

Demand for animal-based food products and sustainability

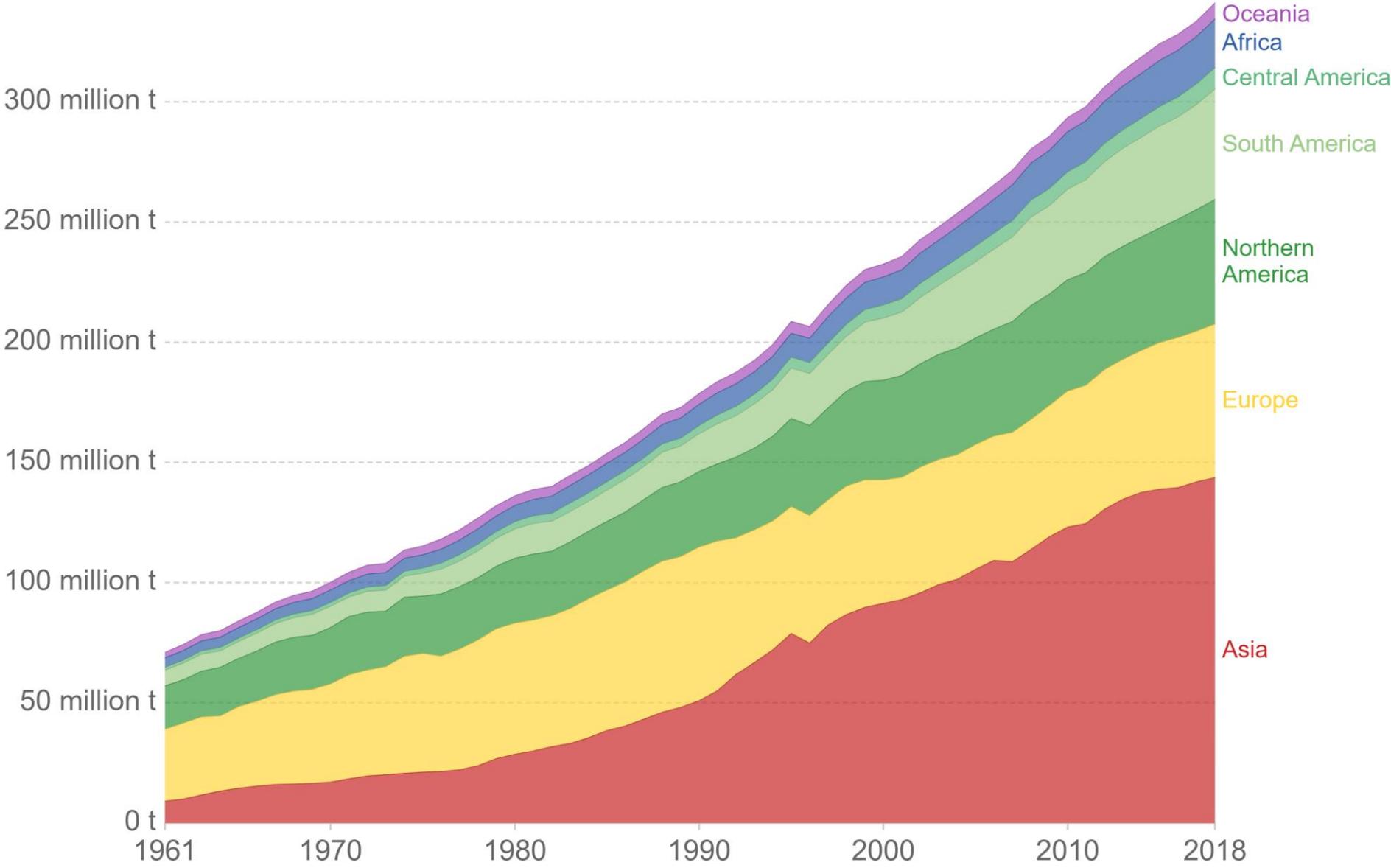
Dr Diana Bogueva



Curtin University

MEAT

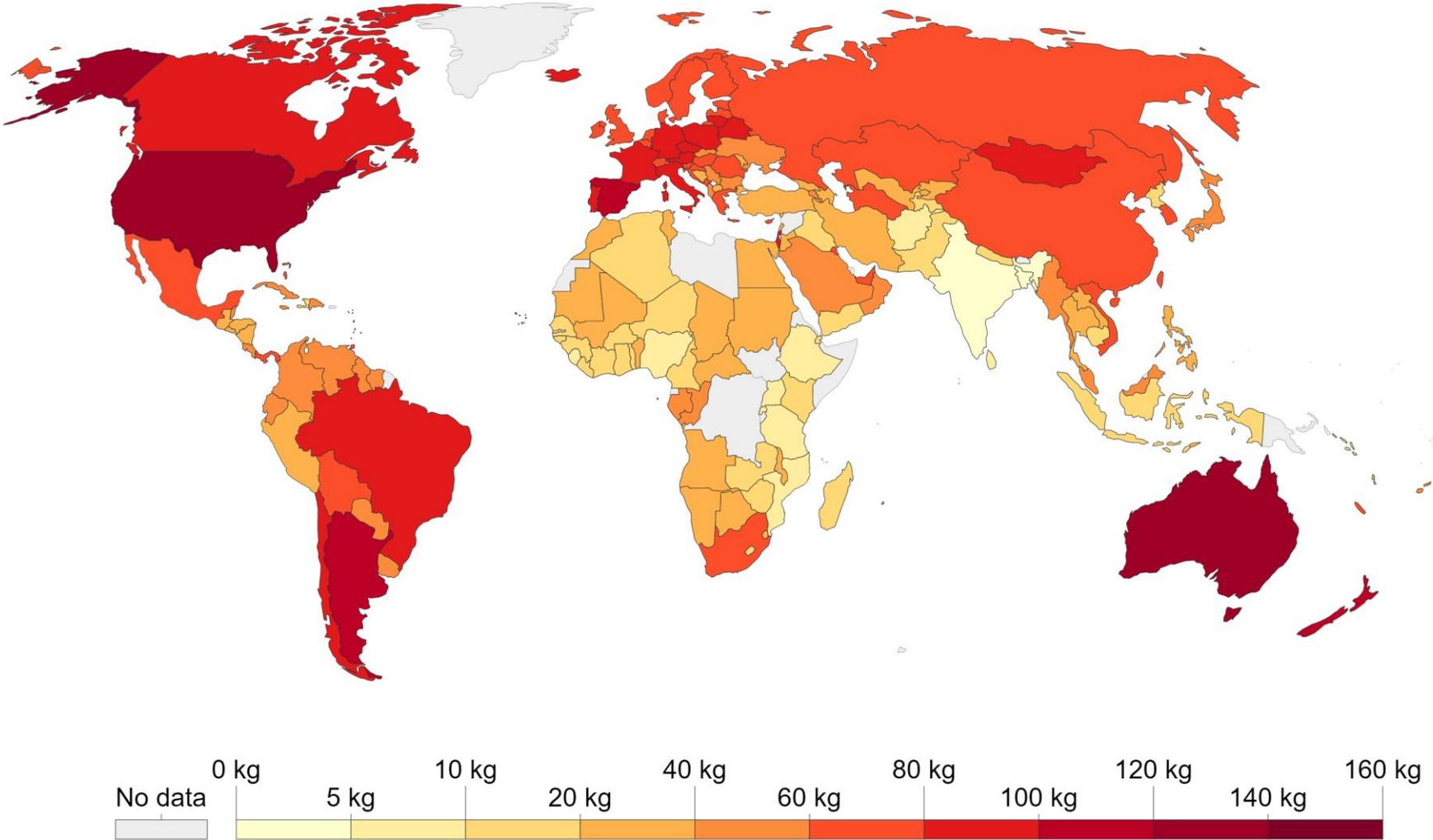
Global meat production, 1961 to 2018



