

Which Countries Received the Most Medals per Population at the 2008 Summer Olympics?

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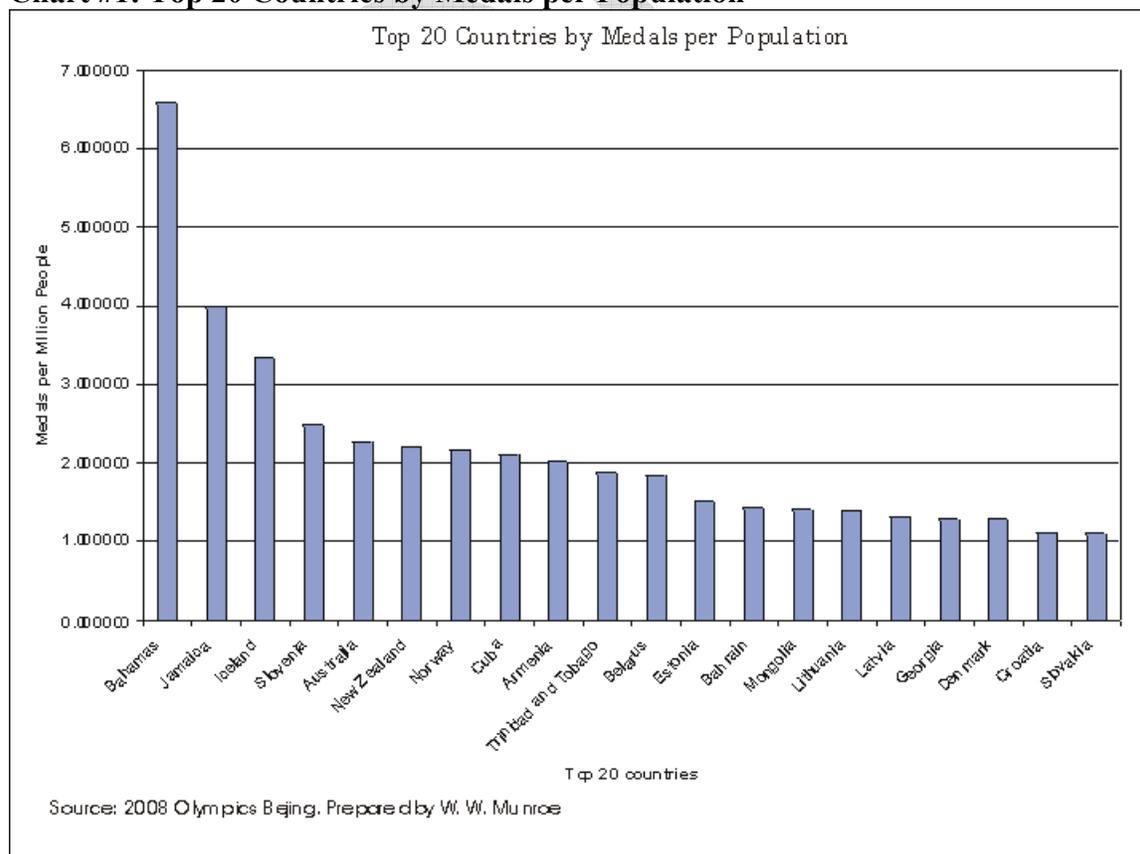
The USA, China, and Russia were the big winners at the 2008 Summer Olympics in Beijing, but they also have relatively large populations to draw upon. When we divide the total number of medals won by a country by its total population, we see a very different Olympic Medal Standings ranking.

Many countries, with both large and small populations participated in the 2008 Summer Olympics. In fact, almost half of the approximately 200 countries on Earth in 2008 were represented.

The population of the 87 countries participating in the 2008 Olympics ranged from just under 300,000 for Iceland to 1.3 billion people for China. The average population was 61.5 million.

The Bahamas won more medals relative to the size of its population (medals per million inhabitants), than any other country in the world, followed by Jamaica, and Iceland.

