

# GBD PROFILE: MYANMAR

## GLOBAL BURDEN OF DISEASES, INJURIES, AND RISK FACTORS STUDY 2010

The Global Burden of Disease Study 2010 (GBD 2010) is a collaborative project of nearly 500 researchers in 50 countries led by the Institute for Health Metrics and Evaluation (IHME) at the University of Washington. It is the largest systematic scientific effort in history to quantify levels and trends of health loss due to diseases, injuries, and risk factors. GBD serves as a global public good to inform evidence-based policymaking and health systems design.

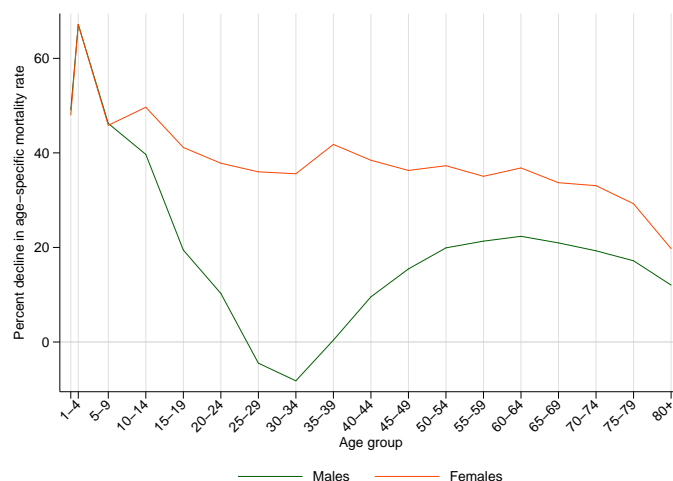
### PROFILE OVERVIEW

- In terms of the number of years of life lost (YLLs) due to premature death in Myanmar, lower respiratory infections, cerebrovascular disease, and HIV/AIDS were the highest ranking causes in 2010.
- Of the 25 most important causes of burden, as measured by disability-adjusted life years (DALYs), diarrheal diseases showed the largest decrease, falling by 73% from 1990 to 2010.
- The leading risk factor in Myanmar is dietary risks.

### ALL-CAUSE MORTALITY RATE

- This chart shows the change in mortality rate at every age range. The points above 0 on the chart indicate positive declines in the all-cause mortality rate, while points below 0 indicate an increase in mortality rate between 1990 and 2010.
- The greatest reductions in all-cause mortality rate were experienced by males aged 1-4 years (67%). Males aged 30-34 years saw the largest increase in mortality rate (8%).

Percent decline in age-specific mortality rate by sex from 1990-2010 in Myanmar



### CAUSES OF PREMATURE DEATH

Years of life lost (YLLs) quantify premature mortality by weighting younger deaths more than older deaths.

