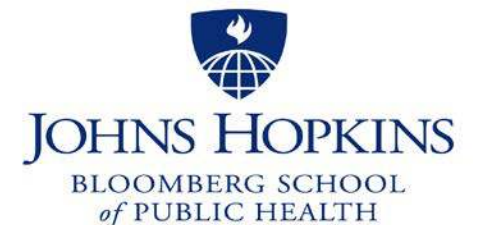


Sustainable Diets: Can we feed the world well and protect the planet?

Jessica Fanzo, PhD

Bloomberg Distinguished Associate Professor of Global Food & Agriculture Policy & Ethics

Director of the Global Food Policy & Ethics Program



For Our Discussion

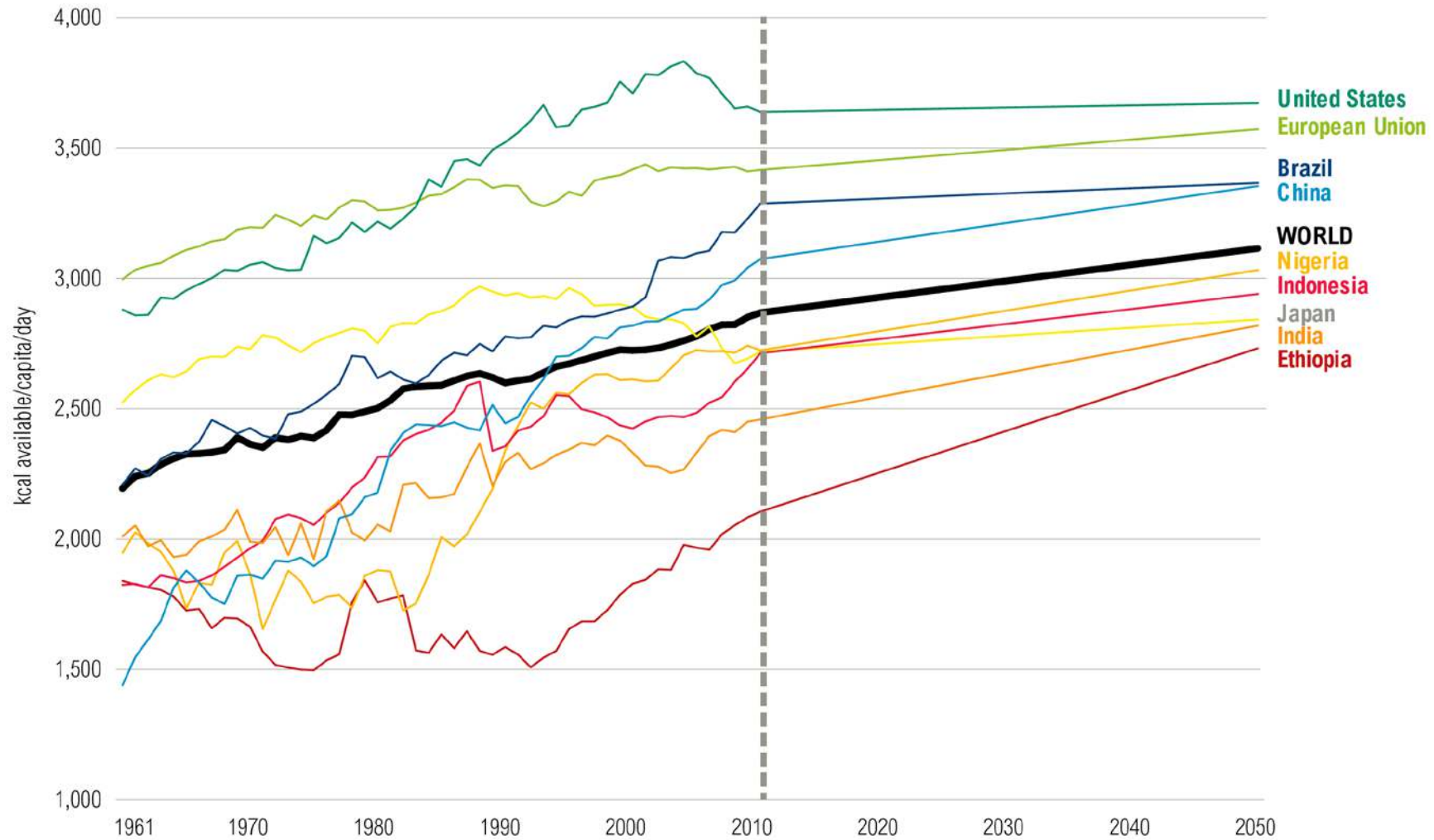
- Transitioning Diets and their Implications
- Drivers of Dietary Change
- A Re-emerging Idea: Sustainable Diets
- Ten Ideas for Solutions

