

# GBD PROFILE: SOLOMON ISLANDS

## 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.

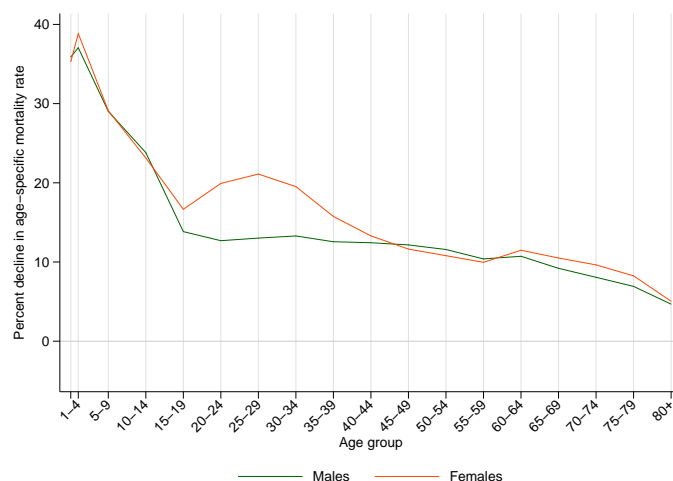
### PROFILE OVERVIEW

- In terms of the number of years of life lost (YLLs) due to premature death in the Solomon Islands, diabetes mellitus, cerebrovascular disease, 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), syphilis showed the largest decrease, falling by 33% from 1990 to 2010.
- The leading risk factor in the Solomon Islands is high fasting plasma glucose.

### ALL-CAUSE MORTALITY RATE

- This chart shows the decline in mortality rate at every age range. The higher points on the chart indicate that declines in mortality rates were faster in those age groups between 1990 and 2010.
- The greatest reductions in all-cause mortality rate were experienced by females aged 1-4 years (39%). Males aged 80+ years saw the smallest decrease in mortality rate (5%).

Percent decline in age-specific mortality rate by sex from 1990-2010 in the Solomon Islands