Ranks for top 25 causes of YLLs 1990-2010, Myanmar

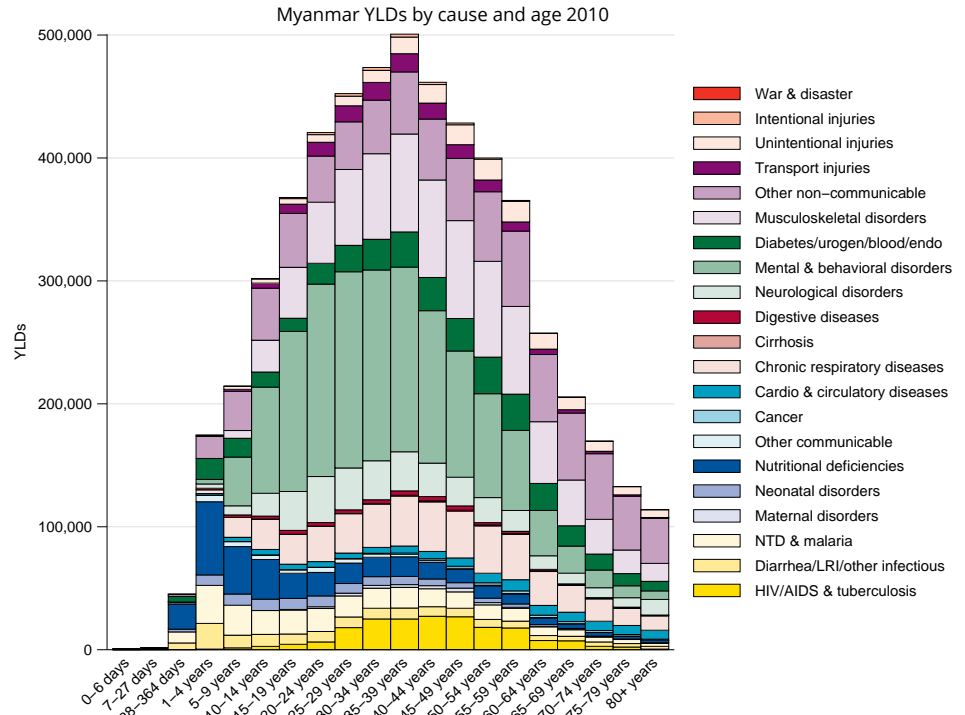
# YLLs in thousands (% of total)	Rank and disorder 1990	Rank and disorder 2010	# YLLs in thousands (% of total)	% change
3,981 (19.2%)	1 Diarrheal diseases	1 Lower respiratory infections	1,220 (7.9%)	-47
2,277 (11.0%)	2 Lower respiratory infections	2 Stroke	1,063 (6.9%)	35
1,927 (8.9%)	3 Malaria	3 HIV/AIDS	1,059 (6.7%)	> 9,999
1,437 (6.9%)	4 Tuberculosis	4 Diarrheal diseases	1,040 (6.7%)	-74
810 (3.9%)	5 Stroke	5 Tuberculosis	969 (6.1%)	-32
751 (3.6%)	6 Neonatal encephalopathy	6 Malaria	1,116 (6.4%)	-46
729 (3.5%)	7 Preterm birth complications	7 Ischemic heart disease	538 (3.5%)	41
675 (3.3%)	8 Congenital anomalies	8 Cirrhosis	562 (3.5%)	49
451 (2.2%)	9 Meningitis	9 Congenital anomalies	484 (3.1%)	-28
472 (2.3%)	10 Interpersonal violence	10 Neonatal encephalopathy	461 (3.0%)	-38
424 (2.0%)	11 Maternal disorders	11 Road injury	458 (2.9%)	102
378 (1.8%)	12 Ischemic heart disease	12 Preterm birth complications	439 (2.8%)	-40
366 (1.8%)	13 COPD	13 Interpersonal violence	376 (2.4%)	-31
370 (1.8%)	14 Cirrhosis	14 COPD	335 (2.2%)	-8
402 (1.9%)	15 Measles	15 Diabetes	302 (1.9%)	39
300 (1.5%)	16 Asthma	16 Asthma	291 (1.9%)	-3
289 (1.4%)	17 Protein-energy malnutrition	17 Self-harm	289 (1.8%)	35
217 (1.0%)	18 Diabetes	18 Chronic kidney disease	247 (1.6%)	53
201 (1.0%)	19 Drowning	19 Meningitis	242 (1.6%)	-47
216 (1.0%)	20 Self-harm	20 Liver cancer	219 (1.4%)	45
236 (1.1%)	21 Road injury	21 Drowning	201 (1.3%)	-1
162 (0.8%)	22 Chronic kidney disease	22 Falls	193 (1.2%)	42
158 (0.8%)	23 Mechanical forces	23 Maternal disorders	194 (1.2%)	-56
151 (0.7%)	24 Liver cancer	24 Hypertensive heart disease	169 (1.1%)	21
139 (0.7%)	25 Hypertensive heart disease	25 Lung cancer	157 (1.0%)	54
	28 Falls	28 Mechanical forces		
	34 Lung cancer	31 Protein-energy malnutrition		
	90 HIV/AIDS	43 Measles		

This chart shows the change in the top 25 causes of YLLs due to premature mortality from 1990 to 2010. Solid lines indicate a cause has moved up in rank or stayed the same. Broken lines indicate a cause has moved down in rank. The causes are color coded by blue for non-communicable diseases, green for injuries, and red for communicable, maternal, neonatal, and nutritional causes of death.

## YEARS LIVED WITH DISABILITY (YLDs)

Years lived with disability (YLDs) are estimated by weighting the prevalence of different conditions based on severity. The top five leading causes of YLDs in Myanmar are major depressive disorder, low back pain, chronic obstructive pulmonary disease, iron-deficiency anemia, and neck pain.