Source: UN Food and Agriculture Organization (FAO)

Meat supply per person, 2017

Average total meat supply per person measured in kilograms per year.



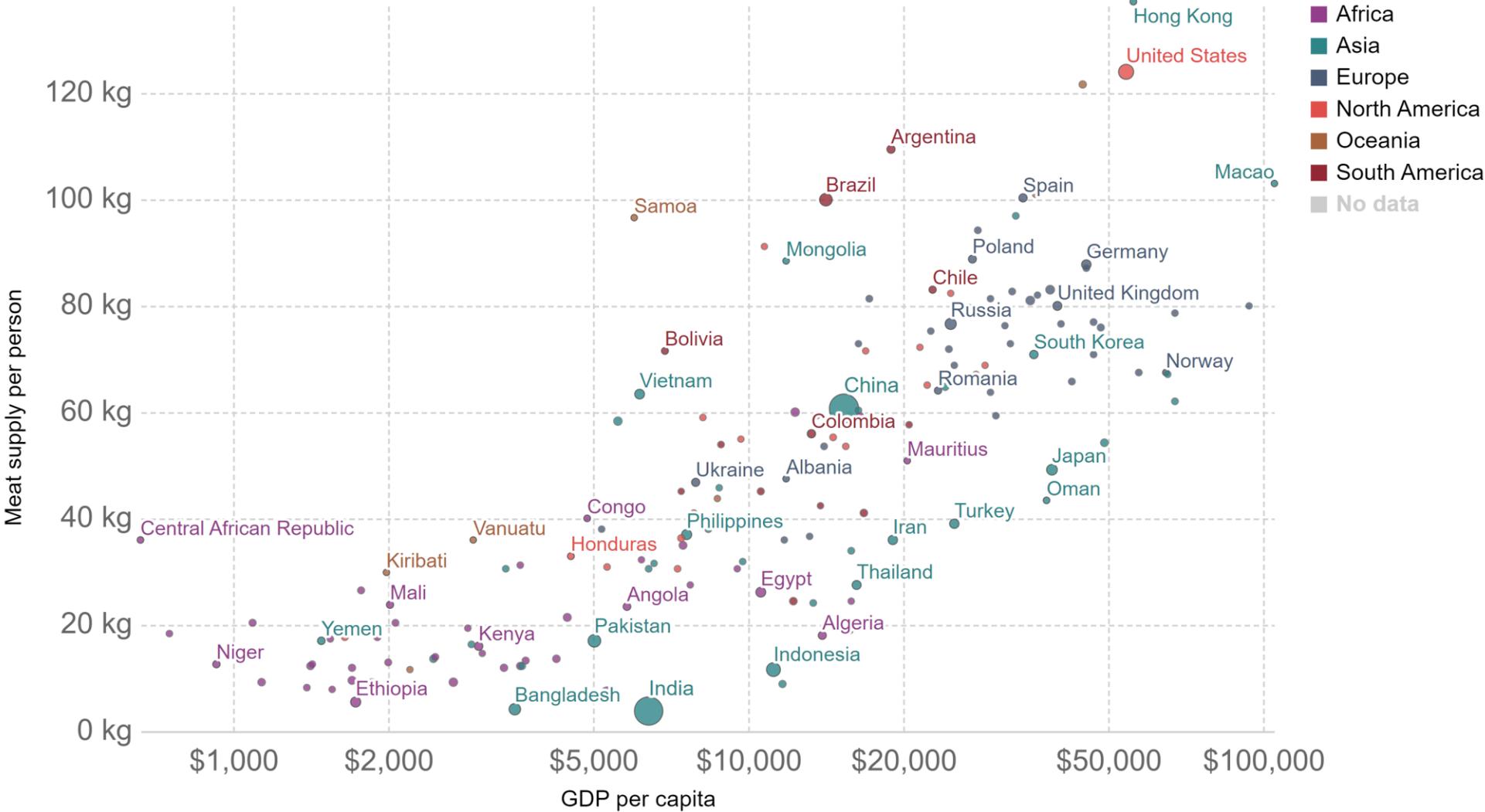
Source: UN Food and Agriculture Organization (FAO)