### 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, Solomon Islands

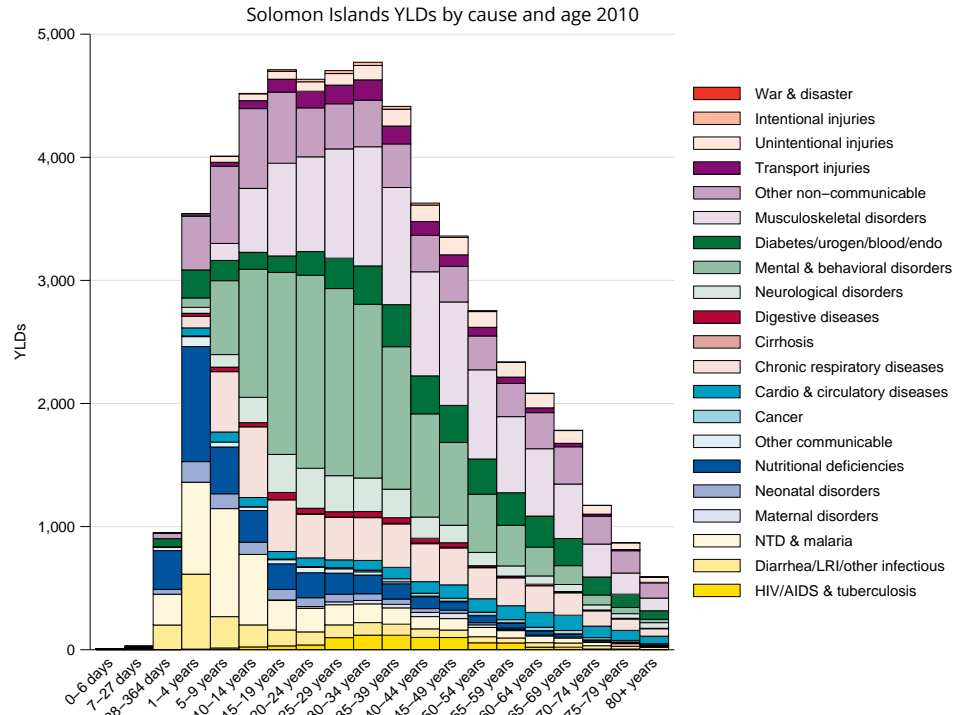
# YLLs in thousands (% of total)	Rank and disorder 1990	Rank and disorder 2010	# YLLs in thousands (% of total)	% change
10 (9.0%)	1 Lower respiratory infections	1 Diabetes	11 (7.0%)	207
7 (5.9%)	2 Diarrheal diseases	2 Stroke	10 (6.6%)	93
5 (4.8%)	3 Stroke	3 Lower respiratory infections	10 (6.4%)	-1
5 (4.6%)	4 Preterm birth complications	4 Ischemic heart disease	8 (5.4%)	98
5 (4.3%)	5 Tuberculosis	5 Tuberculosis	6 (3.6%)	16
4 (3.9%)	6 Protein-energy malnutrition	6 Preterm birth complications	5 (3.5%)	6
4 (3.8%)	7 Ischemic heart disease	7 Diarrheal diseases	5 (3.0%)	-29
6 (5.2%)	8 Malaria	8 Meningitis	3 (2.1%)	8
4 (3.2%)	9 Diabetes	9 Asthma	3 (2.1%)	37
4 (3.2%)	10 Syphilis	10 Protein-energy malnutrition	4 (2.2%)	-22
3 (2.7%)	11 Meningitis	11 Neonatal encephalopathy	3 (2.1%)	18
3 (2.5%)	12 Neonatal encephalopathy	12 Self-harm	3 (2.0%)	56
3 (2.2%)	13 Asthma	13 Cirrhosis	3 (1.9%)	65
2 (1.8%)	14 Self-harm	14 Chronic kidney disease	3 (1.9%)	217
2 (1.6%)	15 Cirrhosis	15 Road injury	3 (1.9%)	90
2 (1.8%)	16 Neonatal sepsis	16 Neonatal sepsis	3 (1.7%)	31
2 (1.6%)	17 Maternal disorders	17 Syphilis	2 (1.6%)	-33
2 (1.5%)	18 Poisonings	18 Interpersonal violence	2 (1.3%)	105
2 (1.4%)	19 Road injury	19 Congenital anomalies	2 (1.2%)	79
1 (1.3%)	20 COPD	20 Drowning	2 (1.2%)	41
1 (1.2%)	21 Drowning	21 COPD	2 (1.2%)	28
2 (1.4%)	22 Acute hepatitis A	22 Liver cancer	2 (1.2%)	249
1 (1.0%)	23 Peptic ulcer	23 Poisonings	2 (1.2%)	9
1 (1.0%)	24 Rheumatic heart disease	24 Epilepsy	2 (1.0%)	80
1 (1.0%)	25 Appendicitis	25 Maternal disorders	2 (1.1%)	-10
	26 Congenital anomalies	26 Rheumatic heart disease		
	27 Interpersonal violence	28 Peptic ulcer		
	30 Chronic kidney disease	29 Appendicitis		
	33 Epilepsy	30 Malaria		
	39 Liver cancer	36 Acute hepatitis A		

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 the Solomon Islands are low back pain, major depressive disorder, iron-deficiency anemia, diabetes mellitus, and neck pain.

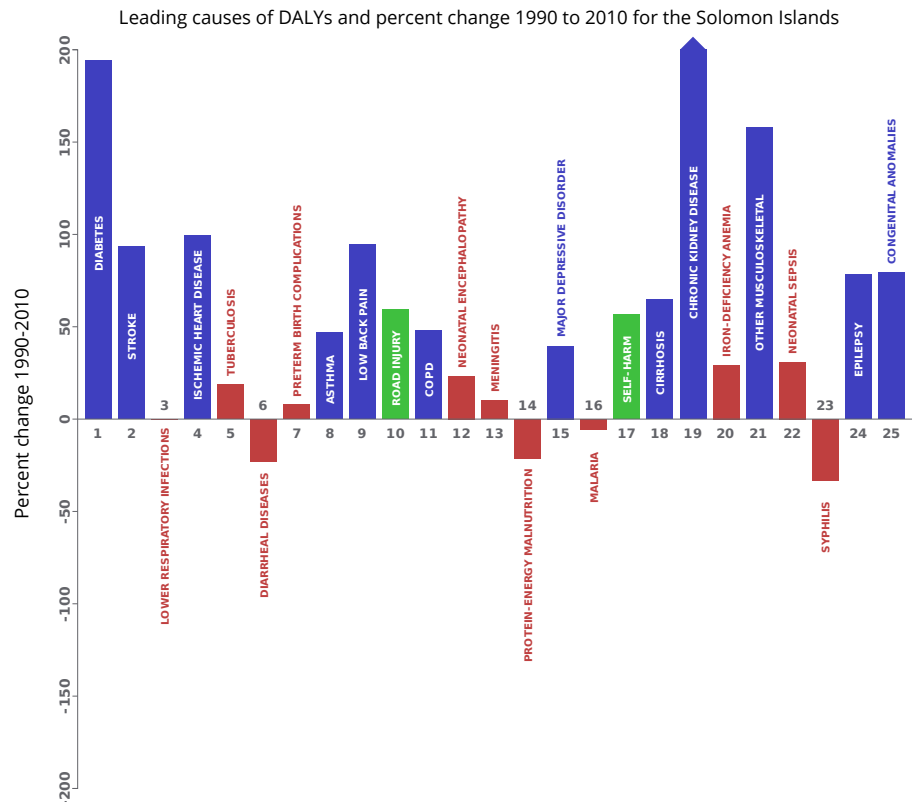
The size of the colored portion in each bar represents the number of YLDs attributable to each cause. The height of each bar shows which age groups had the most YLDs in 2010. The causes are aggregated. For example, musculoskeletal disorders include low back pain and neck pain.