Transitioning Diets and their Implications

1. Too much
2. Poor quality
3. Not affordable
4. Not sustainable

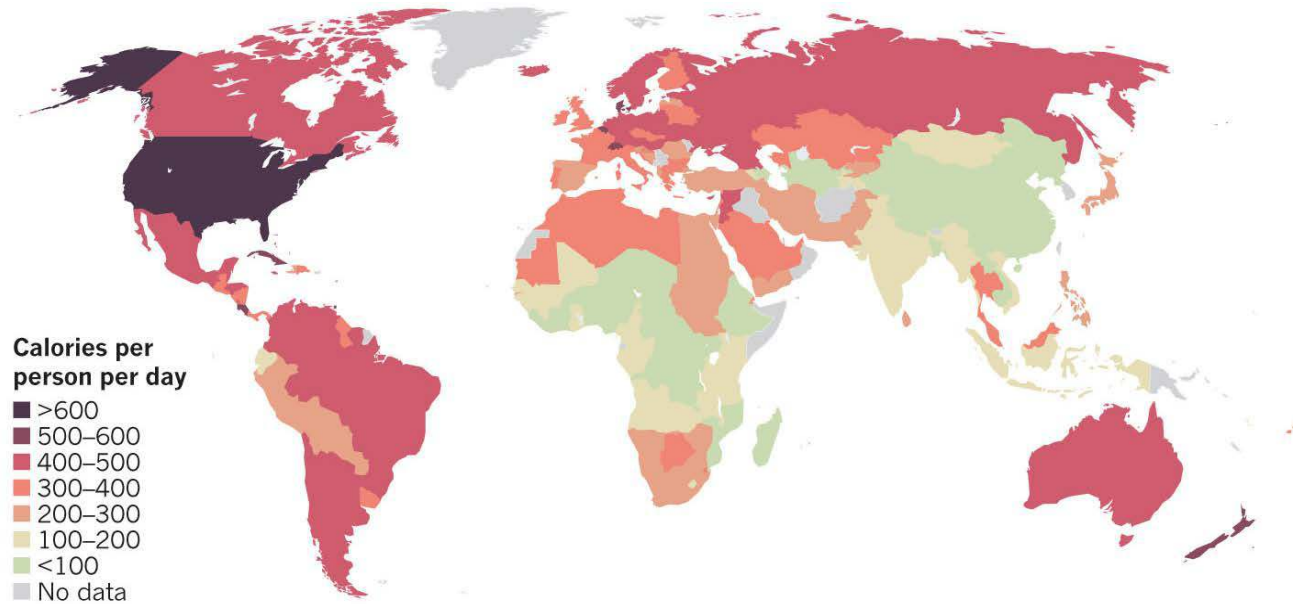


1. Too Much

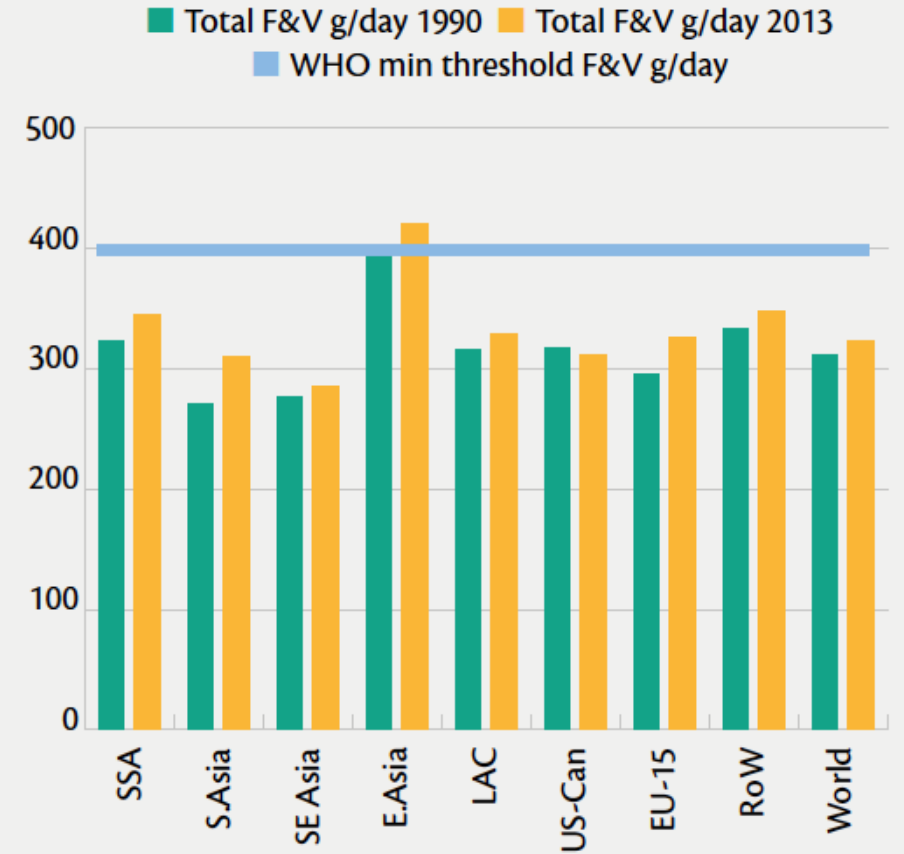


2. Poor Quality

Global sugar supply per calories/person/per day in 2008



PANEL A: F&V consumption g/day, regions, 1990-2013



Source: Compiled by the authors, based on data in Masters (2016)

