

# GBD PROFILE: ZAMBIA

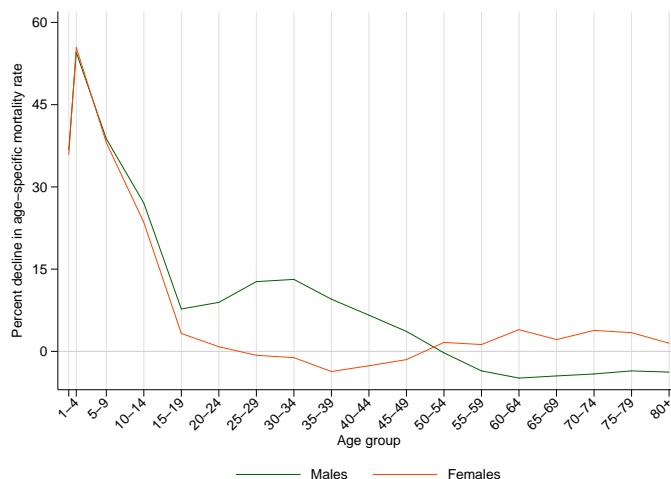
## GLOBAL BURDEN OF DISEASES, INJURIES, AND RISK FACTORS STUDY 2010

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 Zambia, HIV/AIDS, malaria, and lower respiratory infections 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 32% from 1990 to 2010.
- The leading risk factor in Zambia is childhood underweight.

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



### 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 females aged 1-4 years (55%). Males aged 60-64 years saw the largest increase in mortality rate (5%).

### 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, Zambia

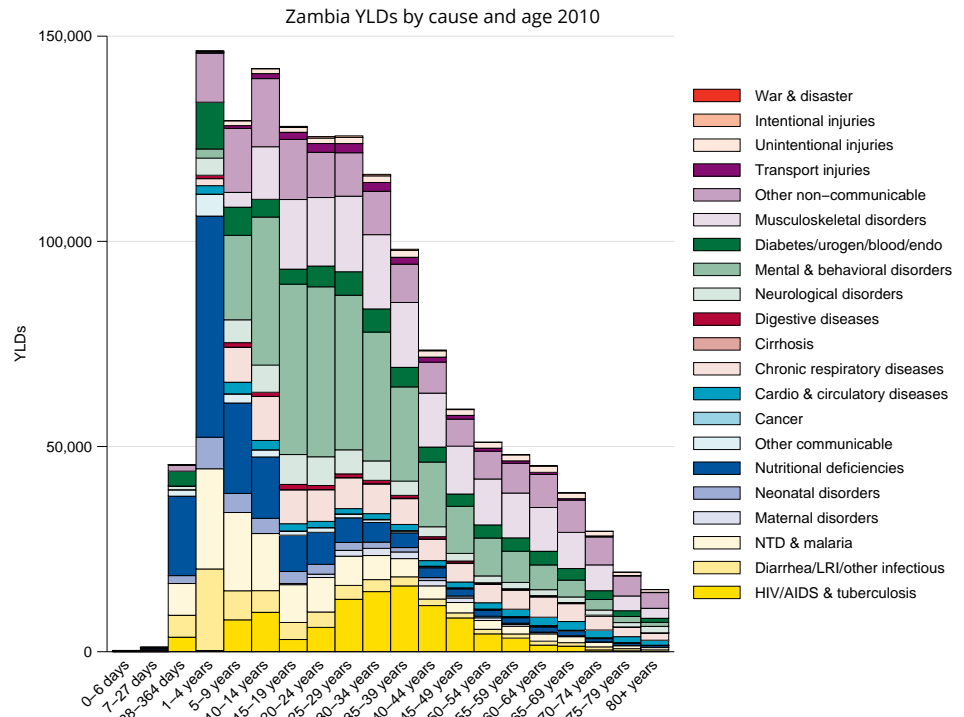
# YLLs in thousands (% of total)	Rank and disorder 1990	Rank and disorder 2010	# YLLs in thousands (% of total)	% change
1,067 (14.6%)	1 HIV/AIDS	1 HIV/AIDS	1,745 (20.4%)	64
1,097 (14.9%)	2 Malaria	2 Malaria	1,155 (13.4%)	5
818 (11.2%)	3 Lower respiratory infections	3 Lower respiratory infections	688 (8.0%)	-16
756 (10.3%)	4 Diarrheal diseases	4 Diarrheal diseases	500 (5.8%)	-34
583 (8.0%)	5 Protein-energy malnutrition	5 Protein-energy malnutrition	474 (5.6%)	-21
351 (4.8%)	6 Meningitis	6 Meningitis	403 (4.7%)	13
