3.90 (1.90 - 7.58)	4.36 (2.06 - 8.35)	4.64 (2.22 - 8.87)	4.90 (2.35 - 9.35)	5.21 (2.47 - 10.08)	5.18 (2.41 - 10.24)
Tobacco Smoking	5.40 (2.89 - 8.68)	5.46 (2.89 - 8.80)	5.94 (3.20 - 9.63)	5.99 (3.26 - 9.67)	6.22 (3.40 - 9.91)	6.24 (3.34 - 10.07)	5.72 (3.01 - 9.38)
<b>Middle SDI</b>							
Alcohol	48.24 (30.73 - 68.80)	50.44 (32.37 - 71.99)	55.13 (34.16 - 80.20)	60.39 (35.24 - 92.35)	62.65 (35.82 - 99.90)	65.48 (36.85 - 105.82)	70.33 (39.25 - 113.67)
High Body mass index	3.85 (-5.47 - 15.08)	4.99 (-6.79 - 18.95)	7.67 (-7.96 - 26.14)	11.15 (-10.04 - 36.33)	13.17 (-10.84 - 42.17)	15.59 (-12.50 - 47.63)	17.67 (-12.21 - 53.63)
High Fasting plasma glucose	20.61 (3.79 - 48.41)	23.25 (4.33 - 55.77)	28.04 (5.20 - 68.85)	33.94 (6.29 - 86.03)	37.29 (6.47 - 92.89)	40.48 (7.09 - 100.05)	42.80 (7.76 - 109.26)
Low Physical activity	4.92 (2.27 - 9.28)	5.35 (2.44 - 10.26)	5.96 (2.62 - 11.53)	6.82 (2.82 - 13.65)	7.41 (2.95 - 15.07)	7.97 (3.05 - 16.45)	8.56 (3.33 - 17.39)
Tobacco Smoking	2.48 (1.10 - 4.29)	2.63 (1.22 - 4.52)	2.86 (1.31 - 5.01)	3.08 (1.37 - 5.68)	3.16 (1.40 - 6.04)	3.21 (1.38 - 6.02)	3.33 (1.42 - 6.19)

ASMR, Age Standardized Mortality Rate, SDI, Socio-Demographic Index, ASR DALY, Age Standardized Rate for Disability Adjusted Life Years, UI, Uncertainty Interval