

The weight of nations: An estimation of adult human biomass

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The world population is over seven billion and all of these people need feeding. However, the energy requirement of a species depends not only on numbers but on its average mass. New research published in BioMed Central's open access journal *BMC Public Health* has estimated the total mass of the human population, defined its distribution by region, and the proportion of this biomass due to the overweight and obesity.

Up to half of all food eaten is burned up in physical activity. Increasing mass means higher energy requirements, because it takes more energy to move a heavy body. Even at rest a bigger body burns more energy.

Using data from the United Nations and [World Health Organization](#), researchers from the London School of Hygiene and Tropical Medicine estimated that the adult [human population](#) weighs in at 287 million tonnes. 15 millions of which is due to the overweight and 3.5 million due to obesity.

While the average body mass globally was 62kg, North America, which has the highest body mass of any continent, with an average body mass of 80.7kg. North America has only 6% of the world's population but 34% of the world's biomass mass due to obesity. In contrast Asia has 61% of the world's population but only 13% of the world's biomass due to obesity.

If all countries had the same average BMI as the USA the total human biomass would increase by 58 million tonnes - this is the equivalent of an

additional 935 million people of world average body mass.

Explaining the implications of this study Sarah Walpole said, "Our results emphasize the importance of looking at biomass rather than just [population numbers](#) when considering the [ecological impact](#) of a species, especially humans."

This study was based on the 2005 WHO SURF report so it is an underestimate of the current situation. The world's population is continuing to increase in size – the UN predicts that by 2050 there could be 8.9 billion people on the planet.

Prof Ian Roberts, continued, "Everyone accepts that population growth threatens global environmental sustainability – our study shows that population fatness is also a major threat. Unless we tackle both population and fatness - our chances are slim."

More information: The weight of nations: an estimation of adult human biomass Sarah C Walpole, David Prieto-Merino, Phil Edwards, John Cleland, Gretchen Stevens and Ian Roberts. *BMC Public Health* (in press)

Provided by BioMed Central

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