OurWorldInData.org/meat-production • CC BY

Note: Data excludes fish and other seafood sources. figures do not correct for waste at the household/consumption level so may not directly reflect the quantity of food finally consumed by a given individual.

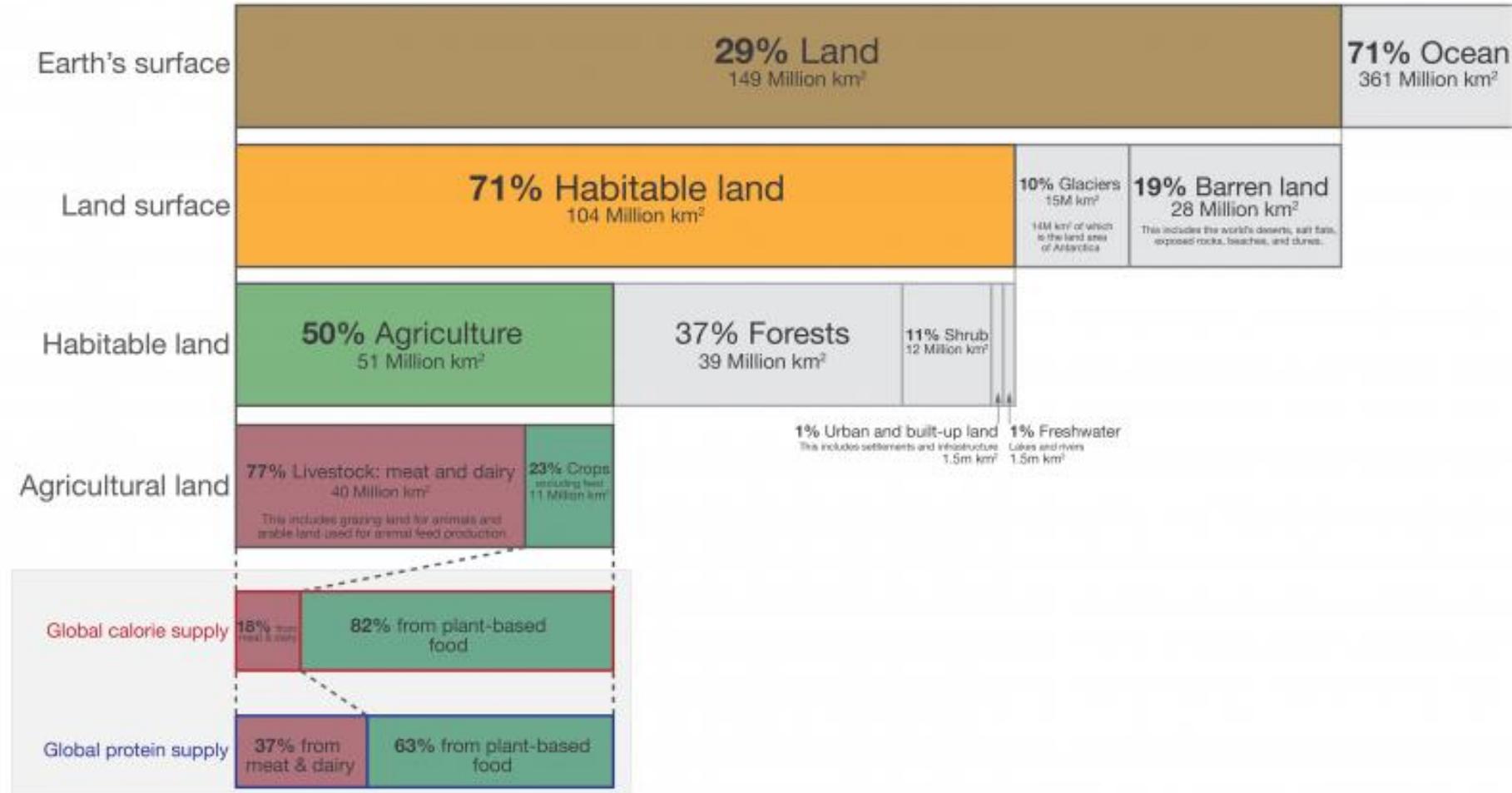
Meat consumption vs. GDP per capita, 2017

Average meat consumption per capita, measured in kilograms per year versus gross domestic product (GDP) per capita measured in 2011 international-\$. International-\$ corrects for price differences across countries. Figures do not include fish or seafood.



