

# GBD PROFILE: INDONESIA

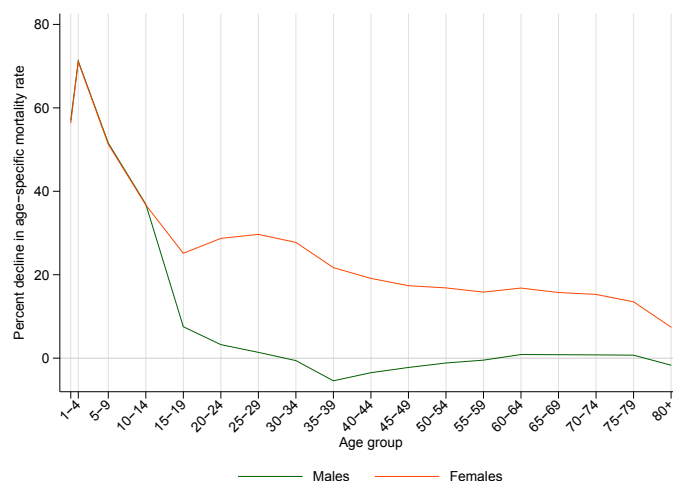
## GLOBAL BURDEN OF DISEASES, INJURIES, AND RISK FACTORS STUDY 2010

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 Indonesia, cerebrovascular disease, tuberculosis, and road injury were the highest ranking causes in 2010.
- Of the 25 most important causes of burden, as measured by disability-adjusted life years (DALYs), lower respiratory infections showed the largest decrease, falling by 81% from 1990 to 2010.
- The leading risk factor in Indonesia is dietary risks.

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



### 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 (71%). Males aged 35-39 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, Indonesia

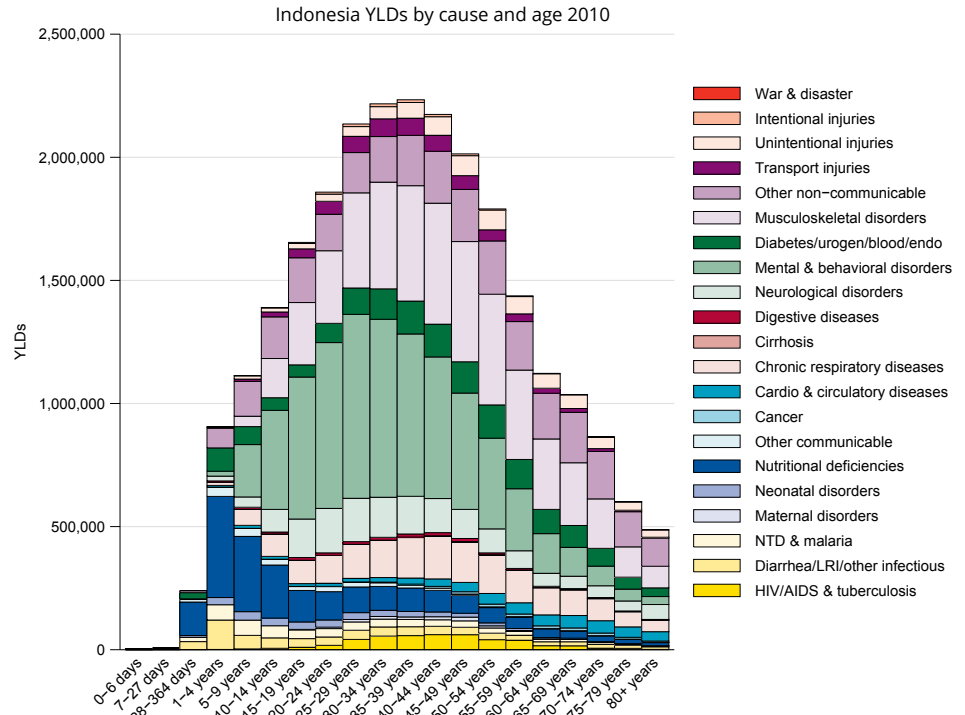
# YLLs in thousands (% of total)	Rank and disorder 1990	Rank and disorder 2010	# YLLs in thousands (% of total)	% change
11,119 (17.9%)	1 Lower respiratory infections	1 Stroke	6,067 (11.8%)	76
5,879 (9.5%)	2 Tuberculosis	2 Tuberculosis	5,467 (10.6%)	-6
5,326 (8.6%)	3 Diarrheal diseases	3 Road injury	3,084 (6.0%)	35
3,471 (5.6%)	4 Stroke	4 Diarrheal diseases	2,856 (5.5%)	-42
2,312 (3.7%)	5 Road injury	5 Ischemic heart disease	2,698 (5.2%)	86
2,182 (3.5%)	6 Preterm birth complications	6 Lower respiratory infections	2,276 (4.4%)	-81
2,022 (3.3%)	7 Malaria	7 Diabetes	2,124 (4.1%)	86
