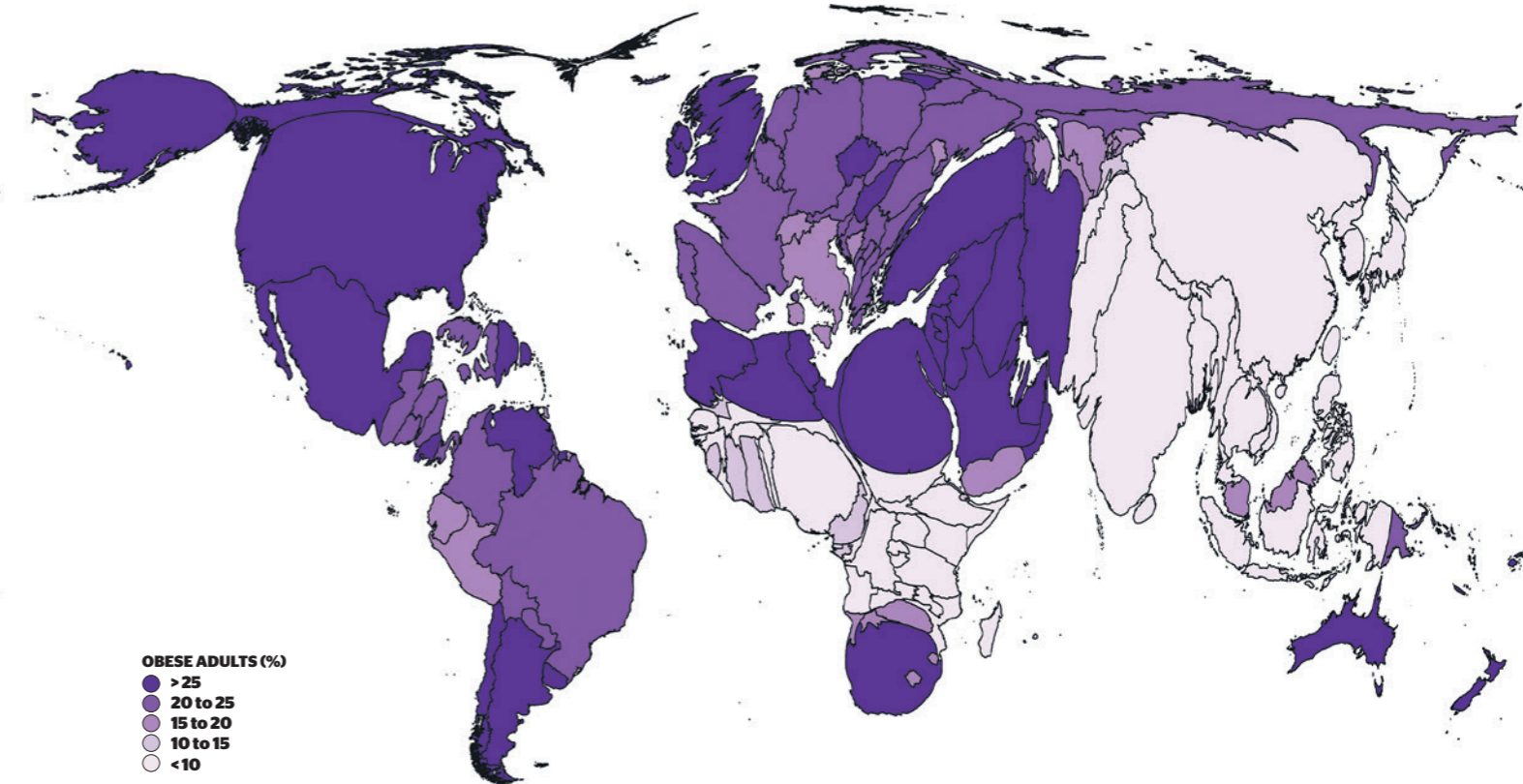


UNDERNOURISHED POPULATION (%)
 ● > 25
 ● 20 to 25
 ● 15 to 20
 ● 10 to 15
 ● < 10



OBESE ADULTS (%)
 ● > 25
 ● 20 to 25
 ● 15 to 20
 ● 10 to 15
 ● < 10

The Global Burden of Malnutrition

By Benjamin Hennig

Malnutrition is often used synonymously with undernourishment, and hence with a specific geographical bias towards the poorer parts of the world when discussed in a global context. Undernourishment also remains one of the more prominent issues being addressed in the Sustainable Development Goals which have seen more concentrated action to tackle this side of malnutrition.