Source: UN FAO; World Bank, World Development Indicators

Global land use for food production



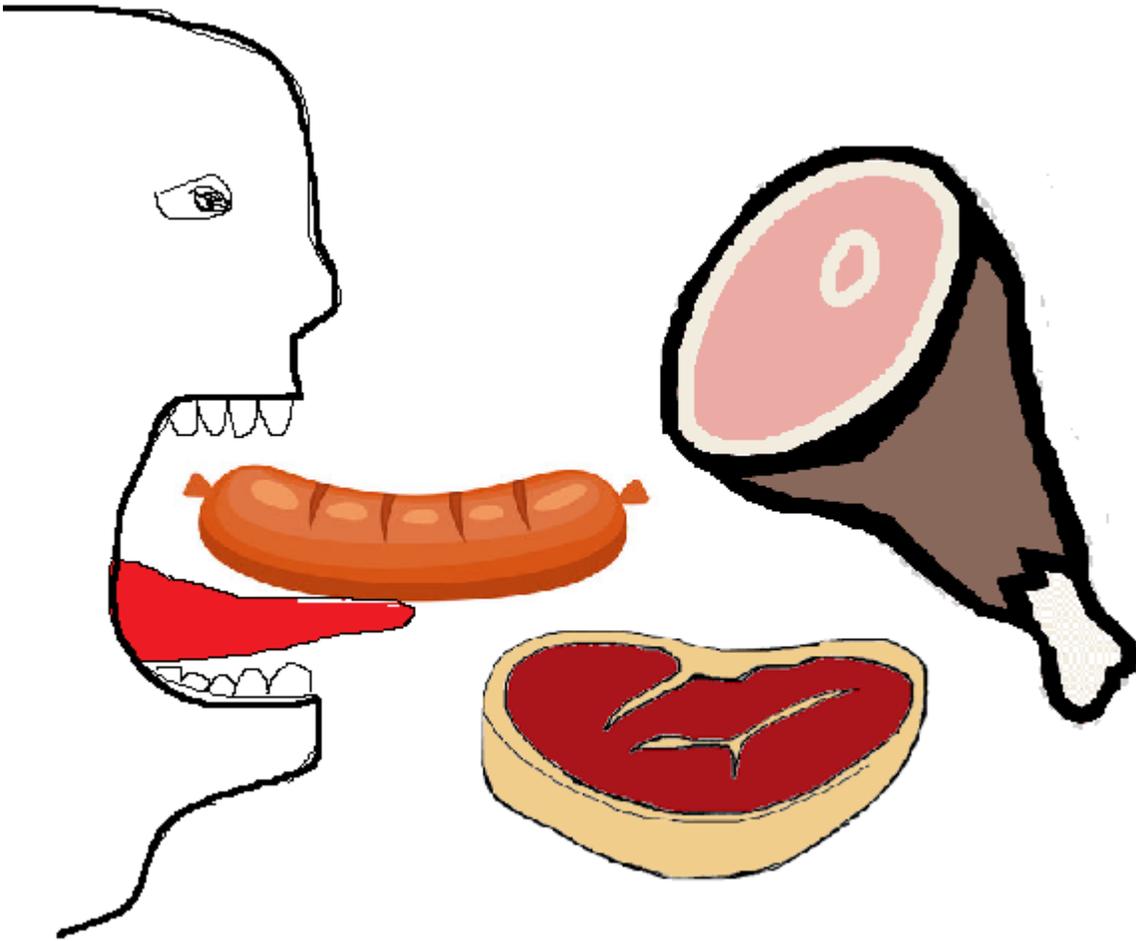
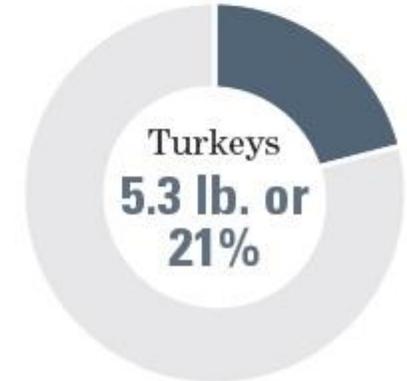
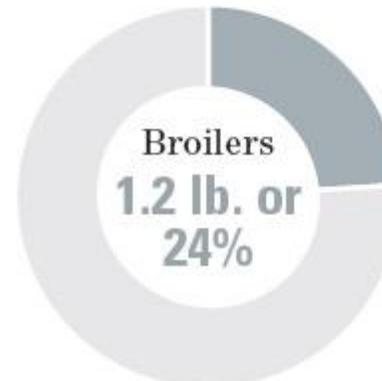
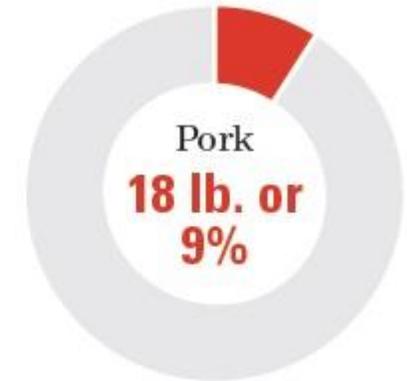
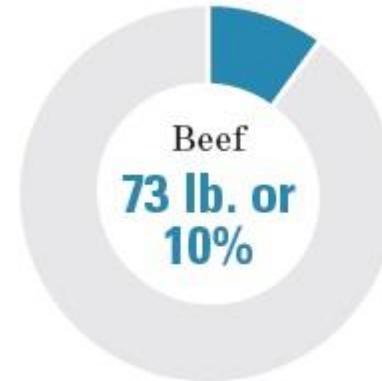
Data source: UN Food and Agriculture Organization (FAO)