3. Not Affordable

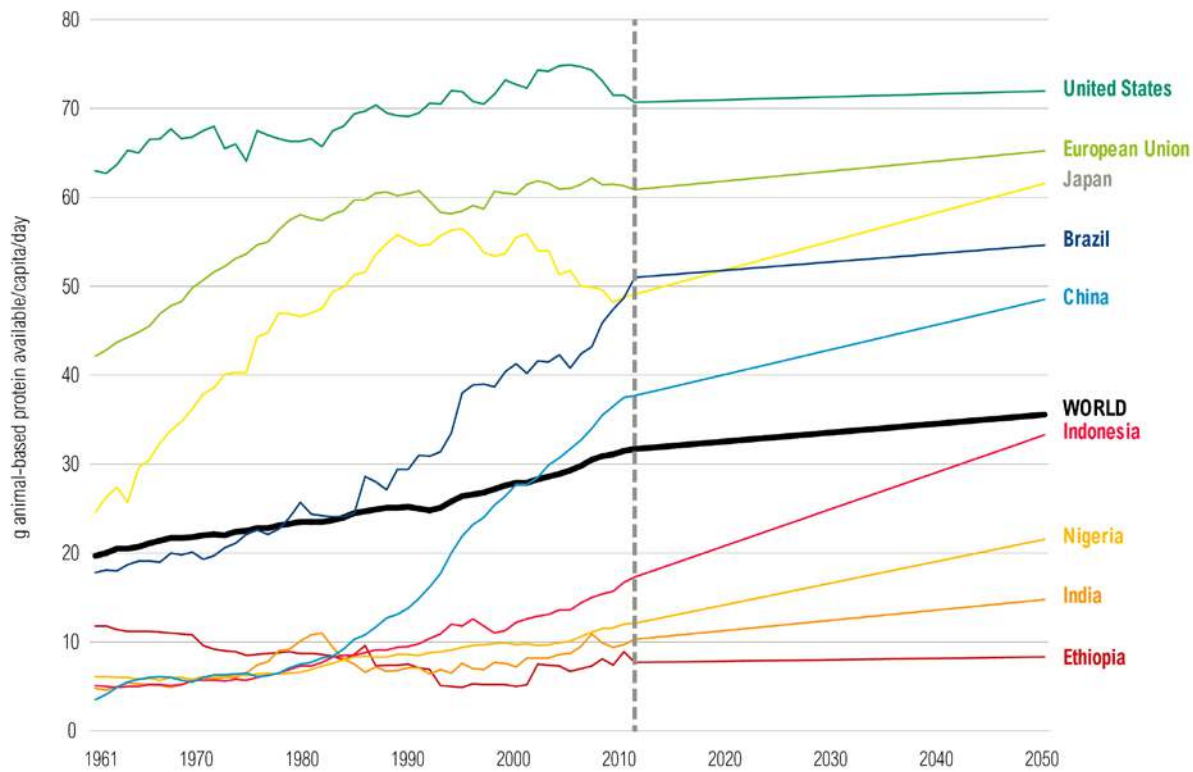


Source: World Bank Global Consumption Database. <http://datatopics.worldbank.org/consumption/sector/Food-and-Beverages>.

Note: Calculated based on total consumption value in 2010 (\$PPP [purchasing power parity] Values) in developing countries. Consumption groups defined based on global income distribution data: poorest = \$2.97 per capita a day; poor = between \$2.97 and \$8.44 per capita a day; middle = between \$8.44 and \$23.03 per capita a day; wealthier = above \$23.03 per capita a day.