The size of the colored portion in each bar represents the number of YLDs attributable to each cause. The height of each bar shows which age groups had the most YLDs in 2010. The causes are aggregated. For example, musculoskeletal disorders include low back pain and neck pain.

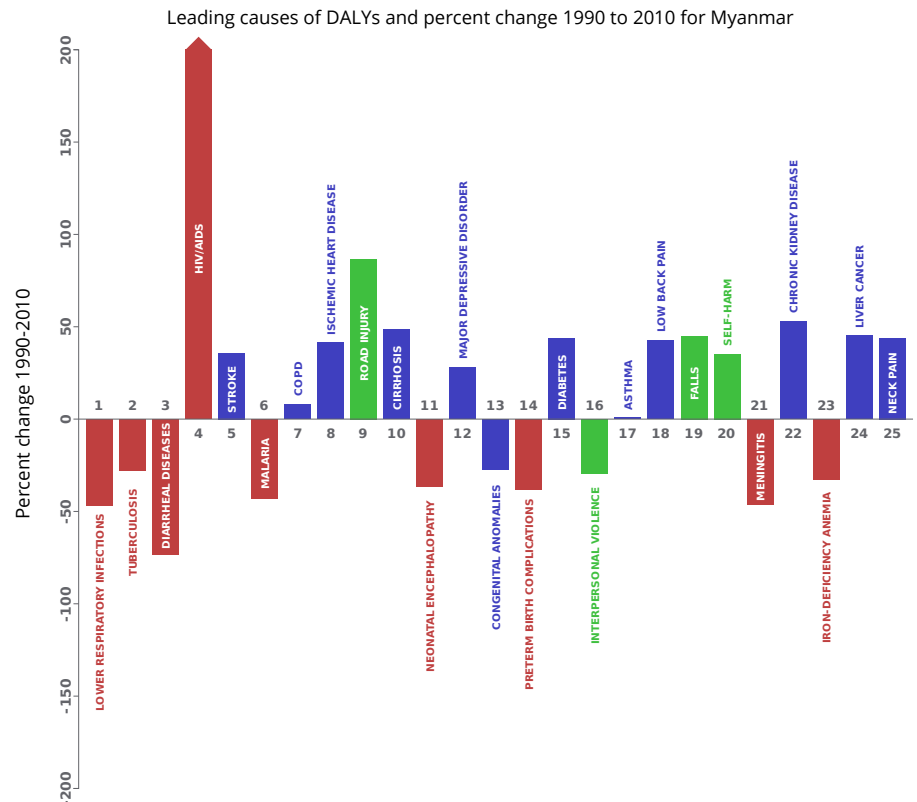


## DISABILITY-ADJUSTED LIFE YEARS (DALYs)

Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Myanmar, the top three causes of DALYs in 2010 were lower respiratory infections, tuberculosis, and diarrheal diseases. The causes that were in the 10 leading causes of DALYs in 2010 and not 1990 were HIV/AIDS, ischemic heart disease, road injury, and cirrhosis of the liver.

The top 25 causes of DALYs are ranked from left to right in order of the number of DALYs they contributed in 2010. Bars going up show the percent by which DALYs have increased since 1990. Bars going down show the percent by which DALYs have decreased. Globally, non-communicable diseases and injuries are generally on the rise, while communicable, maternal, neonatal, and nutritional causes of DALYs are generally on the decline.