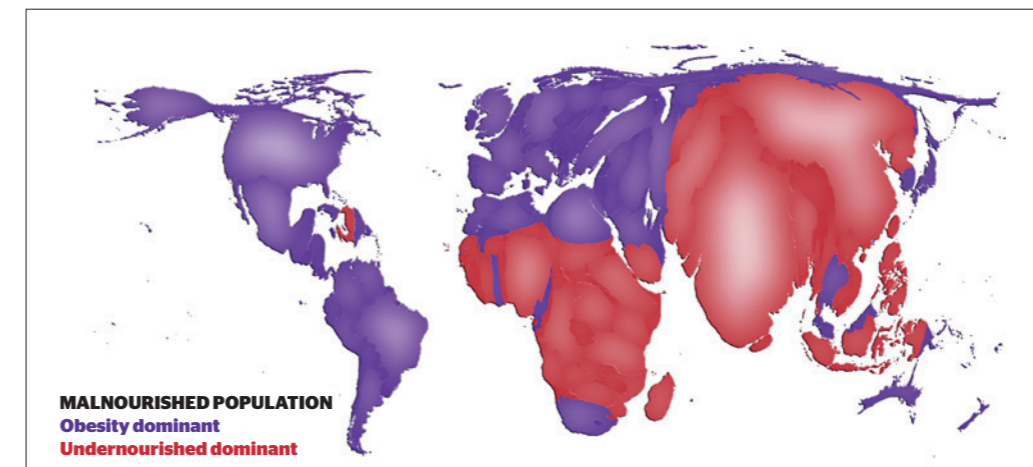
The most recent Global Nutrition Report states that there has been some progress in reducing the forms of malnutrition that are related to undernourishment. This progress is very slow and shows considerable disparities globally as well as at subnational level.

The maps shown here focus on the global-level perspective of the issue. The cartogram showing undernourished populations is a combination of absolute and relative data. The map itself is proportional to the total number of people in a country that were estimated to be undernourished according to statistics by the Food and Agriculture Organization by the United Nations. The colours indicate the proportion of the population that was estimated to be undernourished, showing that it is not always that the largest absolute numbers are also related to high relative shares, especially in the case of the two most populous countries, China and India.

The overall global picture highlights that undernourishment remains a pressing issue in the poorest parts of the world, especially on the African

continent. Relative numbers are improving across the continent, but in absolute terms there are ongoing increases of undernourished populations. This is especially the case when looking at data about the youngest age groups, such as stunting among children.

These global disparities are exacerbated through the flip side of malnutrition, obese and overweight populations, which is shown in the second cartogram. Here the map is proportional to each country's obese adult population, highlighting how obesity has become a global pandemic that does not only affect the wealthy part of the world. Significant numbers of obese people can be found across all continents, and high shares of obese adults are geographically more dispersed and widespread than undernourished



MALNOURISHED POPULATION
 Obesity dominant
 Undernourished dominant

populations. The World Health Organisation estimates that 'most of the world's population live in countries where overweight and obesity kills more people than underweight'.

A combined picture of populations affected by malnutrition – in this case looking at the example of undernourishment as well as obesity – is shown in the smaller third cartogram. This picture looks almost like a population-weighted cartogram. It demonstrates how malnutrition is a real global burden which affects people regardless of where they live. The overlaid colours indicate where one form of malnutrition is more pressing than another, although it is important to keep in mind that all forms of malnutrition coexist and vary between populations in each country.

In most countries, people experience more than just one form of malnutrition with one in three people having been estimated to be affected in 2016. While the global picture shown in these maps may suggest that the world is merely divided in people with too little and people with (almost) too much access to food, the realities are more complex. The future agenda for food related policies from a public health perspective needs to look at the questions of not only access to enough food, but also access to the right kind of food through healthy diets. As stated in the Global Nutrition Report, 'more and better data is enabling us to more fully understand what people are eating and why it matters – but shows that diets in all countries and wealth groups pose a significant threat to achieving nutrition targets'.

Undernutrition and obesity are two sides to one crisis in global health. Questions about the future of food do not only need to focus on strategies for feeding a still growing world population, but also need to consider the public health aspect of nutrition more comprehensively. Solutions for healthier diets may not be contradictory to creating a more productive agriculture, but could entail the creation of more sustainable food systems from the global to the local level. ●

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