184 (2.5%)	7 Tuberculosis	7 Neonatal encephalopathy	279 (3.3%)	55
177 (2.4%)	8 Neonatal encephalopathy	8 Syphilis	269 (3.1%)	52
177 (2.4%)	9 Syphilis	9 Tuberculosis	247 (2.9%)	33
134 (1.8%)	10 Preterm birth complications	10 Neonatal sepsis	210 (2.5%)	77
129 (1.8%)	11 Road injury	11 Preterm birth complications	194 (2.3%)	46
121 (1.7%)	12 Neonatal sepsis	12 Road injury	146 (1.7%)	14
99 (1.4%)	13 Fire	13 Stroke	128 (1.5%)	60
89 (1.2%)	14 Congenital anomalies	14 Fire	105 (1.2%)	7
79 (1.1%)	15 Stroke	15 Falls	98 (1.1%)	69
69 (0.9%)	16 Maternal disorders	16 Ischemic heart disease	81 (1.0%)	50
73 (1.0%)	17 Measles	17 Congenital anomalies	84 (1.0%)	-7
65 (0.9%)	18 Drowning	18 Drowning	77 (0.9%)	20
64 (0.9%)	19 Poisonings	19 Epilepsy	75 (0.9%)	50
56 (0.8%)	20 Falls	20 Interpersonal violence	75 (0.9%)	98
54 (0.7%)	21 Ischemic heart disease	21 Maternal disorders	76 (0.9%)	-5
50 (0.7%)	22 Epilepsy	22 Cirrhosis	68 (0.8%)	48
46 (0.6%)	23 Cirrhosis	23 Poisonings	60 (0.7%)	-7
38 (0.5%)	24 Interpersonal violence	24 Self-harm	54 (0.6%)	64
33 (0.4%)	25 Self-harm	25 Diabetes	48 (0.6%)	79
	26 Diabetes	26 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 Zambia are iron-deficiency anemia, major depressive disorder, HIV/AIDS, low back pain, and chronic obstructive pulmonary disease.