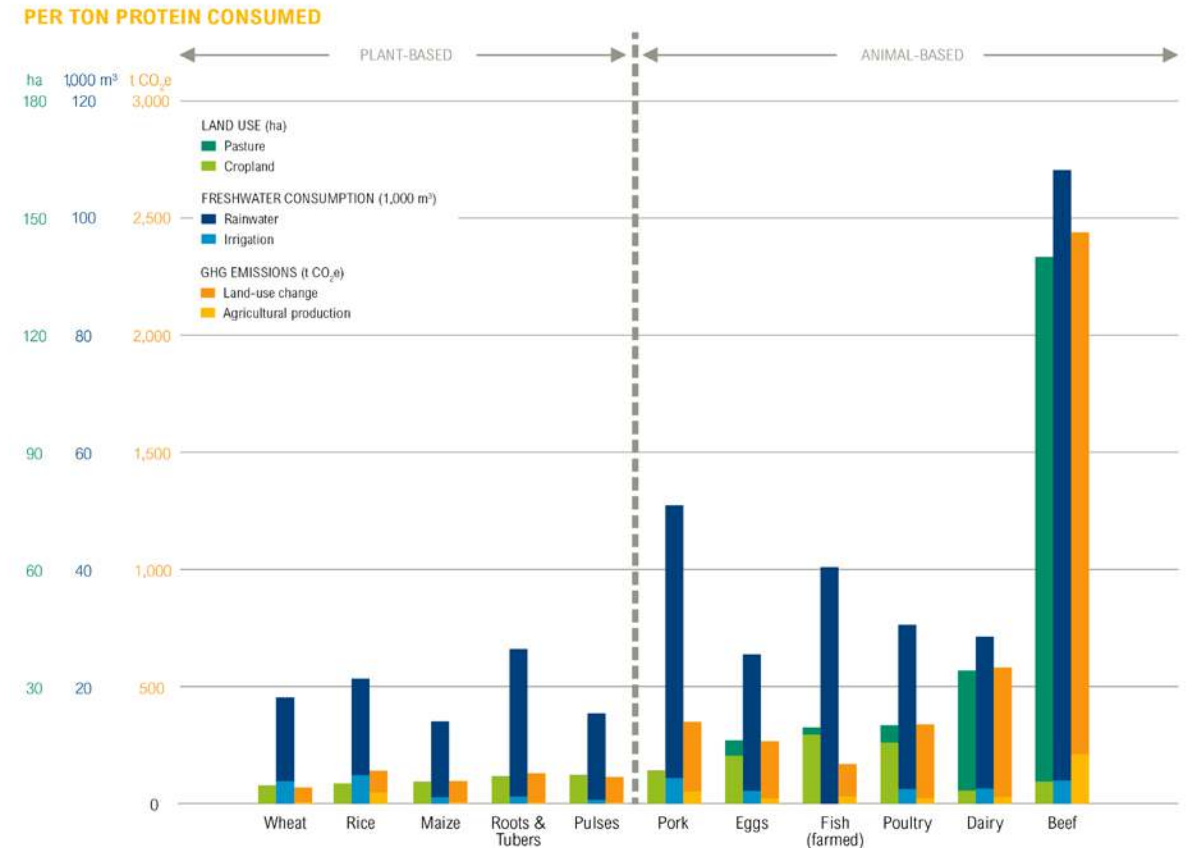
4. Not sustainable

People Are Consuming More Animal-Based Protein

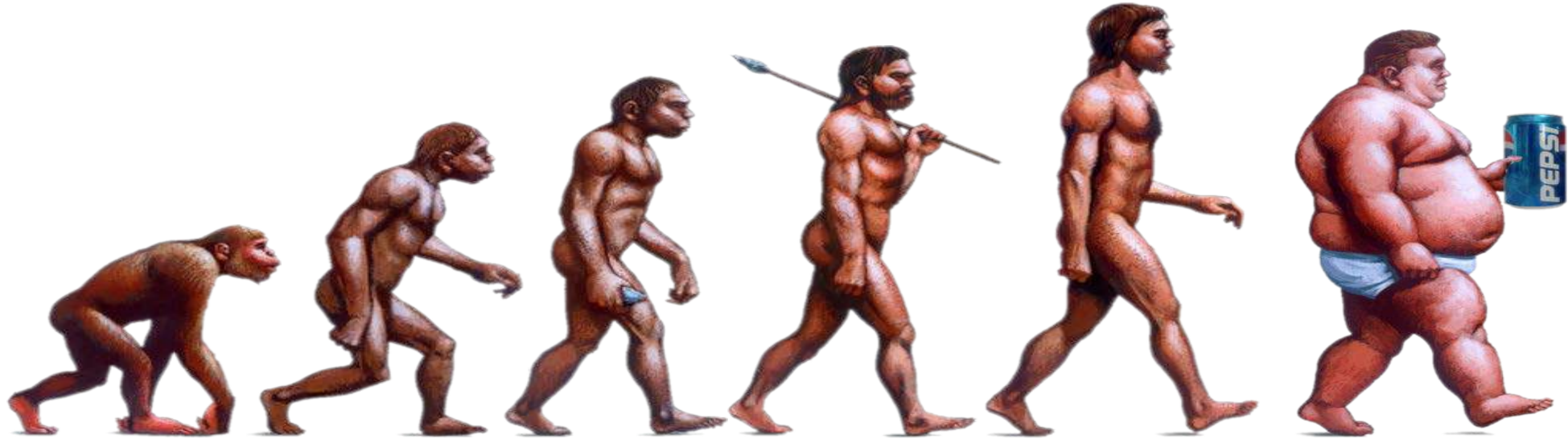


Nepal = 11.46 g/capita/day

Animal-Based Foods Are More Resource-Intensive than Plant-Based Foods

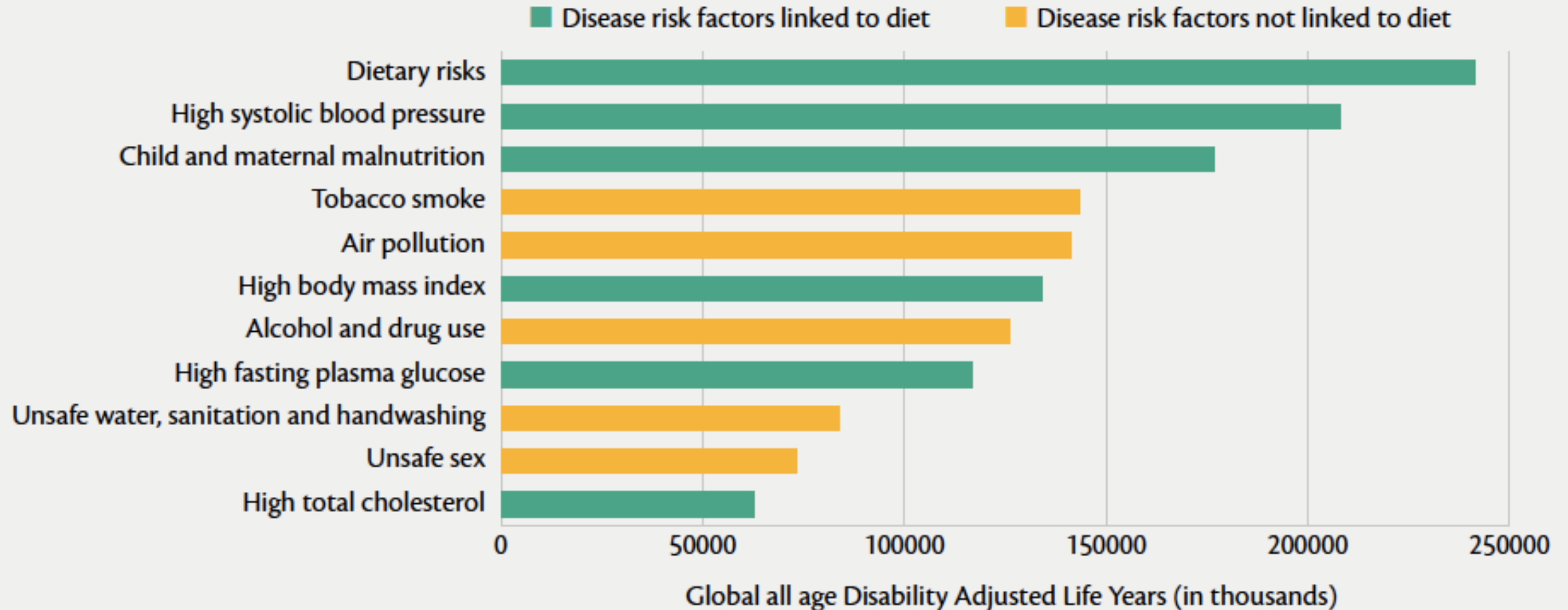


The Implications of Our “Choices”