1,855 (3.0%)	8 Neonatal encephalopathy	8 Neonatal encephalopathy	2,028 (3.9%)	8
1,456 (2.3%)	9 Ischemic heart disease	9 Preterm birth complications	1,834 (3.6%)	-15
1,538 (2.5%)	10 Meningitis	10 Cirrhosis	1,570 (3.0%)	96
1,443 (2.3%)	11 Protein-energy malnutrition	11 Chronic kidney disease	1,043 (2.0%)	94
1,598 (2.6%)	12 Measles	12 Typhoid fevers	1,349 (2.6%)	32
1,500 (2.4%)	13 Neonatal sepsis	13 Neonatal sepsis	973 (1.9%)	-16
1,275 (2.1%)	14 Congenital anomalies	14 Lung cancer	831 (1.6%)	105
1,146 (1.8%)	15 Diabetes	15 Other cardio & circulatory	813 (1.6%)	22
1,094 (1.8%)	16 Maternal disorders	16 Hypertensive heart disease	807 (1.6%)	68
1,022 (1.6%)	17 Tetanus	17 COPD	792 (1.5%)	40
805 (1.3%)	18 Cirrhosis	18 Congenital anomalies	737 (1.4%)	-42
1,017 (1.6%)	19 Typhoid fevers	19 Maternal disorders	722 (1.4%)	-34
674 (1.1%)	20 Other cardio & circulatory	20 Malaria	695 (1.3%)	-66
647 (1.0%)	21 Syphilis	21 HIV/AIDS	589 (1.1%)	-
579 (0.9%)	22 COPD	22 Asthma	563 (1.1%)	16
560 (0.9%)	23 Rheumatic heart disease	23 Breast cancer	436 (0.8%)	116
543 (0.9%)	24 Chronic kidney disease	24 Rheumatic heart disease	422 (0.8%)	-24
483 (0.8%)	25 Hypertensive heart disease	25 Leukemia	398 (0.8%)	46
	26 Asthma	31 Meningitis		
	28 Lung cancer	34 Measles		
	31 Leukemia	40 Protein-energy malnutrition		
	38 Breast cancer	42 Syphilis		
		57 Tetanus		