## DISABILITY-ADJUSTED LIFE YEARS (DALYs)

Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In the Solomon Islands, the top three causes of DALYs in 2010 were diabetes mellitus, cerebrovascular disease, and lower respiratory infections. The causes that were in the 10 leading causes of DALYs in 2010 and not 1990 were asthma, low back pain, and road injury.

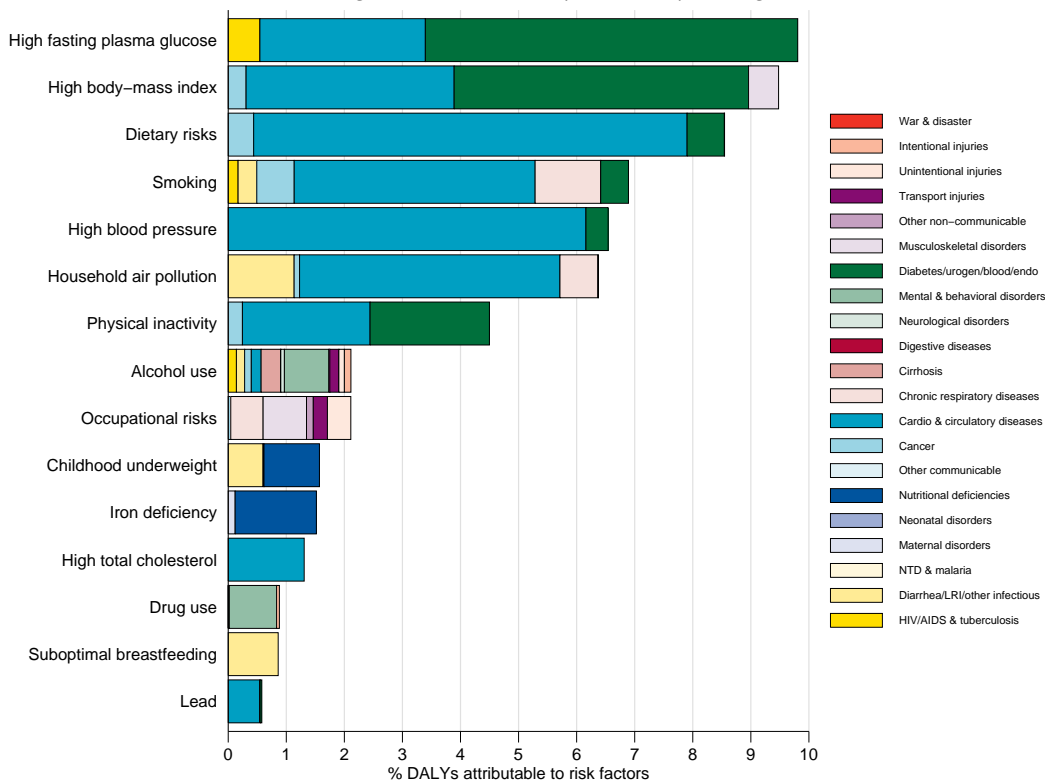
The top 25 causes of DALYs are ranked from left to right in order of the number of DALYs they contributed in 2010. Bars going up show the percent by which DALYs have increased since 1990. Bars going down show the percent by which DALYs have decreased. Globally, non-communicable diseases and injuries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



## RISK FACTORS

Overall, the three risk factors that account for the most disease burden in the Solomon Islands are high fasting plasma glucose, high body-mass index, and dietary risks. The leading risk factors for children under 5 and adults aged 15-49 years were childhood underweight and dietary risks, respectively, in 2010.