Chart #1: Top 20 Countries by Medals per Population



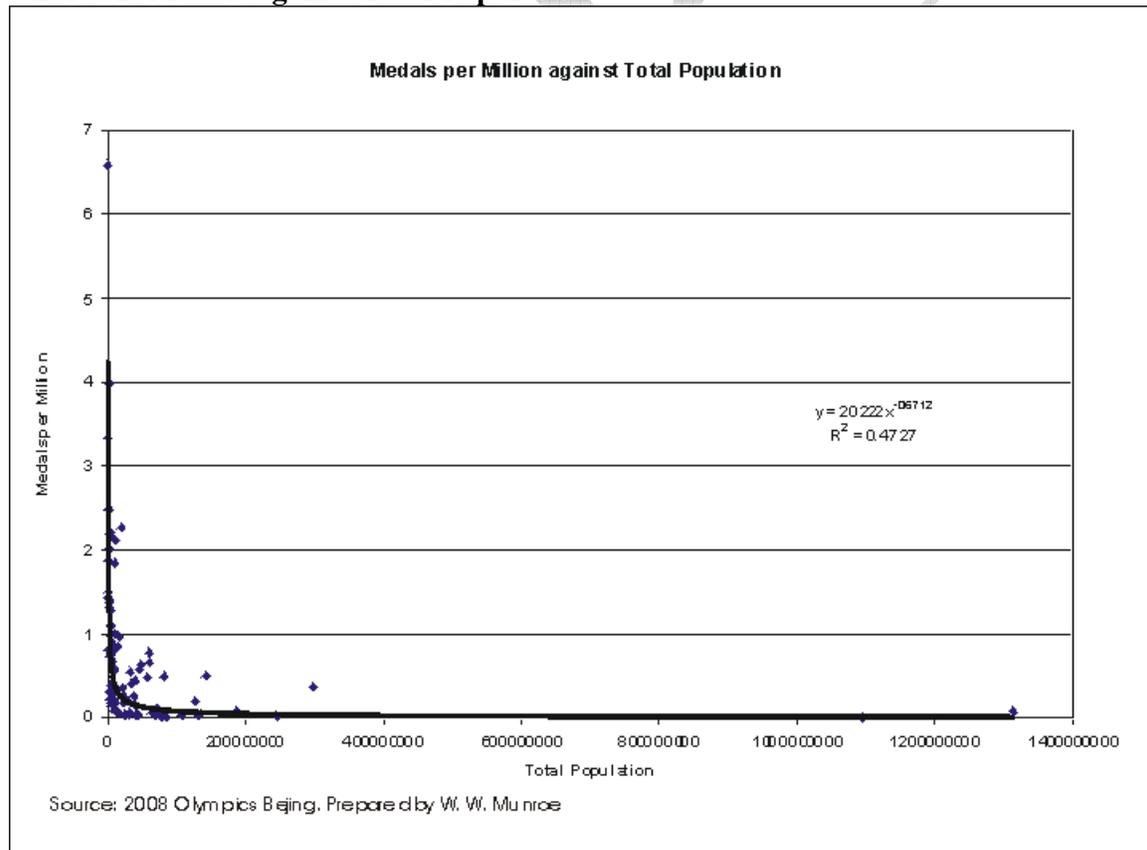
The medals per million inhabitants standings show that many Caribbean islands, many northern European countries, as well as other countries from around the world placed in the top 20, all with over 1 medal per million. The average number of medals per million people, for all 87 countries, was .7.

Looking at the top three countries in the official medal standings, the USA won 0.37 medals per million people, forty fourth overall and China won 0.076 medals for ever one million people, sixty seventh overall. Russia with 0.5 medals per million (or one medal per 2 million people) was thirty seventh overall in medals per population ranking. India had the least number of medals by population, followed by Vietnam and Egypt.

Many of the countries with higher than average number of medals per million people were from countries with a low total population. In fact, while high populations were somewhat helpful in achieving high total medal counts (except for India), it was a disadvantage in terms of medals per million.

The trend line in Chart #2 is difficult to see as it hugs the x and y axis with a brief appearance for countries with less than 200,000,000 people and less than one medal per million.