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 Indonesia are low back pain, major depressive disorder, iron-deficiency anemia, chronic obstructive pulmonary disease, 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.

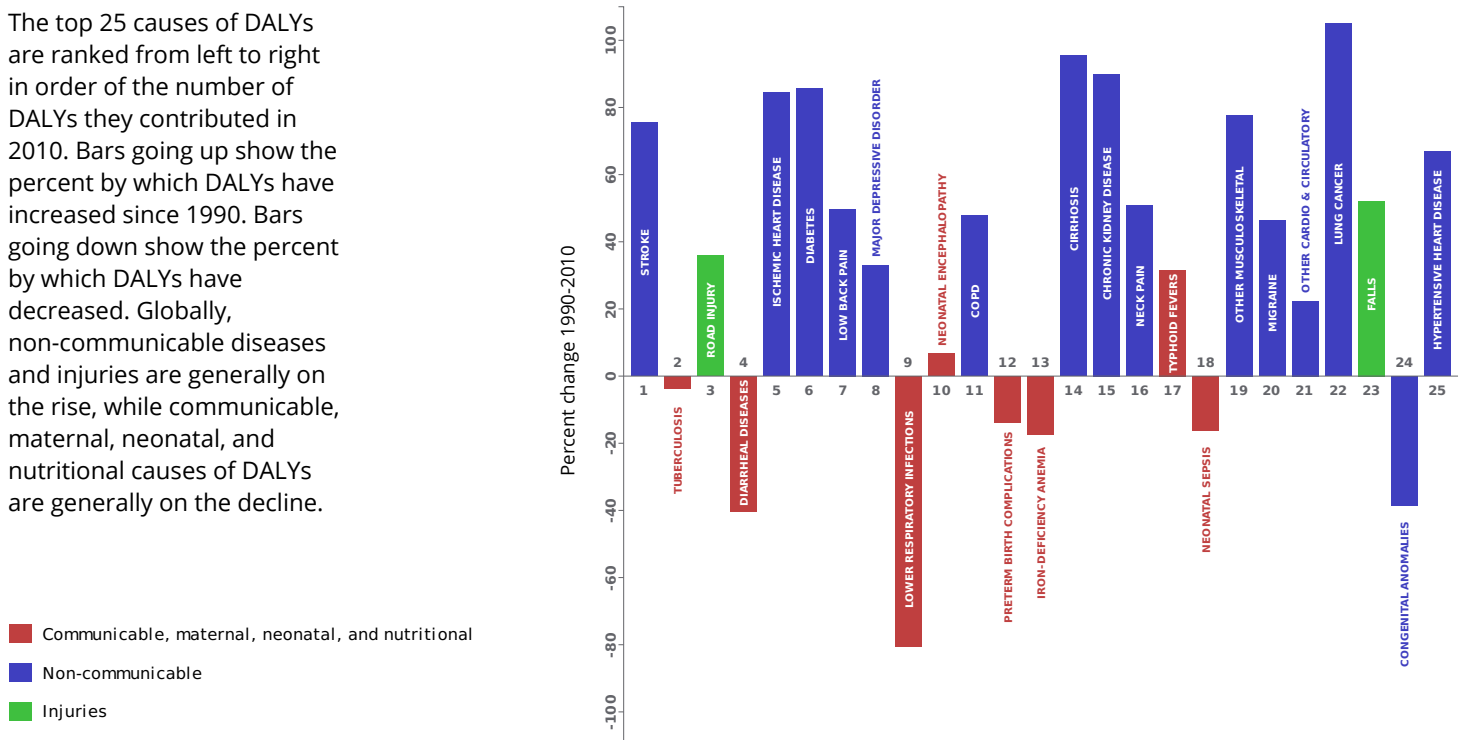


## DISABILITY-ADJUSTED LIFE YEARS (DALYs)

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

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.

Leading causes of DALYs and percent change 1990 to 2010 for Indonesia

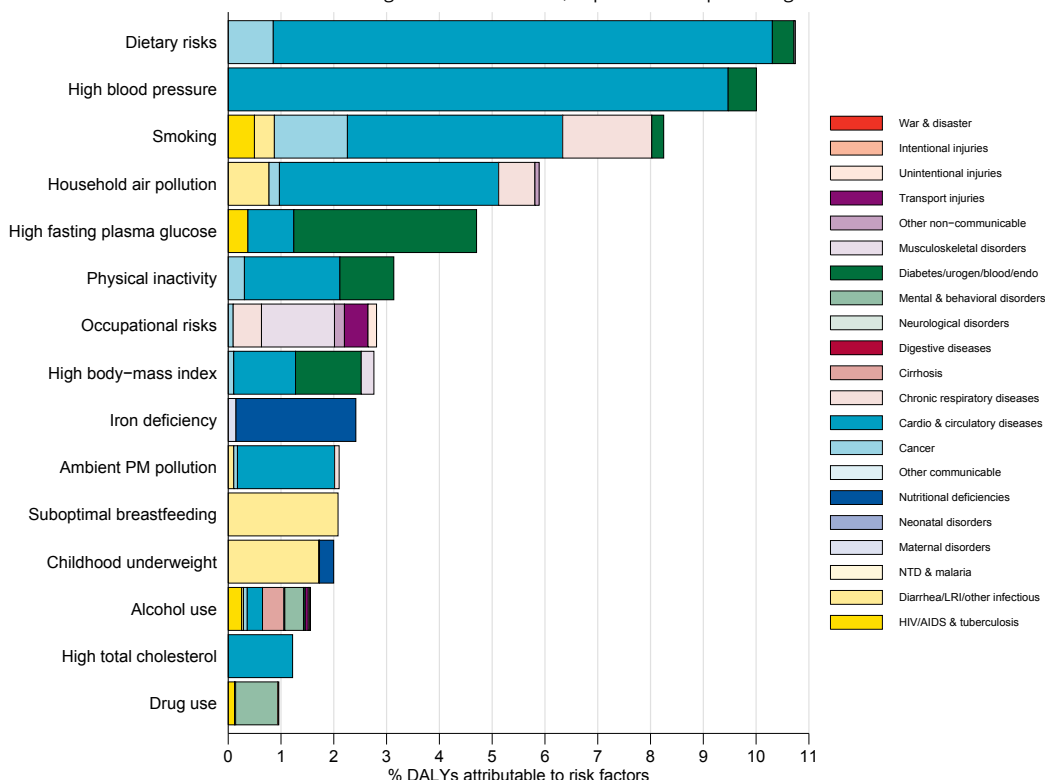


## RISK FACTORS

Overall, the three risk factors that account for the most disease burden in Indonesia are dietary risks, high blood pressure, and tobacco smoking. 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 Indonesia. 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.