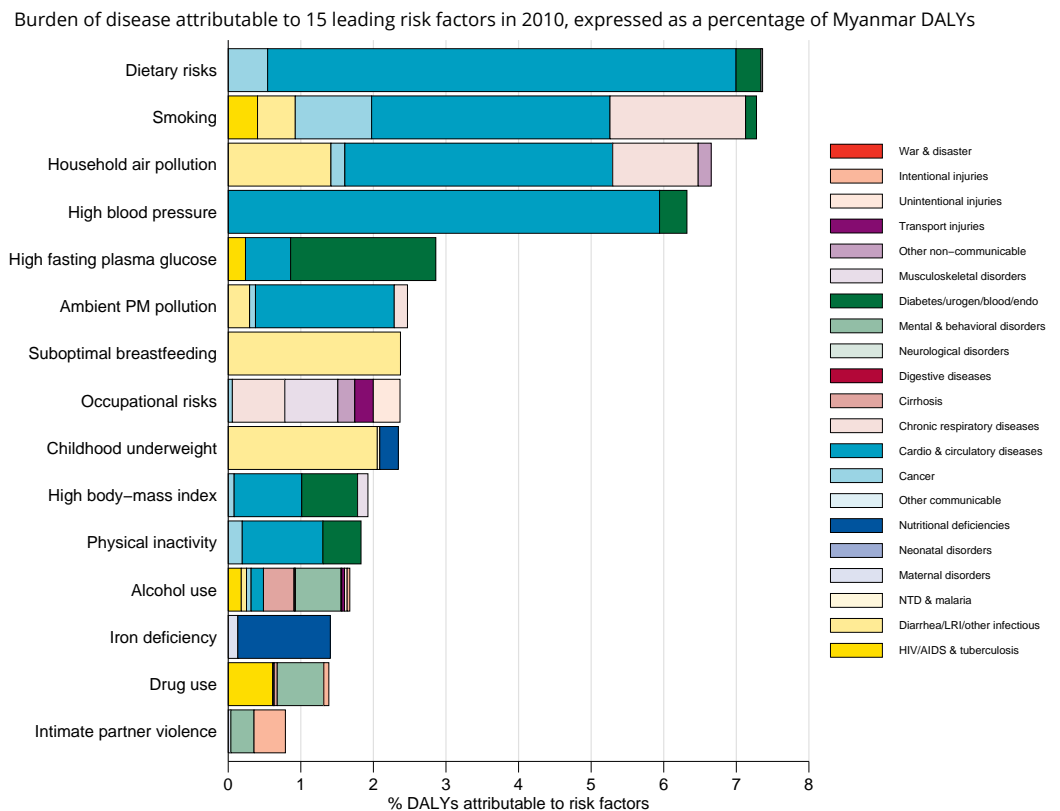
- Communicable, maternal, neonatal, and nutritional
- Non-communicable
- Injuries



## RISK FACTORS

Overall, the three risk factors that account for the most disease burden in Myanmar are dietary risks, tobacco smoking, and household air pollution from solid fuels. The leading risk factors for children under 5 and adults aged 15-49 years were childhood underweight and occupational risks, respectively, in 2010.

The graph shows the top 15 risk factors for Myanmar. The colored portion of each bar represents the specific diseases attributable to that risk factor while bar size represents the percentage of DALYs linked to specific risk factors.



## COUNTRY BENCHMARKING OF BURDEN OF DISEASE

Understanding the relative performance of Myanmar against other comparator countries provides key insight into public health successes and areas where Myanmar might be falling behind. The table identifies Myanmar's rank across 14 other comparator countries, selected and ordered by income per capita, for five metrics of interest, with 1 indicating the best rank and 15 indicating the worst rank.

- Age-standardized rates are used to make meaningful comparisons across time by adjusting for changes in population size and age structure.
- Life expectancy incorporates mortality, and health-adjusted life expectancy further incorporates years lived in less than ideal health.
- In 2010, Myanmar ranked 1st for age-standardized YLD rate and 5th for age-standardized death rate.