Chart #2: Medals against Total Population

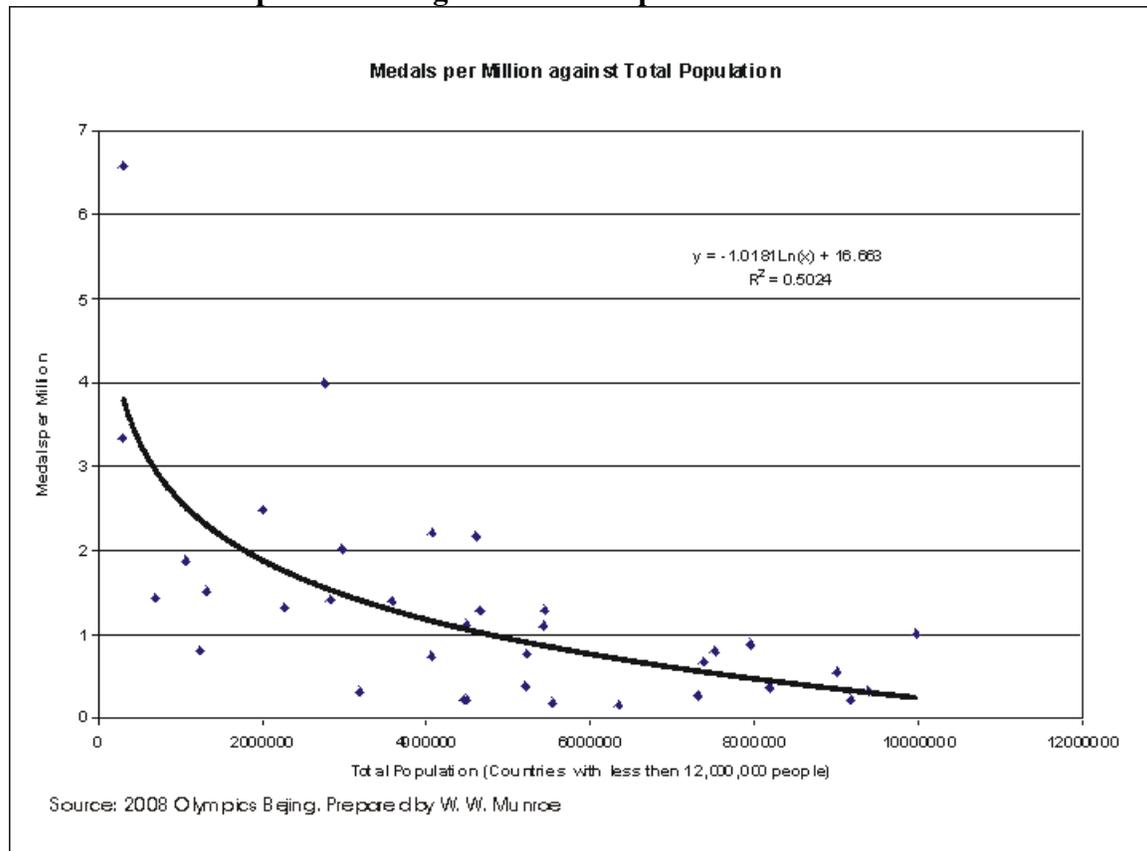


Indeed, all the countries with over 1 medal per million had a total population of less than

12,000,000, except for Australia with 22 and quarter million people and 2.3 medals per million, a truly exceptional performance.

In order to take a closer look at the countries with a high number of medals per million, the same chart is created for countries with less than 12,000,000, in Chart #3 below. The scatterplot reveals an exponential negative relationship between total population and medals per million inhabitants.