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



## COUNTRY BENCHMARKING OF BURDEN OF DISEASE

Understanding the relative performance of Indonesia against other comparator countries provides key insight into public health successes and areas where Indonesia might be falling behind. The table identifies Indonesia'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, Indonesia ranked 1st for age-standardized YLD rate and 10th for age-standardized YLL 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
Syria	797	4	513	1	21,457	3	12,094	1	13,133	6	12,031	6	71.4	3	77.6	1	60.3	3	66	1
Bhutan	1,284	12	822	9	49,438	13	26,020	11	13,781	12	12,113	7	58.8	13	69.4	11	50	13	59.7	11
Paraguay	682	1	725	5	18,868	1	18,059	4	12,337	4	12,006	4	73.2	1	73.2	4	62.4	1	62.8	4
Sri Lanka	712	2	620	3	20,846	2	14,898	2	12,231	3	11,452	2	72.3	2	75.5	2	62.1	2	65.3	2
Guyana	1,199	11	1,124	12	35,469	10	31,305	12	13,663	11	14,024	13	64.1	10	66	12	54.6	10	55	13
Bolivia	1,136	10	751	6	41,077	11	23,965	9	13,140	7	12,020	5	62.2	11	70.7	8	53.2	11	60.8	9
Morocco	912	8	696	4	29,826	8	19,672	5	14,217	13	13,384	12	67.4	8	72.7	5	56.3	8	61.1	6
<b>Indonesia</b>	<b>1,033</b>	<b>9</b>	<b>867</b>	<b>10</b>	<b>34,584</b>	<b>9</b>	<b>24,178</b>	<b>10</b>	<b>12,101</b>	<b>1</b>	<b>11,107</b>	<b>1</b>	<b>65</b>	<b>9</b>	<b>69.7</b>	<b>10</b>	<b>56.2</b>	<b>9</b>	<b>60.9</b>	<b>7</b>
Honduras	869	6	784	8	26,454	6	20,507	6	12,940	5	12,485	9	68.9	6	71.8	6	58.8	6	61.6	5
Iraq	809	5	783	7	24,631	4	22,488	7	12,166	2	11,933	3	69.9	4	70.9	7	59.8	4	60.8	8
Federated States of Micronesia	1,476	13	1,258	13	42,732	12	31,526	13	13,632	10	12,681	10	61.1	12	65.6	13	52.3	12	56.7	12
Kiribati	1,879	15	1,528	15	58,098	14	43,508	14	15,513	15	14,585	15	56	14	61	14	47.2	14	51.8	14
Congo	1,696	14	1,401	14	60,756	15	49,063	15	15,443	14	14,357	14	54.7	15	58.8	15	46	15	49.9	15
Cape Verde	785	3	586	2	25,843	5	16,730	3	13,500	9	12,947	11	69.8	5	75.1	3	59.1	5	63.7	3
Philippines	909	7	868	11	28,515	7	23,262	8	13,334	8	12,483	8	67.8	7	70.1	9	57.8	7	60.3	10

## COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of Indonesia 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 Indonesia 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	Tuberculosis	Diarrheal diseases	Stroke	Road injury	Preterm birth complications	Iron-deficiency anemia	Malaria	Neonatal encephalopathy	Major depressive disorder	Low back pain	Meningitis	Ischemic heart disease	Protein-energy malnutrition	Measles	Diabetes	Neonatal sepsis	Congenital anomalies	COPD	Maternal disorders	Tetanus	Cirrhosis	Typhoid fevers	Other cardio & circulatory	Neck pain
Syria	2	2	1	9	3	2	5	5	4	14	13	2	15	3	6	4	3	15	6	2	1	4	9	14	2
Bhutan	15	11	13	1	10	15	9	13	15	3	15	9	3	13	7	6	13	14	15	15	15	10	14	1	3
Paraguay	4	1	5	5	8	6	1	1	5	11	9	4	4	1	2	7	6	7	1	4	7	2	4	2	13
Sri Lanka	1	5	3	2	1	1	10	6	3	9	1	6	10	5	2	2	2	2	5	1	2	3	12	8	6
Guyana	7	4	8	15	4	14	15	10	12	10	2	3	14	4	1	12	8	9	2	3	4	13	6	12	11
Bolivia	14	10	15	6	14	12	14	9	13	4	5	8	5	10	12	9	9	12	8	12	10	11	3	7	12
Morocco	8	8	6	7	5	13	6	11	14	13	14	10	6	11	3	13	11	10	3	11	12	7	8	15	1
<b>Indonesia</b>	<b>13</b>	<b>15</b>	<b>9</b>	<b>12</b>	<b>13</b>	<b>5</b>	<b>11</b>	<b>14</b>	<b>11</b>	<b>5</b>	<b>6</b>	<b>11</b>	<b>1</b>	<b>7</b>	<b>14</b>	<b>10</b>	<b>12</b>	<b>6</b>	<b>7</b>	<b>10</b>	<b>14</b>	<b>9</b>	<b>15</b>	<b>10</b>	<b>7</b>
Honduras	3	6	11	4	9	10	7	7	8	15	4	1	12	6	8	5	4	1	9	5	3	8	5	4	10
Iraq	5	3	4	8	6	3	4	2	6	1	11	7	13	2	4	11	14	13	4	9	6	1	7	13	4
Federated States of Micronesia	9	9	7	13	11	7	3	3	7	2	7	13	9	12	9	14	5	5	11	8	11	14	1	9	9
Kiribati	11	14	14	14	12	9	2	4	10	8	8	15	11	14	11	15	7	4	13	13	13	15	2	11	8
Congo	10	12	12	11	15	11	12	15	9	12	3	14	7	15	15	8	10	11	14	14	5	12	10	6	14
Cape Verde	6	7	10	10	7	4	13	12	2	6	10	12	2	8	10	3	15	3	10	7	9	5	11	5	15
Philippines	12	13	2	3	2	8	8	8	1	7	12	5	8	9	13	1	1	8	12	6	8	6	13	3	5
Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to comparator countries in 2010																									
Country	Stroke	Tuberculosis	Road injury	Diarrheal diseases	Ischemic heart disease	Diabetes	Low back pain	Major depressive disorder	Lower respiratory infections	Neonatal encephalopathy	COPD	Preterm birth complications	Iron-deficiency anemia	Cirrhosis	Chronic kidney disease	Neck pain	Typhoid fevers	Neonatal sepsis	Other musculoskeletal	Migraine	Other cardio & circulatory	Lung cancer	Falls	Congenital anomalies	Hypertensive heart disease
Syria	5	1	1	1	15	1	13	14	1	4	4	3	6	1	4	3	7	2	6	3	13	1	4	10	3
Bhutan	1	10	6	9	3	4	15	1	11	15	15	15	7	9	6	4	14	12	1	15	2	6	14	11	8
Paraguay	8	3	11	4	6	9	9	12	4	6	3	6	5	4	9	13	5	7	12	14	3	11	2	8	9
Sri Lanka	2	2	2	2	9	7	1	5	2	1	8	1	10	7	7	6	12	1	2	11	4	2	10	4	2
Guyana	13	7	12	10	14	13	2	10	8	10	1	12	15	14	8	11	3	9	8	9	12	5	15	12	15
Bolivia	3	9	13	14	4	5	4	2	14	13	6	11	13	10	11	12	6	10	10	7	7	7	3	13	6
Morocco	6	8	3	3	5	12	14	13	7	12	2	14	8	5	2	1	9	11	7	2	14	14	5	7	10
<b>Indonesia</b>	<b>14</b>	<b>15</b>	<b>14</b>	<b>13</b>	<b>2</b>	<b>10</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>14</b>	<b>9</b>	<b>9</b>	<b>11</b>	<b>11</b>	<b>10</b>	<b>7</b>	<b>15</b>	<b>8</b>	<b>4</b>	<b>12</b>	<b>10</b>	<b>13</b>	<b>6</b>	<b>5</b>	<b>11</b>
Honduras	4	5	8	12	11	2	5	15	3	7	7	8	1	8	3	10	4	5	13	8	5	4	1	1	7
Iraq	9	4	5	6	13	11	11	4	9	8	5	7	9	2	13	2	8	15	5	1	15	9	8	14	13
Federated States of Micronesia	12	11	7	7	10	14	10	3	10	2	10	2	3	12	14	9	1	4	14	6	9	10	11	3	5
Kiribati	15	12	10	11	7	15	8	9	12	9	13	5	2	15	15	8	2	6	15	5	11	12	13	6	4
Congo	11	14	15	15	8	6	3	11	15	11	14	13	12	13	5	14	10	13	11	4	8	8	12	15	12
Cape Verde	7	6	9	8	1	3	7	7	5	3	11	4	14	3	1	15	11	14	9	13	6	3	9	2	1
Philippines	10	13	4	5	12	8	12	8	13	5	12	10	4	6	12	5	13	3	3	10	1	15	7	9	14
Ranking Legend	1 - 3			4 - 7				8 - 11				12 - 15													