1. Health Consequences
2. Environmental Consequences
3. Social Inequity Consequences
4. Ethical and Justice Consequences

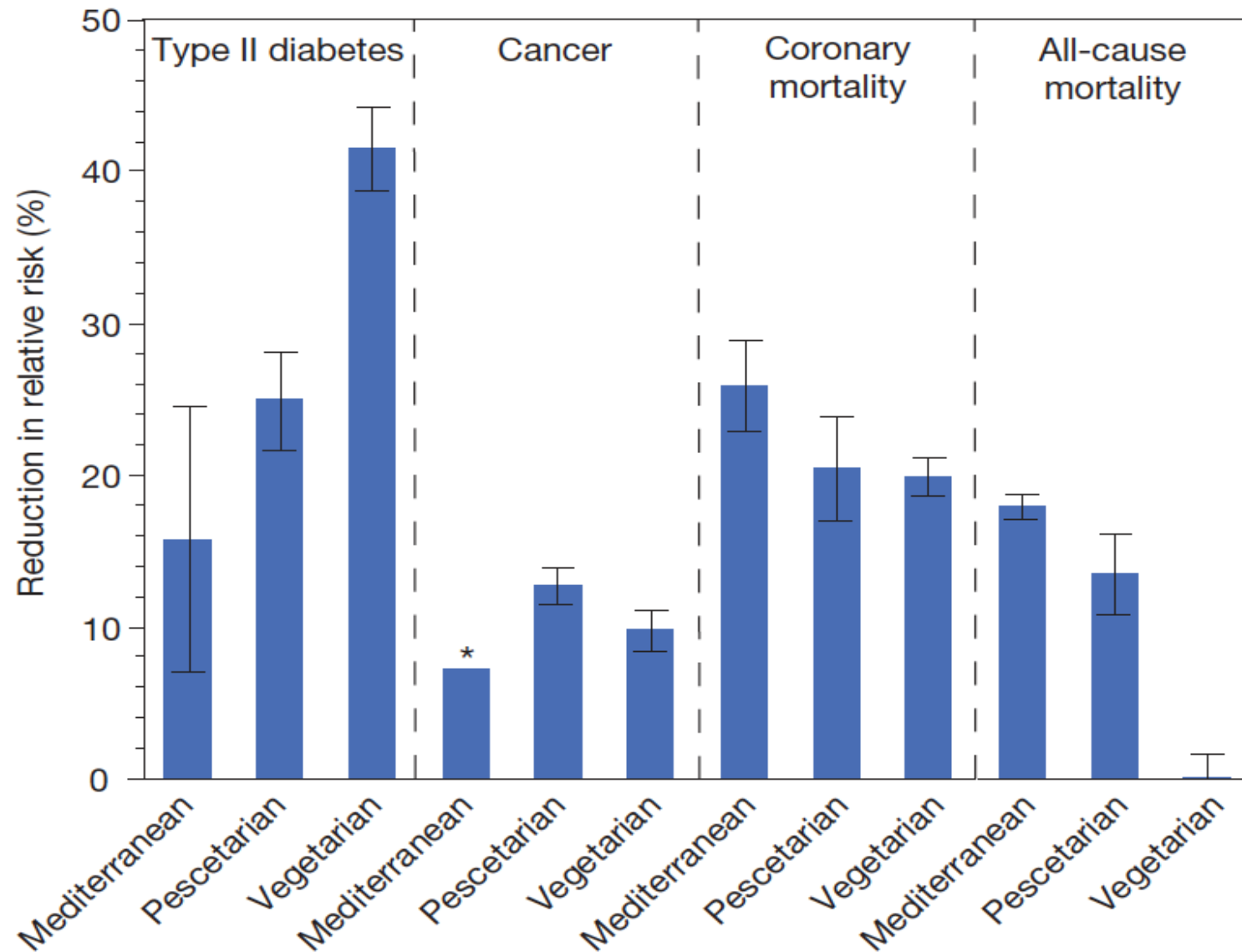
1. Health: Diet Risk is the Largest on Disease Burden



Source: Global Burden of Disease Study 2013 Collaborators (2015), Figure 5

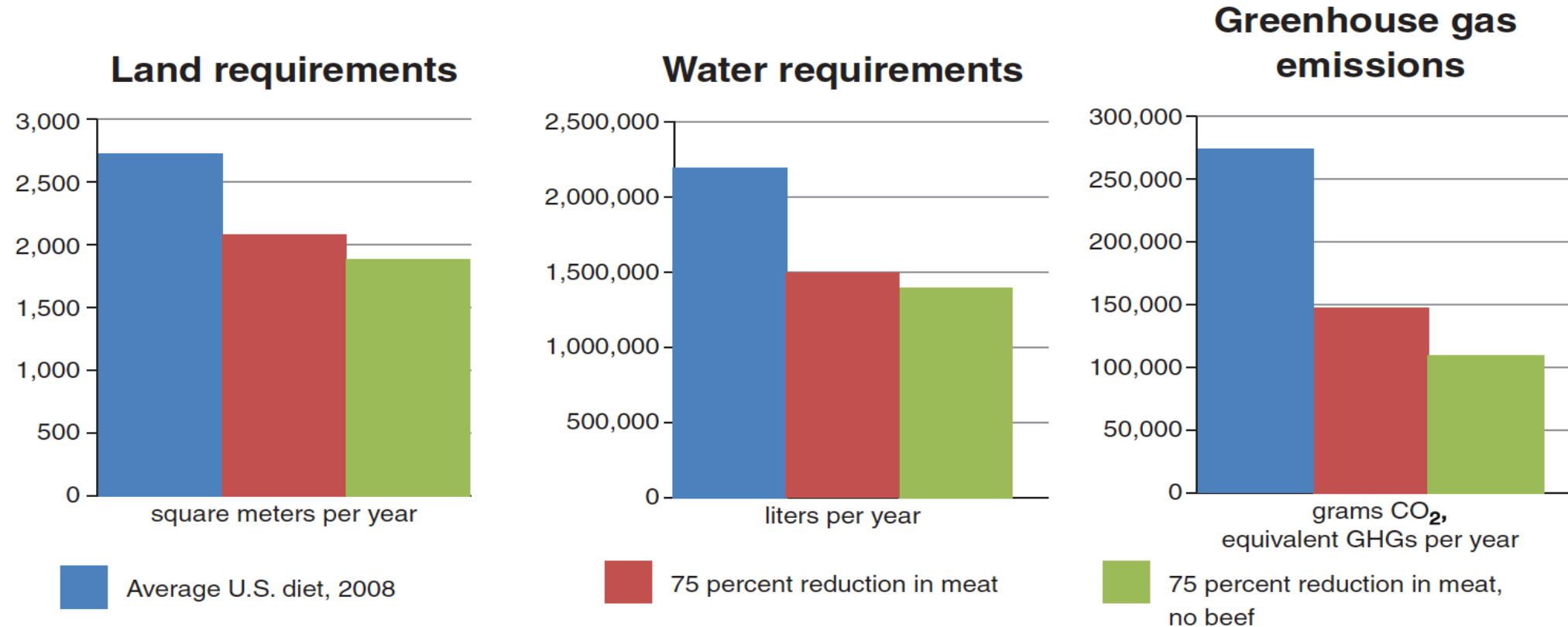
Note: The graph shows global disability-adjusted life years (DALYs) attributed to level 2 risk factors in 2013 for both sexes combined.