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.

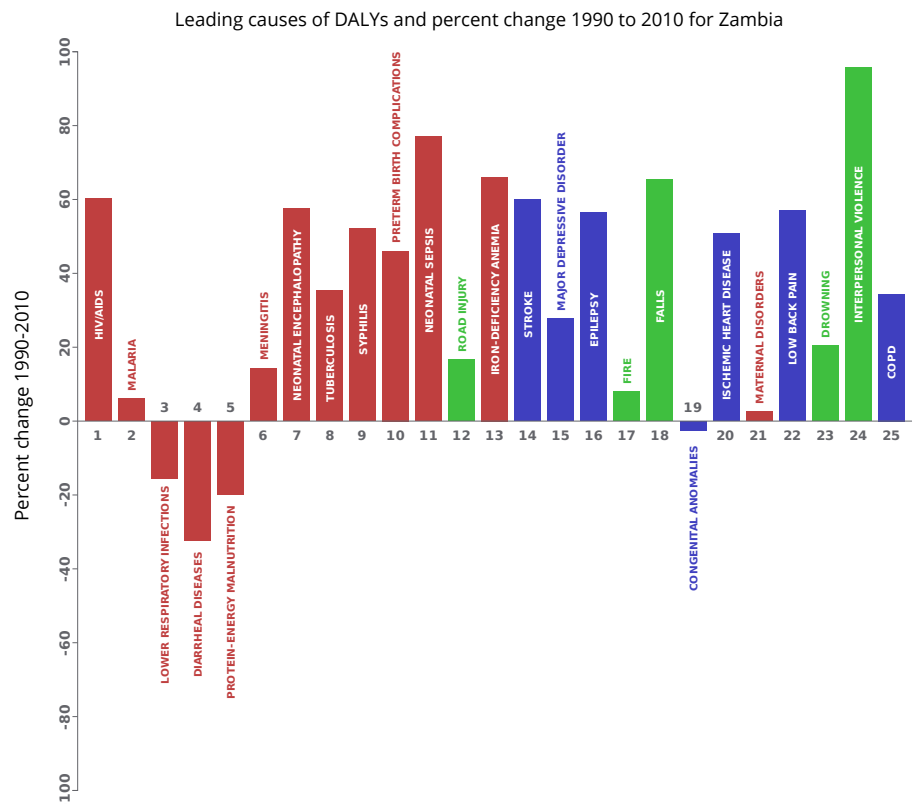


## DISABILITY-ADJUSTED LIFE YEARS (DALYs)

Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Zambia, the top three causes of DALYs in 2010 were HIV/AIDS, malaria, and lower respiratory infections. The only cause to appear in the 10 leading causes of DALYs in 2010 and not 1990 was preterm birth complications.

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.

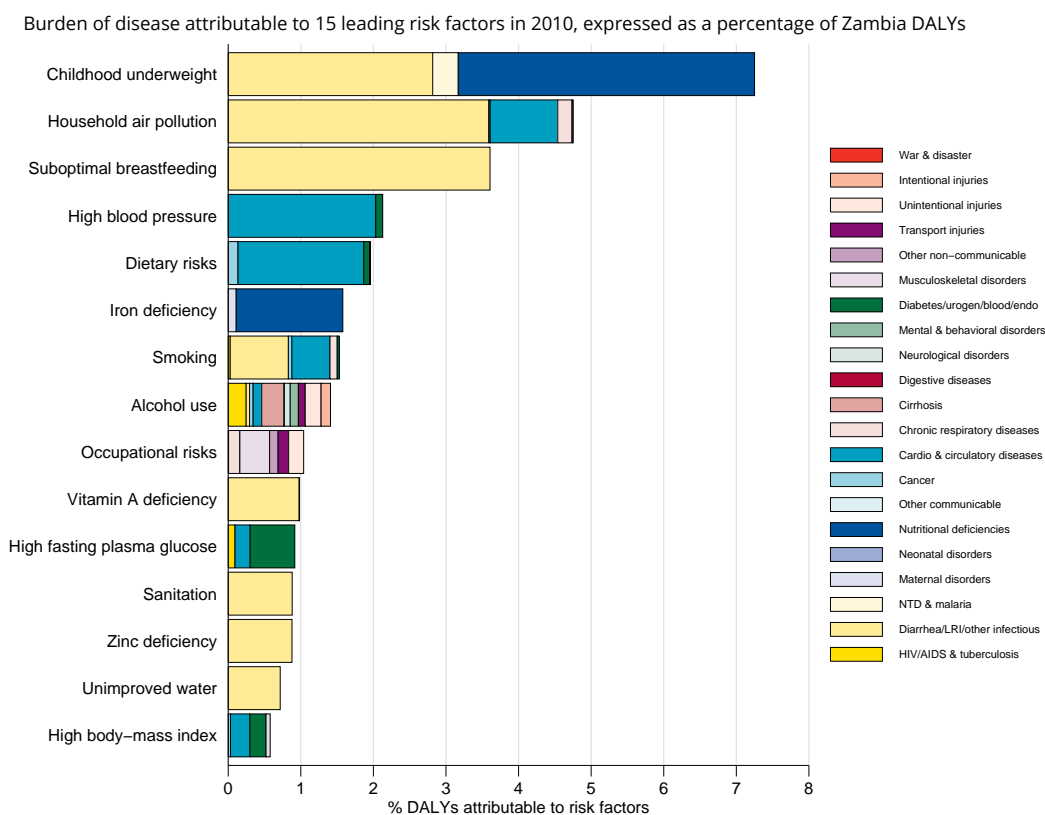
- Communicable, maternal, neonatal, and nutritional
- Non-communicable
- Injuries



## RISK FACTORS

Overall, the three risk factors that account for the most disease burden in Zambia are childhood underweight, household air pollution from solid fuels, and suboptimal breastfeeding. The leading risk factors for children under 5 and adults aged 15-49 years were childhood underweight and alcohol use, respectively, in 2010.