Chart #3: Medals per Million against Total Population

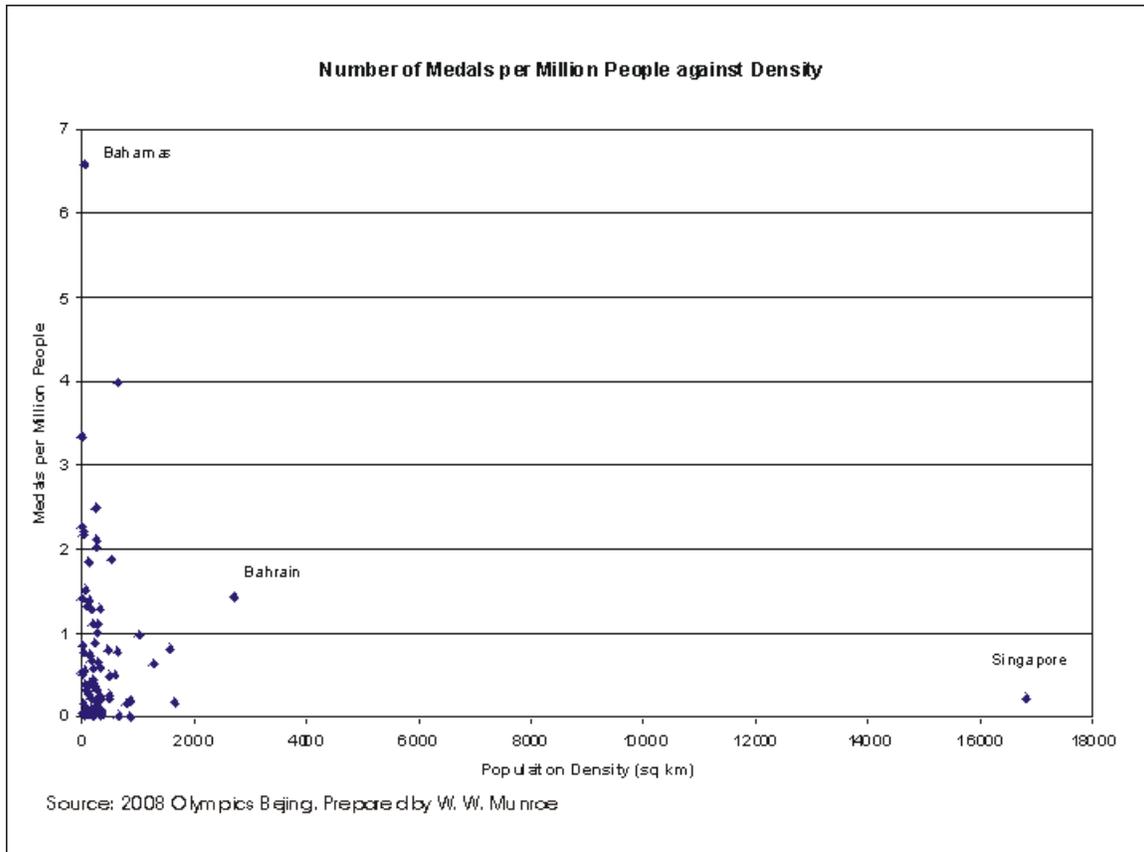


As the total population increases, the number of medals per million decreases, rapidly at first, then begins to level out for countries with 10,000,000 and more inhabitants. Indeed, total population explains approximately 50% of the variation in the number of medals per million when compared to the natural logarithm. It could be that countries with small populations enter the Olympics with fewer athletes, but that these athletes are recognized medal contenders.

Another way of looking at the medal distribution in relation to population is to consider the population density of countries. By looking at population density, we can also consider the role of urbanity and rurality. This may help explain the variation in Medals per Million between countries with large urban populations, like the USA, and those with predominantly low density areas, like Mongolia.

As we can see in the chart, only two countries had more than 2,000 people per kilometer, Bahrain and Singapore which is a city state. For the “countries” participating in the 2008 Olympics, the median density (as many below as above) was 200 people per square kilometer.