And what you eat matters



2. Environment: Humans are not the only sufferers

The agriculture sector accounts for **24%** of total GHGe globally with livestock production accounting for nearly **80%** of the sector's emissions



3. Social Inequity Consequences

- **THE NEED VS ACCESS:** In the high- and middle-income countries and among urban populations in all income countries, meat and dairy consumption is rising (exceptions). Whereas, in many low-income countries, populations cannot access or afford animal source foods and these are of critical importance to growth, development and wellbeing.
- **CONSEQUENCES of DECISIONS:** Those most vulnerable and in low income countries will suffer the most from high-income country decisions regarding the environment, natural resource depletion and climate change.

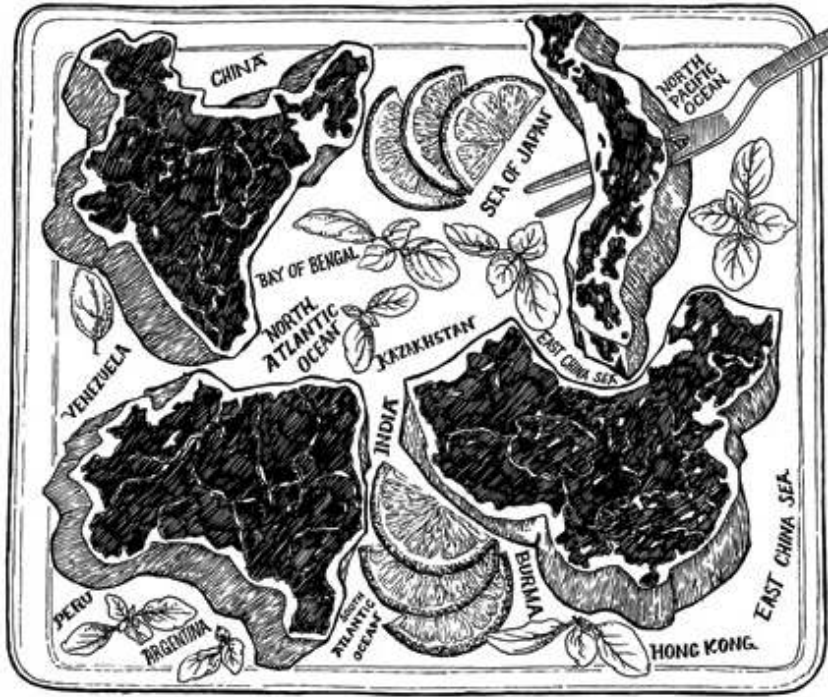


Social Equality, Social Justice

- **Equality:** all people within a specific society have the same status in certain respects (freedom of speech, civil rights, property rights, equal access to services)
- **Justice:** all people share a *common humanity* and therefore have a right to equitable treatment, support for their human rights, and a fair allocation of community resources (ie social contract)