Age-standardized death rates, YLL rates, YLD rates, and life expectancy at birth and health-adjusted life expectancy at birth for 1990 and 2010, both sexes combined																				
Country	Age-standardized death rate (per 100,000)				Age-standardized YLL rate (per 100,000)				Age-standardized YLD rate (per 100,000)				Life expectancy at birth				Health-adjusted life expectancy at birth			
	1990		2010		1990		2010		1990		2010		1990		2010		1990		2010	
	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	LE	Rank	LE	Rank	HALE	Rank	HALE	Rank
Tanzania	1,357	3	1,137	3	55,603	5	43,461	6	14,553	5	14,177	11	56.6	4	61.7	6	47.8	5	52.2	6
Nepal	1,285	2	832	1	49,745	1	26,361	1	13,660	3	12,959	3	58.8	1	69.2	1	49.8	1	58.8	1
Comoros	1,439	4	1,223	7	52,340	3	38,959	5	13,050	1	12,879	2	57.5	3	62.8	5	49.5	2	54	4
Burkina Faso	1,521	7	1,396	13	68,852	7	59,507	14	14,862	10	13,409	4	52.1	7	55.2	14	43.8	7	47.1	14
Uganda	1,658	10	1,290	9	75,253	12	45,587	7	15,596	14	13,882	5	50.4	11	60.3	7	42.2	12	51.5	7
Mali	1,726	13	1,331	10	78,963	15	53,703	12	14,609	7	13,991	8	48.7	15	57.3	12	41.1	14	48.6	11
Guinea	1,508	6	1,233	8	69,094	9	48,350	9	14,811	9	14,194	12	52.1	8	59.4	9	43.7	8	50.2	9
<b>Myanmar</b>	<b>1,640</b>	<b>9</b>	<b>1,185</b>	<b>5</b>	<b>55,134</b>	<b>4</b>	<b>36,251</b>	<b>3</b>	<b>13,542</b>	<b>2</b>	<b>11,974</b>	<b>1</b>	<b>56.5</b>	<b>5</b>	<b>63.9</b>	<b>3</b>	<b>48.6</b>	<b>4</b>	<b>55.6</b>	<b>2</b>
Rwanda	2,000	15	1,062	2	76,083	13	35,591	2	15,064	11	13,895	6	49.7	13	64.6	2	42.3	11	54.8	3
Guinea-Bissau	1,603	8	1,391	12	72,398	10	55,214	13	14,670	8	14,148	10	50.8	10	56.6	13	42.8	9	48	12
Afghanistan	1,931	14	1,668	14	68,958	8	52,078	11	17,727	15	17,252	15	51.9	9	57.7	11	42.4	10	47.3	13
Madagascar	1,451	5	1,156	4	56,586	6	37,200	4	14,116	4	14,145	9	56.1	6	63.6	4	47.6	6	53.8	5
Togo	1,282	1	1,199	6	51,184	2	46,594	8	14,577	6	13,973	7	58.3	2	60.2	8	49.1	3	51	8
Mozambique	1,659	11	1,725	15	74,370	11	67,547	15	15,342	13	14,841	13	50	12	52.5	15	41.9	13	44.5	15
Sierra Leone	1,682	12	1,347	11	78,271	14	49,641	10	15,322	12	15,221	14	48.9	14	58.6	10	40.9	15	49.1	10

## COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of Myanmar relative to the same comparator countries for the leading causes of DALYs in 1990 (top) and 2010 (bottom).

- The columns are ordered by the absolute number of DALYs in Myanmar for that particular year, with greatest burden on the left.
- The numbers indicate the rank across countries for each cause in terms of age-standardized DALY rates, with 1 as the best performance and 15 as the worst.