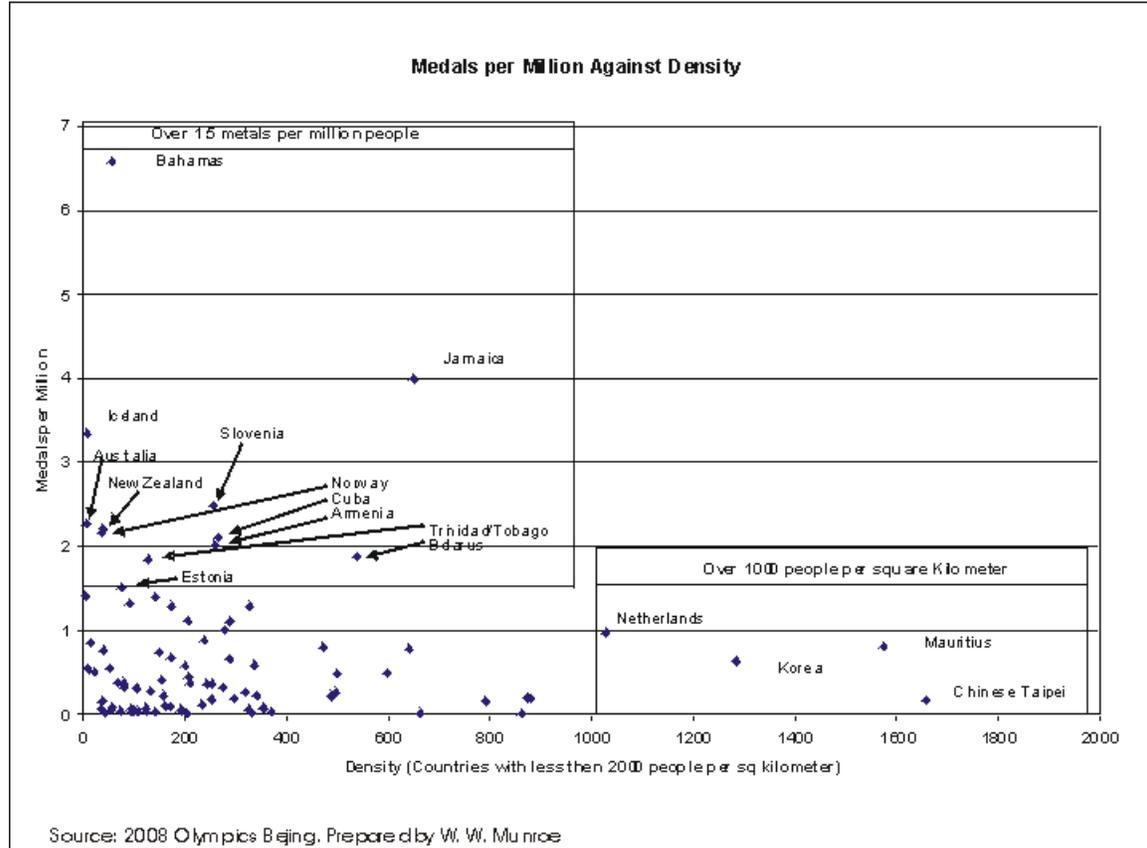
Chart #4: Medals per Million against Density



The city state of Singapore has the highest population per square kilometer of any of the participants at over 16,000 people per square kilometer. Bahrain had the second highest density at just over 2,700 people per kilometer, and one medal (gold).

To have a closer look at the medals per million people in areas with fewer than 2,000 people per square kilometer, Bahrain and Singapore have been removed from the following chart.

Chart #5: Medals per Million against Density of under 2000 people per sq km



Of the countries with over 1.5 medals per million people, only Jamaica has over 600 people per square kilometer. Indeed, the higher the density, the more difficult it was to earn more than 1 medal per million people.

Some of the other countries to do well in terms of medals per million people are the Bahamas, and Belarus. Also, Slovenia, Cuba, and Armenia stand out as exceptional performers.

Table #1 below reveals that there are three countries that stand out in terms of medals per population by density. The Bahamas has a low density and the highest medals per population while Jamaica has 3 to 4 medals per million with just over 600 people per sq km, and Bahrain has 1 to 2 medals per million (having earned one gold) and over 2600 people per sq km.

Table #1: The Total Number of Countries with the Number of Medals per Million People Aggregated in increments of 200 people per square kilometer.

	total	0 to 1 mpm	1 to 2 mpm	2 to 3 mpm	3 to 4 mpm	4 to 5 mpm	5 to 6 mpm	6 to 7 mpm
0	200	42	31	6	3	1		1
200	400	26	19	4	3			
400	600	6	5	1				
600	800	4	3			1		
800	1000	3	3					
1000	1200	1	1					
1200	1400	1	1					
1400	1600	1	1					
1600	1800	1	1					
1800	2000	0						
2000	2200	0						
2200	2400	0						
2400	2600	0						
2600	2800	1		1				
2800	3000							

The Olympic Games are often dominated by the countries with the largest populations; however, the smaller countries do better in terms of the number of medals won in relation to the number of inhabitants. As well, countries with lower densities received more medals by population than did the countries with a higher concentration of population.

Of course, countries do not win medals, rather, the athletes earn medals. It is their efforts that are to be celebrated.

Sources: Olympics 2008 Summer Games

Overall medals totals

<http://results.beijing2008.cn/WRM/ENG/INF/GL/95A/GL0000000.shtml>

by population

<http://www.infoplease.com/ipa/A0004379.html>