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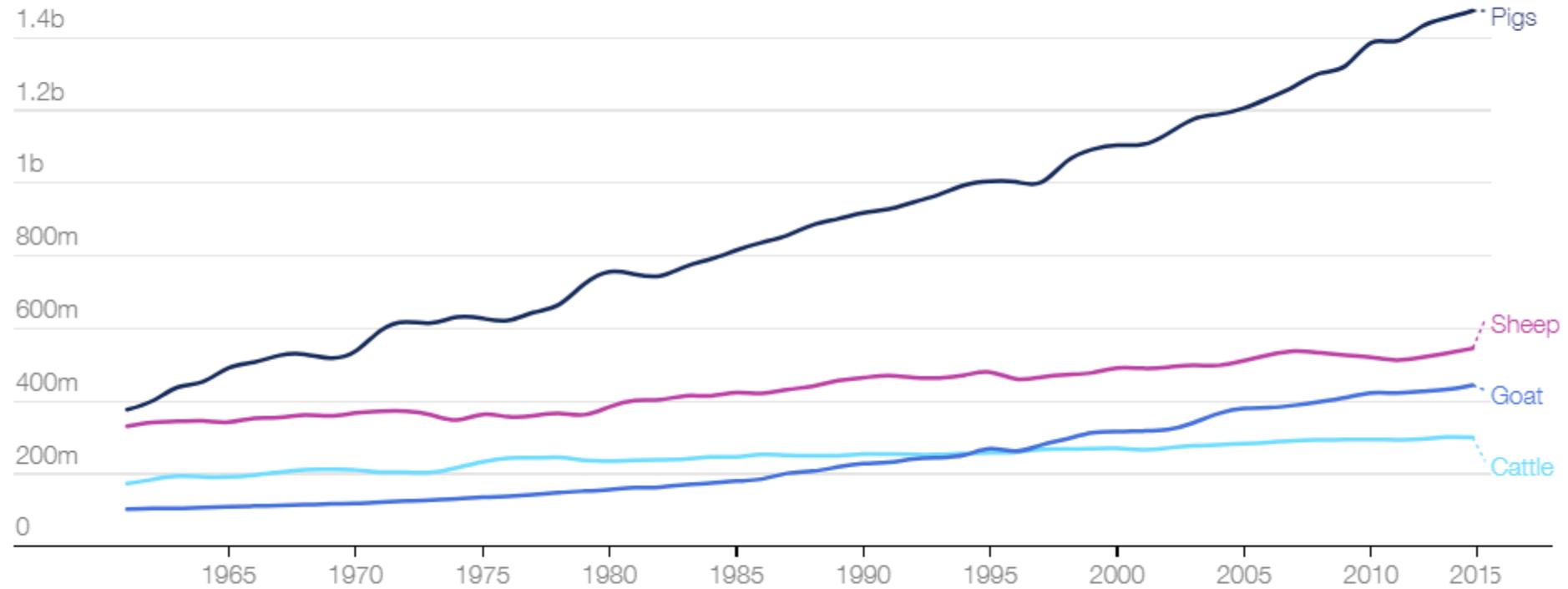
MORE MEAT PER CAPITA → MORE MEAT PER ANIMAL

▶ Since 2000, animal weights have increased:



How many animals do we eat each year?