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to comparator countries in 1990																									
Country	Diarrheal diseases	Lower respiratory infections	Malaria	Tuberculosis	Stroke	Neonatal encephalopathy	Preterm birth complications	Congenital anomalies	COPD	Meningitis	Interpersonal violence	Maternal disorders	Major depressive disorder	Iron-deficiency anemia	Ischemic heart disease	Cirrhosis	Asthma	Measles	Protein-energy malnutrition	Diabetes	Road injury	Low back pain	Falls	Drowning	Self-harm
Tanzania	4	7	12	6	3	4	1	2	1	2	10	5	2	9	3	4	1	4	6	4	5	13	1	9	11
Nepal	8	8	1	10	2	15	7	13	15	1	1	1	7	5	3	11	5	2	2	2	15	4	2	15	
Comoros	1	4	4	3	12	7	13	10	8	3	8	10	9	5	12	1	4	7	7	12	13	4	3	14	10
Burkina Faso	15	12	9	4	1	3	3	6	7	11	6	3	10	12	2	10	7	6	4	11	11	3	13	4	3
Uganda	7	6	6	14	5	9	2	4	3	10	11	7	13	6	4	11	3	8	8	3	6	7	8	10	8
Mali	14	3	14	11	9	10	14	1	13	12	9	15	7	14	10	12	14	15	14	10	7	1	14	6	4
Guinea	6	15	10	5	7	14	9	7	5	13	3	14	5	11	7	5	13	12	10	7	4	6	11	3	1
<b>Myanmar</b>	<b>11</b>	<b>1</b>	<b>5</b>	<b>15</b>	<b>11</b>	<b>11</b>	<b>5</b>	<b>14</b>	<b>14</b>	<b>4</b>	<b>15</b>	<b>2</b>	<b>8</b>	<b>3</b>	<b>11</b>	<b>15</b>	<b>15</b>	<b>3</b>	<b>1</b>	<b>14</b>	<b>1</b>	<b>2</b>	<b>10</b>	<b>11</b>	<b>13</b>
Rwanda	9	9	8	12	13	5	6	8	12	6	13	13	14	1	13	14	6	1	11	13	15	12	5	12	14
Guinea-Bissau	13	11	11	8	8	8	12	9	10	14	7	12	6	13	9	8	10	14	12	8	12	5	12	7	2
Afghanistan	3	14	2	7	15	1	4	15	6	7	14	9	15	2	15	9	12	2	3	15	14	14	7	15	7
Madagascar	10	5	3	1	14	2	10	12	9	5	12	6	3	4	14	6	5	11	13	5	10	11	2	8	9
Togo	2	2	7	2	6	6	8	3	4	8	5	4	11	10	6	7	9	10	5	6	9	10	9	1	6
Mozambique	12	10	15	13	4	12	11	5	2	9	4	11	12	8	1	2	2	13	9	1	3	9	6	13	12
Sierra Leone	5	13	13	9	10	13	15	11	11	15	2	8	4	15	8	13	8	9	15	9	8	8	15	5	5
Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to comparator countries in 2010																									
Country	Lower respiratory infections	Tuberculosis	Diarrheal diseases	HIV/AIDS	Stroke	Malaria	COPD	Ischemic heart disease	Road injury	Cirrhosis	Neonatal encephalopathy	Major depressive disorder	Congenital anomalies	Preterm birth complications	Diabetes	Interpersonal violence	Asthma	Low back pain	Falls	Self-harm	Meningitis	Chronic kidney disease	Iron-deficiency anemia	Liver cancer	Neck pain
Tanzania	7	5	3	14	1	7	1	2	6	1	5	12	2	1	4	9	1	12	1	12	2	2	9	4	9
Nepal	1	4	5	3	2	1	15	11	1	4	12	1	4	3	2	1	11	15	4	15	1	3	4	1	2
Comoros	8	9	4	1	12	4	10	6	11	2	7	11	9	10	9	8	4	4	5	11	6	12	8	6	14
Burkina Faso	15	2	15	7	6	15	9	7	14	12	3	3	13	6	14	5	5	3	15	3	15	4	13	9	10
Uganda	2	14	1	13	4	8	5	3	10	13	6	13	3	2	6	12	3	13	13	10	9	8	5	5	13
Mali	4	7	12	8	8	14	13	12	7	9	13	10	1	14	10	4	13	1	8	2	12	10	14	15	8
Guinea	14	6	7	5	7	11	4	10	4	7	15	4	10	9	7	2	12	7	6	1	13	6	11	14	7
<b>Myanmar</b>	<b>6</b>	<b>12</b>	<b>9</b>	<b>6</b>	<b>13</b>	<b>3</b>	<b>14</b>	<b>8</b>	<b>3</b>	<b>15</b>	<b>10</b>	<b>8</b>	<b>15</b>	<b>4</b>	<b>11</b>	<b>13</b>	<b>15</b>	<b>2</b>	<b>14</b>	<b>13</b>	<b>3</b>	<b>15</b>	<b>1</b>	<b>12</b>	<b>3</b>
Rwanda	3	11	2	10	9	6	3	4	9	3	4	14	5	5	5	14	2	9	3	9	5	7	2	3	15
Guinea-Bissau	12	10	14	11	10	13	8	13	12	10	9	2	12	12	12	6	8	8	12	4	14	9	12	11	4
Afghanistan	13	8	6	2	15	2	12	15	15	11	1	15	14	13	15	15	14	14	10	7	7	13	3	7	1
Madagascar	5	1	10	4	14	5	11	14	2	5	2	7	6	7	1	11	9	10	2	8	4	1	6	2	11
Togo	11	3	13	12	5	9	2	5	8	8	8	5	11	11	8	7	10	6	7	6	10	5	10	10	6
Mozambique	9	15	11	15	3	12	7	1	13	6	14	6	7	8	3	10	6	11	9	14	8	14	7	8	12
Sierra Leone	10	13	8	9	11	10	6	9	5	14	11	9	8	15	13	3	7	5	11	5	11	11	15	13	5
Ranking Legend	1 - 3			4 - 7				8 - 11				12 - 15													