The graph shows the top 15 risk factors for Zambia. 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 Zambia against other comparator countries provides key insight into public health successes and areas where Zambia might be falling behind. The table identifies Zambia'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, Zambia ranked 9th for age-standardized YLD rate and 13th 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
Kenya	1,092	2	1,013	5	39,731	2	36,153	6	13,184	3	12,884	3	63	2	64.8	6	53.8	2	55.5	5
Timor-Leste	1,223	4	872	4	45,244	4	26,770	4	14,698	8	13,715	8	60.5	5	68.7	4	50.7	5	58	4
Chad	1,508	11	1,389	11	67,610	12	58,839	12	15,080	13	14,364	13	52.5	12	55.5	12	43.9	12	46.8	13
Benin	1,312	7	1,080	7	58,713	10	38,726	7	15,237	14	13,830	10	55.9	10	63.4	7	46.6	10	53.7	8
Ghana	1,185	3	1,030	6	45,628	5	35,128	5	14,555	7	13,298	6	60.5	4	64.9	5	50.9	4	55.3	6
Bangladesh	1,295	6	864	3	49,258	6	26,361	3	14,743	9	13,206	5	58.9	6	69	3	49.2	8	58.4	3
Lesotho	1,316	8	2,130	14	43,569	3	85,888	14	13,503	4	15,483	14	60.9	3	47.4	14	52	3	40.2	14
<b>Zambia</b>	<b>1,722</b>	<b>15</b>	<b>1,533</b>	<b>13</b>	<b>73,053</b>	<b>14</b>	<b>57,620</b>	<b>11</b>	<b>15,030</b>	<b>11</b>	<b>13,732</b>	<b>9</b>	<b>50.6</b>	<b>14</b>	<b>55.8</b>	<b>11</b>	<b>42.7</b>	<b>14</b>	<b>47.8</b>	<b>11</b>
North Korea	895	1	832	2	25,915	1	21,755	1	10,569	1	10,347	1	68.9	1	70.8	1	60.7	1	62.4	1
Haiti	1,717	14	3,321	15	61,823	11	137,295	15	15,059	12	16,428	15	54.1	11	37.2	15	45.7	11	31.8	15
Tanzania	1,357	9	1,137	8	55,603	9	43,461	9	14,553	6	14,177	12	56.6	9	61.7	9	47.8	9	52.2	9
Nepal	1,285	5	832	1	49,745	7	26,361	2	13,660	5	12,959	4	58.8	7	69.2	2	49.8	6	58.8	2
Comoros	1,439	10	1,223	9	52,340	8	38,959	8	13,050	2	12,879	2	57.5	8	62.8	8	49.5	7	54	7
Burkina Faso	1,521	12	1,396	12	68,852	13	59,507	13	14,862	10	13,409	7	52.1	13	55.2	13	43.8	13	47.1	12
Uganda	1,658	13	1,290	10	75,253	15	45,587	10	15,596	15	13,882	11	50.4	15	60.3	10	42.2	15	51.5	10

## COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of Zambia 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 Zambia 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	HIV/AIDS	Malaria	Lower respiratory infections	Diarrheal diseases	Protein-energy malnutrition	Meningitis	Tuberculosis	Neonatal encephalopathy	Syphilis	Road injury	Preterm birth complications	Neonatal sepsis	Major depressive disorder	Fire	Congenital anomalies	Iron-deficiency anemia	Stroke	Maternal disorders	Epilepsy	Measles	Drowning	Falls	Poisonings	Ischemic heart disease	COPD
Kenya	8	9	8	2	9	8	4	3	5	7	5	9	6	5	2	6	5	3	6	8	7	3	5	4	2
Timor-Leste	1	6	9	5	5	6	12	2	4	3	11	2	14	2	14	5	11	8	2	13	11	4	2	15	9
Chad	7	7	14	15	14	12	9	6	12	6	10	13	10	10	3	14	6	13	12	14	3	12	9	6	8
Benin	11	12	13	6	13	11	2	11	6	12	13	14	7	9	7	13	7	14	14	15	8	11	7	8	7
Ghana	10	10	4	3	6	9	3	8	2	4	9	15	11	3	4	11	9	4	10	12	1	7	3	9	3
Bangladesh	1	4	3	9	8	1	5	14	7	2	15	4	2	4	10	9	1	5	4	5	15	13	15	1	14
Lesotho	6	1	2	8	2	4	15	7	8	1	8	3	4	8	11	4	13	2	7	3	4	1	8	7	12
<b>Zambia</b>	<b>14</b>	<b>14</b>	<b>7</b>	<b>7</b>	<b>15</b>	<b>13</b>	<b>11</b>	<b>10</b>	<b>13</b>	<b>13</b>	<b>1</b>	<b>6</b>	<b>15</b>	<b>15</b>	<b>5</b>	<b>2</b>	<b>10</b>	<b>7</b>	<b>13</b>	<b>4</b>	<b>12</b>	<b>15</b>	<b>14</b>	<b>11</b>	<b>5</b>
North Korea	3	2	1	1	1	2	1	1	1	9	2	1	3	1	15	1	12	1	1	1	14	8	4	12	13
Haiti	9	5	5	13	3	10	13	9	14	8	7	12	8	6	8	15	15	11	5	2	2	6	1	14	1
Tanzania	12	15	11	10	10	5	8	5	10	10	3	7	5	11	1	10	4	10	9	6	9	2	11	3	4
Nepal	5	3	12	12	4	3	10	15	9	5	12	5	1	7	13	8	3	6	3	7	5	9	13	10	15
Comoros	4	8	6	4	11	7	6	12	15	15	14	10	9	13	12	3	14	15	11	10	13	5	6	13	11
Burkina Faso	13	13	15	14	7	15	7	4	3	14	6	11	12	12	9	12	2	9	15	9	6	14	10	2	10
Uganda	15	11	10	11	12	14	14	13	11	11	4	8	13	14	6	7	8	12	8	11	10	10	12	5	6
Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to comparator countries in 2010																									
Country	HIV/AIDS	Malaria	Lower respiratory infections	Diarrheal diseases	Protein-energy malnutrition	Meningitis	Neonatal encephalopathy	Tuberculosis	Syphilis	Preterm birth complications	Neonatal sepsis	Road injury	Iron-deficiency anemia	Stroke	Major depressive disorder	Epilepsy	Fire	Falls	Congenital anomalies	Ischemic heart disease	Maternal disorders	Low back pain	Drowning	Interpersonal violence	COPD
Kenya	11	7	11	10	12	9	3	8	7	6	10	8	7	4	9	6	7	4	5	2	6	4	7	5	2
Timor-Leste	1	6	4	4	4	4	2	13	3	9	2	2	3	9	12	3	2	3	15	15	8	5	9	6	9
Chad	10	11	15	15	15	14	8	11	14	13	14	13	14	6	8	15	12	13	10	5	15	13	5	7	7
Benin	7	14	12	6	10	12	6	4	5	11	13	9	13	7	4	11	6	9	7	8	10	10	4	8	4
Ghana	9	10	7	3	9	10	5	2	2	8	15	7	10	10	6	10	3	7	6	13	4	1	3	2	6
Bangladesh	3	4	2	2	5	1	15	3	6	15	3	1	6	1	3	5	4	11	9	4	2	15	15	3	14
Lesotho	15	2	13	13	3	6	13	15	9	14	4	3	4	14	13	7	14	1	14	6	13	6	8	15	13
<b>Zambia</b>	<b>14</b>	<b>13</b>	<b>9</b>	<b>11</b>	<b>14</b>	<b>13</b>	<b>11</b>	<b>12</b>	<b>15</b>	<b>2</b>	<b>7</b>	<b>11</b>	<b>2</b>	<b>11</b>	<b>10</b>	<b>12</b>	<b>13</b>	<b>15</b>	<b>4</b>	<b>10</b>	<b>7</b>	<b>3</b>	<b>13</b>	<b>12</b>	<b>5</b>
North Korea	4	1	1	1	1	2	1	1	1	1	1	5	1	12	1	1	1	8	13	12	1	8	12	4	12
Haiti	6	5	6	12	6	8	7	10	11	7	12	6	15	15	7	4	9	10	11	14	5	2	2	14	1
Tanzania	13	9	8	7	8	5	9	7	12	3	6	10	11	2	14	8	8	2	1	1	14	11	11	11	3
Nepal	5	3	3	9	2	3	14	6	8	5	5	4	5	3	2	2	5	5	3	11	3	14	1	1	15
Comoros	2	8	10	8	11	7	12	9	13	12	9	14	9	13	11	13	11	6	8	7	12	9	14	10	11
Burkina Faso	8	15	14	14	13	15	4	5	4	10	11	15	12	8	5	14	15	14	12	9	9	7	6	9	10
Uganda	12	12	5	5	7	11	10	14	10	4	8	12	8	5	15	9	10	12	2	3	11	12	10	13	8
Ranking Legend	1 - 3			4 - 7				8 - 11				12 - 15													