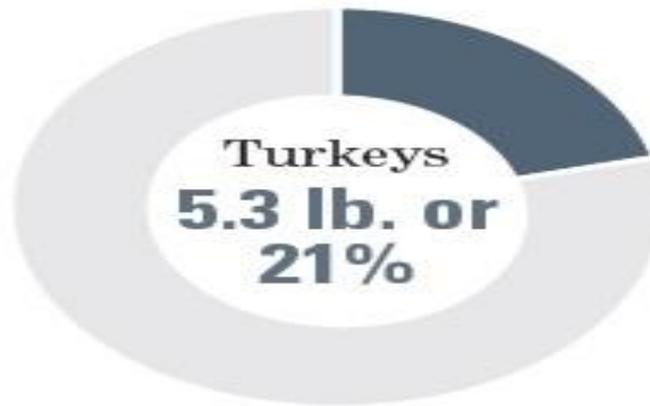
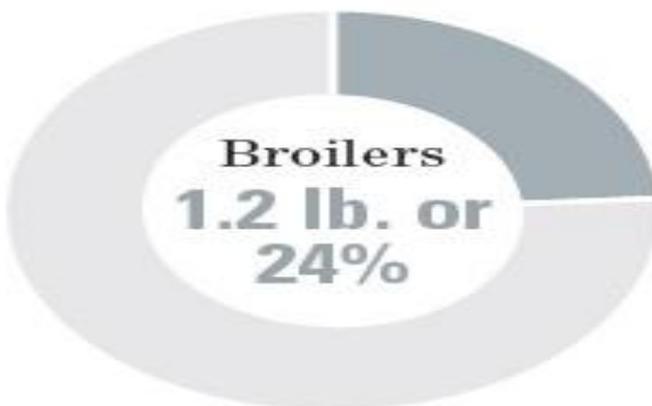
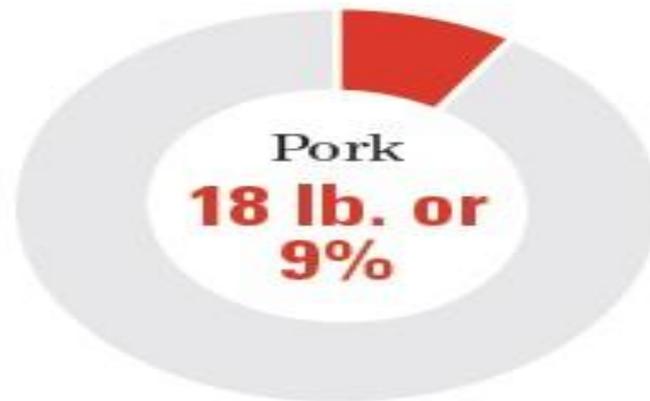
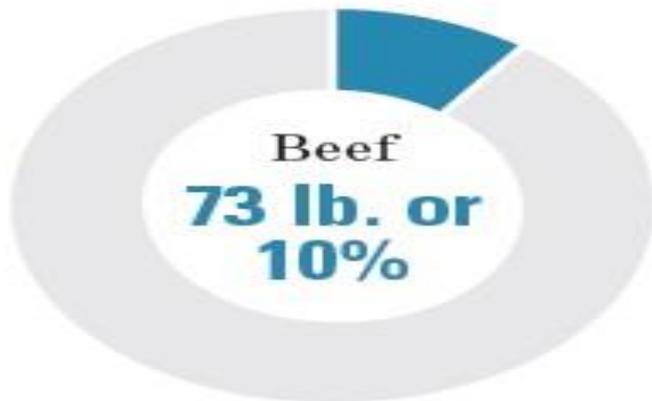
Number of animals slaughtered for meat each year



Source: UN Food and Agriculture Organization, 2017

MORE MEAT PER ANIMAL

- ▶ **Since 2000, animal weights have increased:**



THE GLOBAL PROTEIN LANDSCAPE 2018-2025

Protein Demand

Global protein consumption rose 40% between 2000 and 2018. More than 50% of this increase was driven by Asia.

Globally, each person was estimated to consume on average 26kg of protein per year. Fueled by the growth of the consuming class, this is projected to grow by 27% to 33kg in 2025.

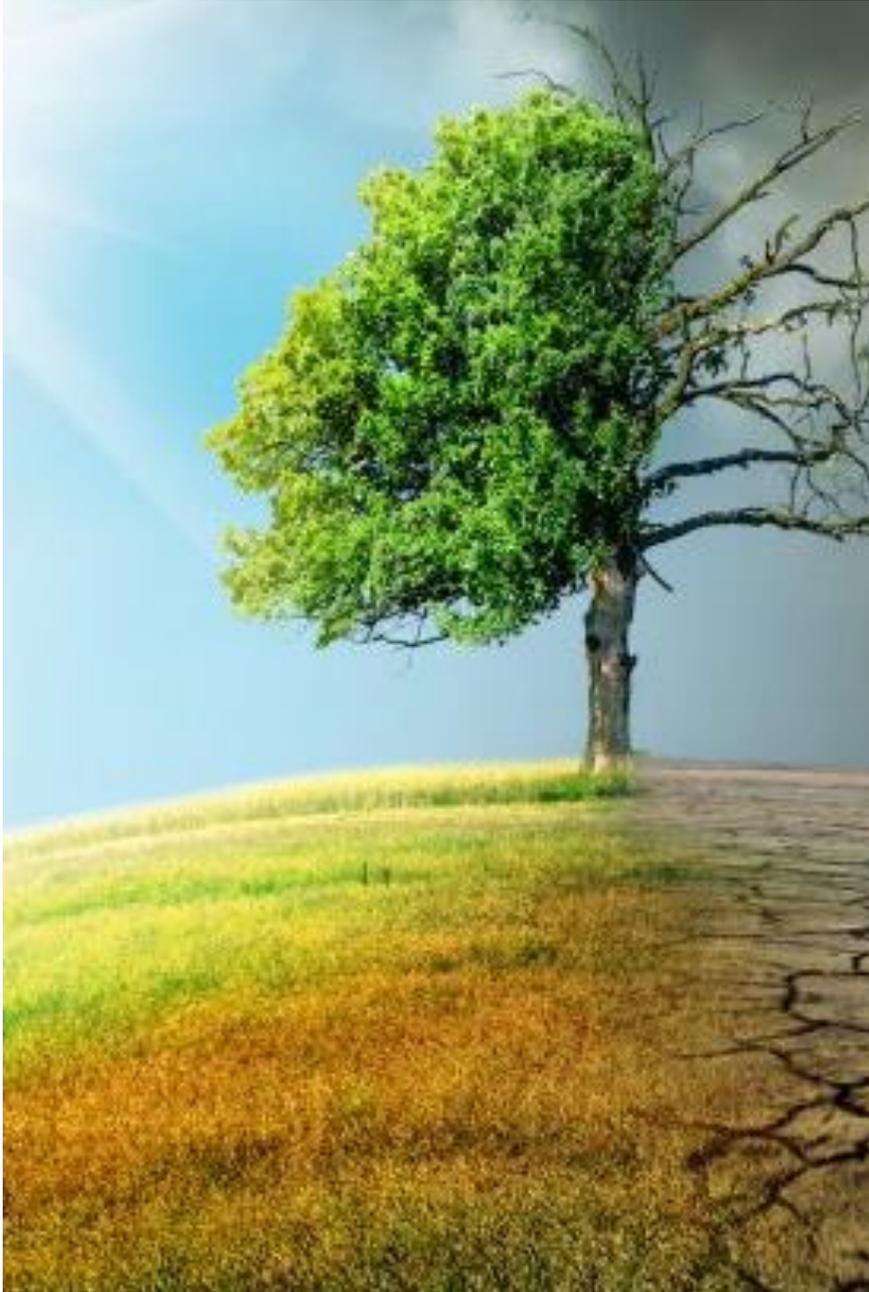
The highest protein demand growth rates of up to 3.6% per year is forecasted for Indonesia and Sub-Saharan Africa.