Burden of disease attributable to 15 leading risk factors in 2010, expressed as a percentage of Solomon Islands DALYs



The graph shows the top 15 risk factors for the Solomon Islands. 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 the Solomon Islands against other comparator countries provides key insight into public health successes and areas where the Solomon Islands might be falling behind. The table identifies the Solomon Islands' 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, the Solomon Islands ranked 8th for age-standardized YLD rate and 14th 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
Vietnam	876	3	595	1	26,230	3	15,123	1	12,188	2	10,909	1	68.9	3	75.6	1	59.5	3	65.8	1
Moldova	1,000	5	912	6	26,698	4	22,769	4	11,653	1	11,362	2	68.1	4	70	4	59.3	4	61	4
Nicaragua	762	1	652	2	25,101	2	16,911	2	12,459	4	11,835	3	70.3	2	74.4	2	60.1	1	64	2
Palestine	794	2	694	3	23,225	1	18,413	3	12,827	6	12,639	9	70.6	1	73.2	3	59.9	2	62.2	3
Pakistan	1,120	8	982	7	41,231	7	33,518	9	12,877	7	12,323	6	62.3	7	65.7	9	53.3	7	56.5	8
Yemen	1,361	12	1,068	9	47,661	10	32,041	8	15,157	14	14,318	14	59.3	11	65.8	8	49.4	11	55.2	10
Uzbekistan	972	4	911	5	29,477	5	26,063	5	12,381	3	12,150	4	67.3	5	68.8	5	57.8	5	59.3	5
<b>Solomon Islands</b>	<b>1,707</b>	<b>14</b>	<b>1,510</b>	<b>14</b>	<b>47,851</b>	<b>11</b>	<b>40,489</b>	<b>12</b>	<b>13,520</b>	<b>10</b>	<b>12,482</b>	<b>8</b>	<b>59.4</b>	<b>10</b>	<b>62</b>	<b>12</b>	<b>51.2</b>	<b>10</b>	<b>54</b>	<b>11</b>
Papua New Guinea	1,990	15	1,700	15	64,195	15	49,553	15	14,891	13	13,793	10	53.8	15	58.7	15	45.7	15	50.4	13
Djibouti	1,180	9	1,129	11	45,440	9	38,655	11	13,493	9	14,182	13	60.6	9	63.2	11	51.6	8	53.5	12
Laos	1,532	13	1,094	10	56,031	13	34,746	10	13,297	8	12,323	5	56.2	13	64.7	10	48.3	13	55.9	9
Kyrgyzstan	1,047	6	999	8	33,446	6	30,037	7	12,606	5	12,336	7	65.5	6	66.9	7	56.2	6	57.6	6
Sudan	1,110	7	799	4	41,735	8	28,295	6	15,584	15	14,781	15	62.1	8	68.8	6	51.4	9	57	7
Cameroon	1,296	10	1,277	13	51,072	12	49,262	13	14,617	12	13,891	12	58.3	12	59.1	14	49.1	12	50.2	15
Nigeria	1,343	11	1,159	12	60,604	14	49,276	14	14,273	11	13,842	11	55.1	14	59.6	13	46.4	14	50.4	14

## COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of the Solomon Islands 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 the Solomon Islands 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	Lower respiratory infections	Diarrheal diseases	Stroke	Tuberculosis	Preterm birth complications	Malaria	Diabetes	Protein-energy malnutrition	Ischemic heart disease	Syphilis	Asthma	Meningitis	Neonatal encephalopathy	COPD	Road injury	Major depressive disorder	Iron-deficiency anemia	Low back pain	Self-harm	Cirrhosis	Maternal disorders	Neonatal sepsis	Poisonings	Falls	Drowning
Vietnam	3	3	8	10	4	8	2	5	1	5	6	6	1	8	3	2	6	2	6	7	5	3	4	4	15
Moldova	2	1	9	2	1	2	3	1	14	1	1	1	6	5	11	10	1	13	14	15	1	6	12	6	10
Nicaragua	4	9	3	5	9	5	11	6	8	9	9	3	8	2	2	12	2	4	5	4	6	10	1	1	5
Palestine	1	2	14	1	15	1	12	4	9	4	4	2	5	1	4	15	3	12	3	2	3	9	3	9	1
Pakistan	6	11	1	12	14	6	6	7	7	8	8	8	15	15	1	3	10	1	8	6	7	13	13	11	7
Yemen	14	14	10	9	7	9	13	8	12	10	12	7	2	6	8	14	12	11	1	3	10	4	11	7	4
Uzbekistan	7	4	11	4	2	3	7	3	15	3	3	5	14	3	9	6	8	6	10	11	2	1	2	5	9
<b>Solomon Islands</b>	<b>5</b>	<b>6</b>	<b>15</b>	<b>13</b>	<b>3</b>	<b>11</b>	<b>15</b>	<b>9</b>	<b>10</b>	<b>15</b>	<b>14</b>	<b>10</b>	<b>3</b>	<b>12</b>	<b>6</b>	<b>4</b>	<b>4</b>	<b>8</b>	<b>15</b>	<b>13</b>	<b>8</b>	<b>7</b>	<b>14</b>	<b>13</b>	<b>8</b>
Papua New Guinea	15	7	2	15	5	13	14	11	5	11	15	12	4	11	7	5	7	7	12	14	15	8	15	14	12
Djibouti	11	8	7	6	12	7	9	14	6	6	7	13	11	9	15	9	9	10	7	5	13	11	9	3	11
Laos	13	13	12	14	11	10	10	10	11	7	13	9	7	13	5	8	11	3	11	9	11	5	5	8	13
Kyrgyzstan	10	5	13	3	6	4	1	2	13	2	2	4	13	14	12	7	5	5	13	10	4	2	10	10	14
Sudan	8	10	5	8	8	12	4	13	3	13	5	11	10	7	10	13	14	15	9	1	12	12	8	2	6
Cameroon	9	12	6	7	10	14	8	12	4	14	10	14	9	10	14	11	13	9	4	12	14	14	7	12	2
Nigeria	12	15	4	11	13	15	5	15	2	12	11	15	12	4	13	1	15	14	2	8	9	15	6	15	3
Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to comparator countries in 2010																									
Country	Diabetes	Stroke	Lower respiratory infections	Ischemic heart disease	Tuberculosis	Diarrheal diseases	Preterm birth complications	Asthma	Low back pain	Road injury	COPD	Neonatal encephalopathy	Meningitis	Protein-energy malnutrition	Major depressive disorder	Malaria	Self-harm	Cirrhosis	Chronic kidney disease	Iron-deficiency anemia	Other musculoskeletal	Neonatal sepsis	Syphilis	Epilepsy	Congenital anomalies
Vietnam	1	8	2	1	3	3	2	5	3	7	8	1	3	5	3	6	5	4	5	1	4	2	5	3	2
Moldova	2	10	3	14	4	1	1	1	13	5	4	2	1	1	5	4	15	15	1	4	7	4	1	2	9
Nicaragua	11	2	4	7	2	6	5	8	4	1	2	7	4	6	9	5	6	7	14	2	12	9	7	8	11
Palestine	12	13	1	9	1	2	14	4	12	3	1	5	2	4	15	1	3	2	12	5	5	10	4	4	10
Pakistan	9	5	8	8	12	12	15	7	1	2	15	15	9	7	7	7	9	9	10	9	2	13	8	6	13
Yemen	13	9	15	12	9	14	12	12	11	8	7	3	7	9	14	9	2	3	4	14	3	5	10	1	15
Uzbekistan	8	12	10	15	5	4	3	3	6	9	5	14	5	3	10	2	10	12	8	8	6	1	2	7	5
<b>Solomon Islands</b>	<b>15</b>	<b>15</b>	<b>5</b>	<b>10</b>	<b>13</b>	<b>7</b>	<b>4</b>	<b>14</b>	<b>8</b>	<b>4</b>	<b>12</b>	<b>4</b>	<b>10</b>	<b>10</b>	<b>1</b>	<b>10</b>	<b>13</b>	<b>10</b>	<b>13</b>	<b>3</b>	<b>15</b>	<b>7</b>	<b>12</b>	<b>9</b>	<b>1</b>
Papua New Guinea	14	4	14	6	15	8	6	15	9	6	13	6	12	11	8	12	12	13	15	7	13	8	11	11	6
Djibouti	7	7	9	4	11	10	8	11	10	14	10	10	13	14	12	11	8	5	6	13	14	11	6	14	8
Laos	6	11	11	11	14	9	11	13	2	10	11	8	8	8	11	8	11	6	11	10	1	6	9	5	14
Kyrgyzstan	3	14	7	13	6	5	10	2	5	11	14	13	6	2	6	3	14	14	9	6	9	3	3	10	12
Sudan	4	1	6	2	7	11	7	10	15	12	6	9	11	12	13	13	7	1	2	12	11	12	15	12	3
Cameroon	10	6	13	5	8	15	9	6	7	13	9	11	15	13	4	14	4	11	7	11	10	14	14	15	7
Nigeria	5	3	12	3	10	13	13	9	14	15	3	12	14	15	2	15	1	8	3	15	8	15	13	13	4
Ranking Legend	1 - 3			4 - 7				8 - 11				12 - 15													