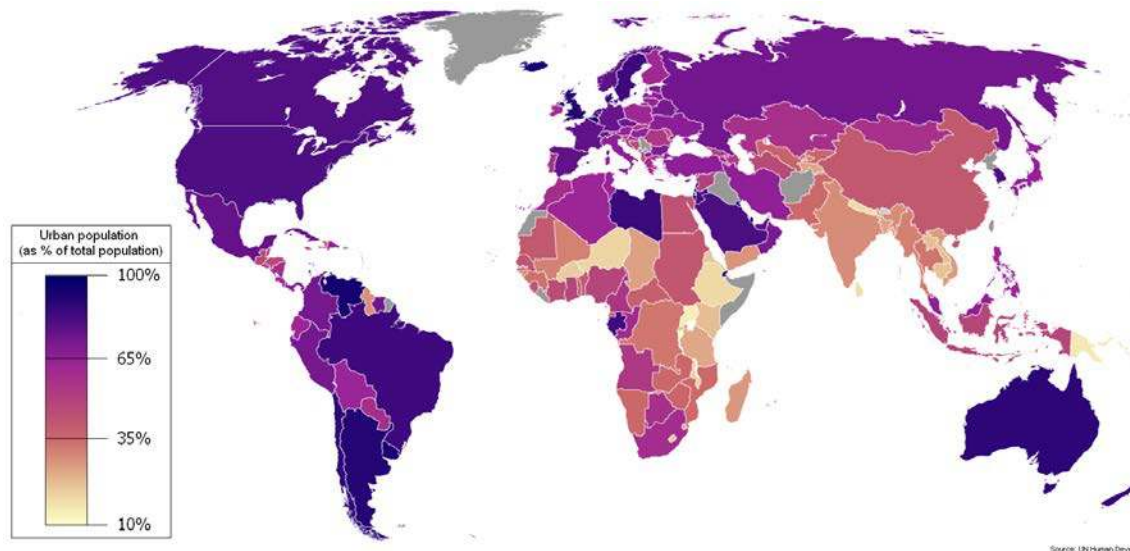
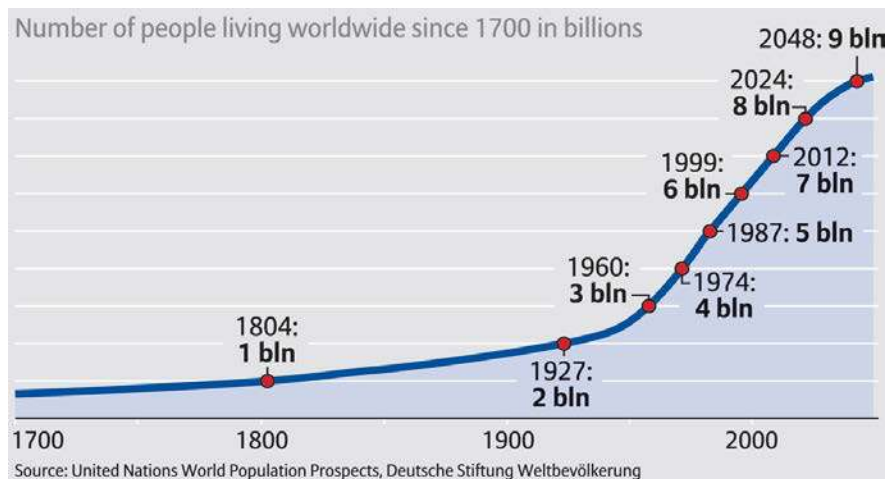
Do we have the right to eat wrongly?

What are the Drivers of Dietary Change?

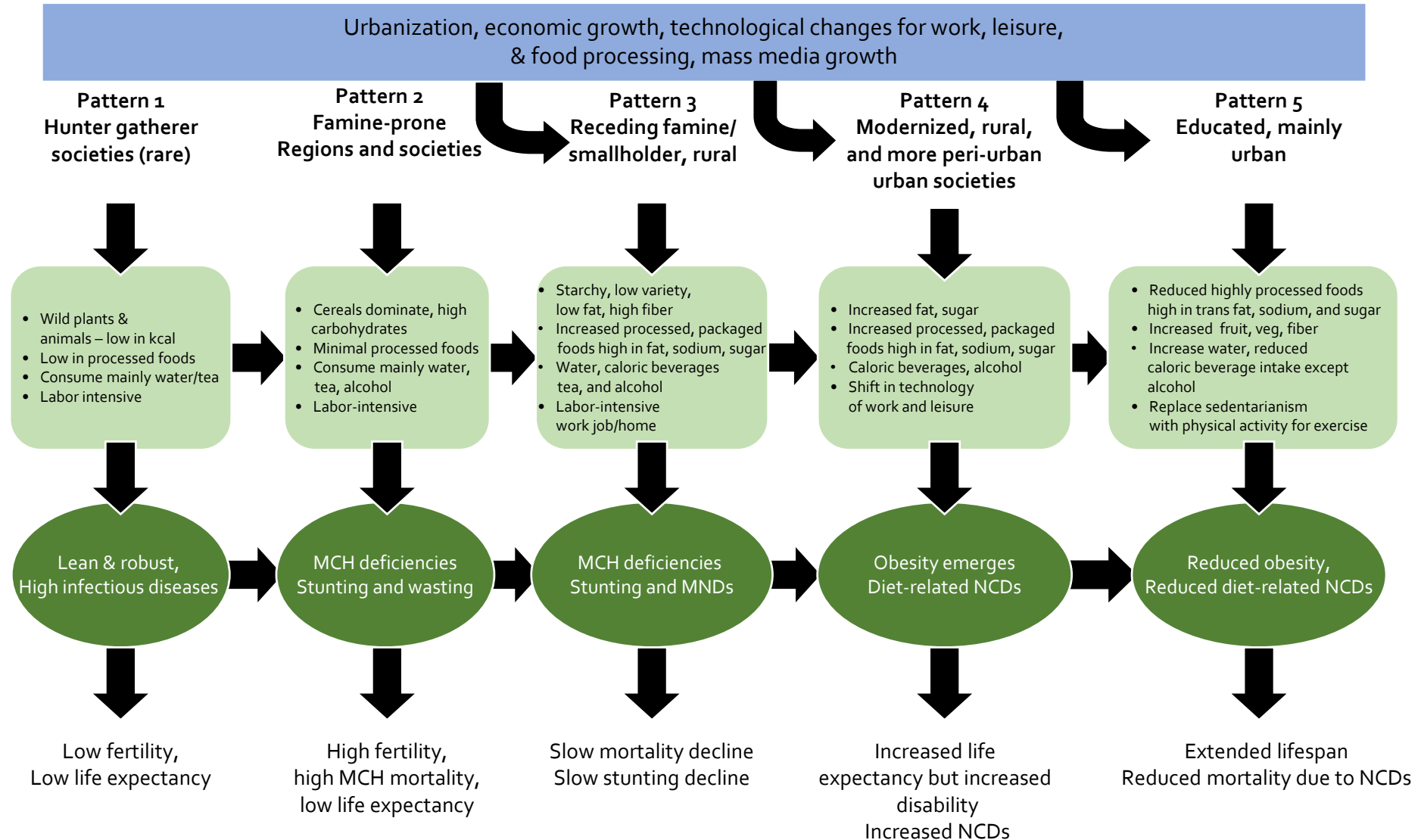


1. Population growth & urbanization
2. Climate change, natural resource depletion & degradation
3. Geopolitics & conflicts
4. Complex food environments