Protein Supply

In 2018, plant-based proteins accounted for 66% of global protein consumption supply and is likely to remain as the dominant source of supply in 2025.

In value terms, the global protein market could be worth up to A\$513 billion in 2025, 40% of which could come from meat proteins.

China is projected to be the largest market across all protein categories, except plant-based proteins. The country alone could account for 35% of global protein market value in 2025.



Trends and consumer
demand



**ALTERNATIVES
TO
ANIMAL PROTEIN**

PLANT-BASED BURGER



PLANT-BASED SAUSAGES



PLANT-BASED

Mince





CHICKEN

PLANT-BASED CHICKEN



PLANT-BASED MILK





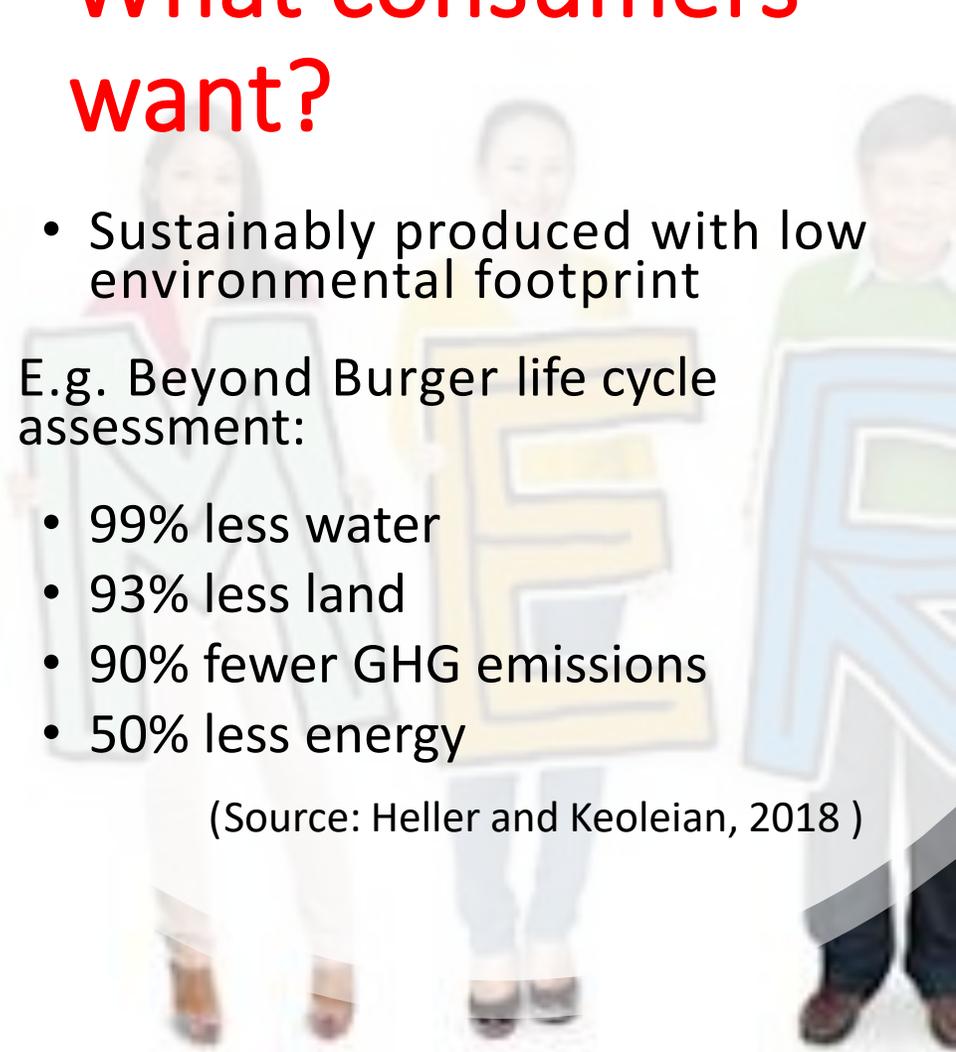
What consumers want?

- Sustainably produced with low environmental footprint

E.g. Beyond Burger life cycle assessment:

- 99% less water
- 93% less land
- 90% fewer GHG emissions
- 50% less energy

(Source: Heller and Keoleian, 2018)





What consumers want?

- Transparency (ingredients, production etc.)
- Product with awareness of health benefits
- Product with animal welfare consideration
- Superior taste and quality product
- Variety of new flavours to impress the palate

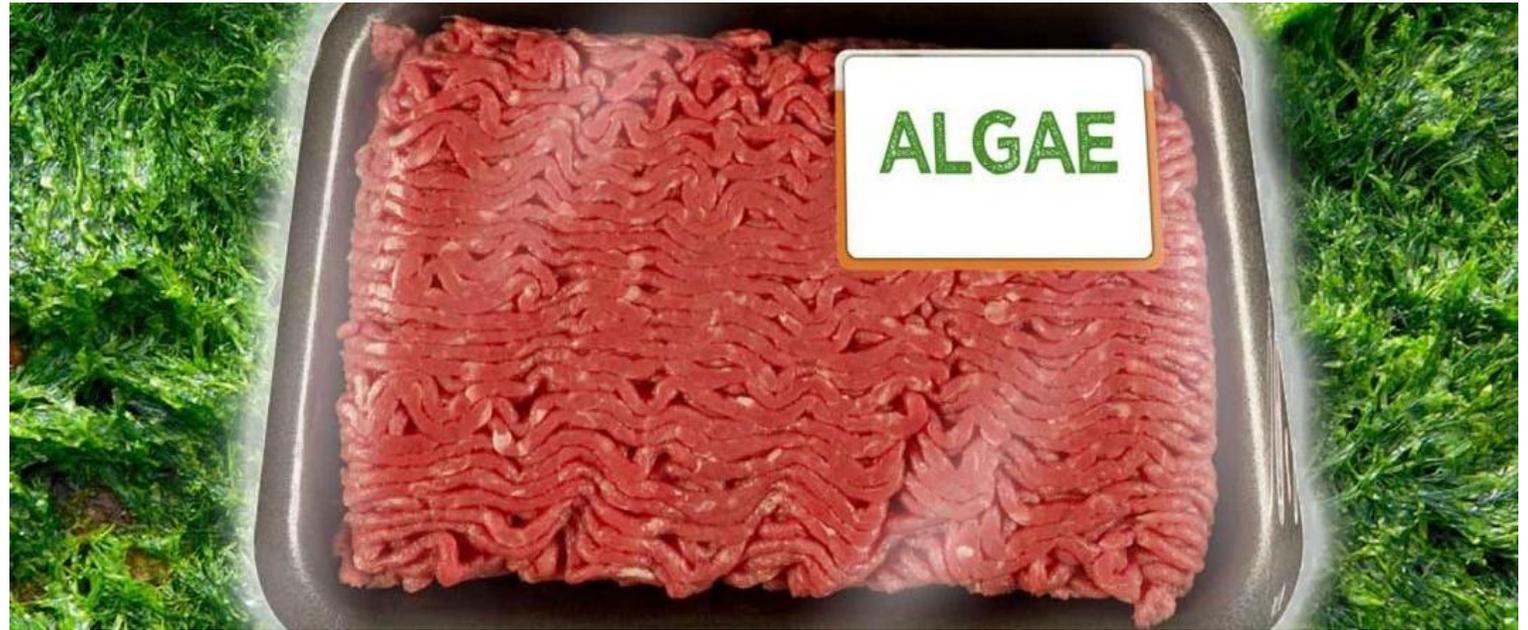
More alternatives to animal protein

Algae

Insects

Cultured meat





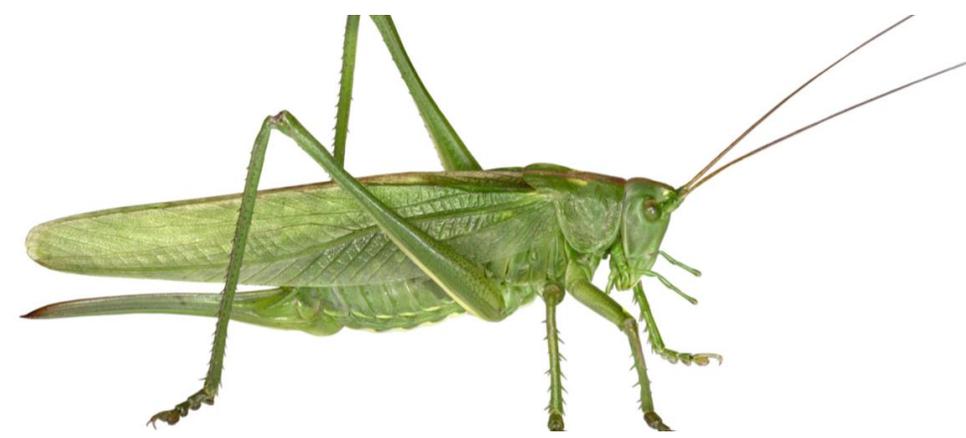
Algae-based alternatives
to animal-derived food

Insects

Why should we eat insects?

- Healthy
- Sustainable
- Delicious
- Safe
- Traditional

80% of countries and 2.5 billion people already eat them





Cultured Meat



MANY THANKS