Population Growth & Pressure, & Urbanization

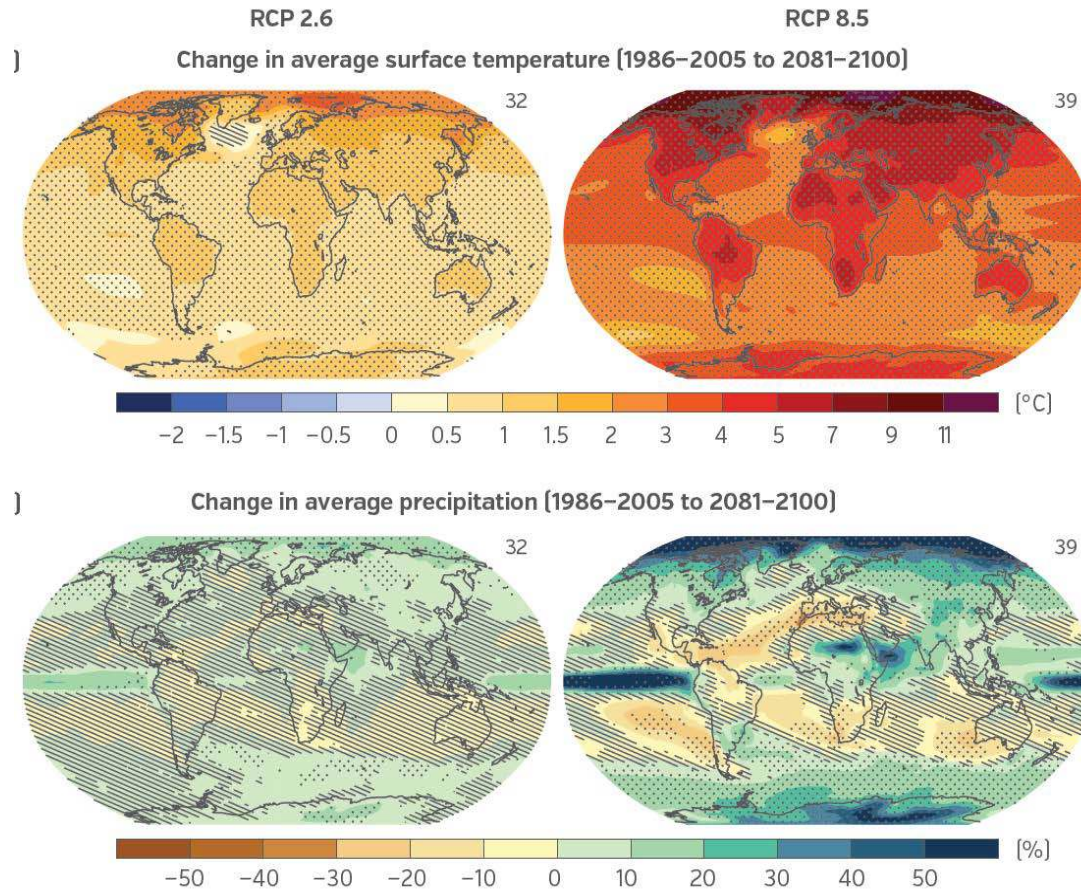


Stages of the Nutrition Transition



Climate change & severity of natural disasters

“geological uncertainties”

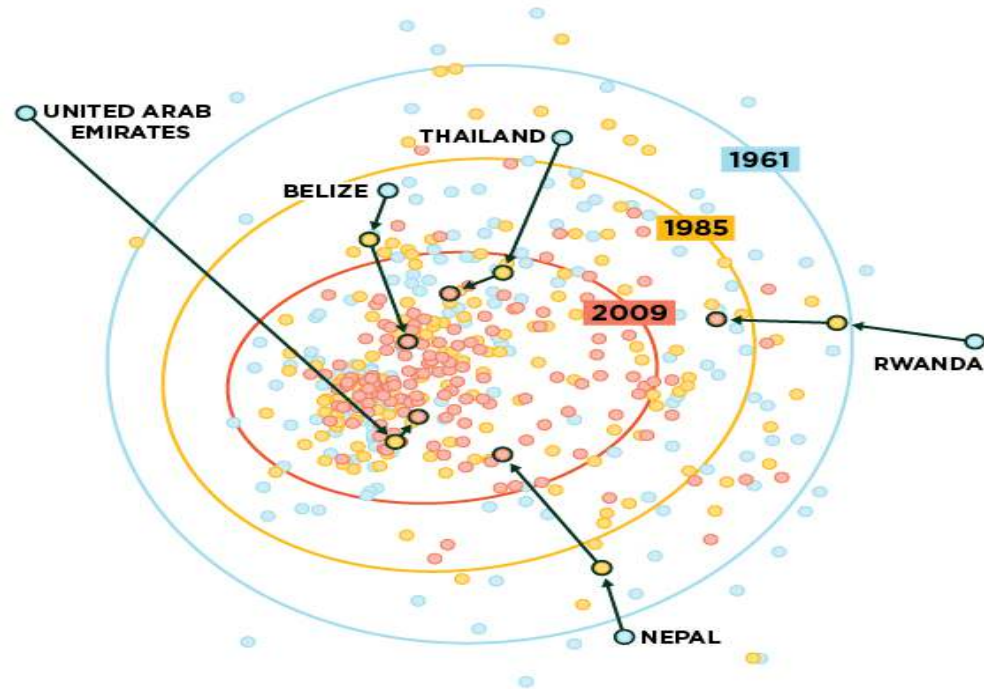


Depletion of Natural Resources in the Food Supply

A study of the world's countries finds that over the last 50 years, diets have become ever more similar.

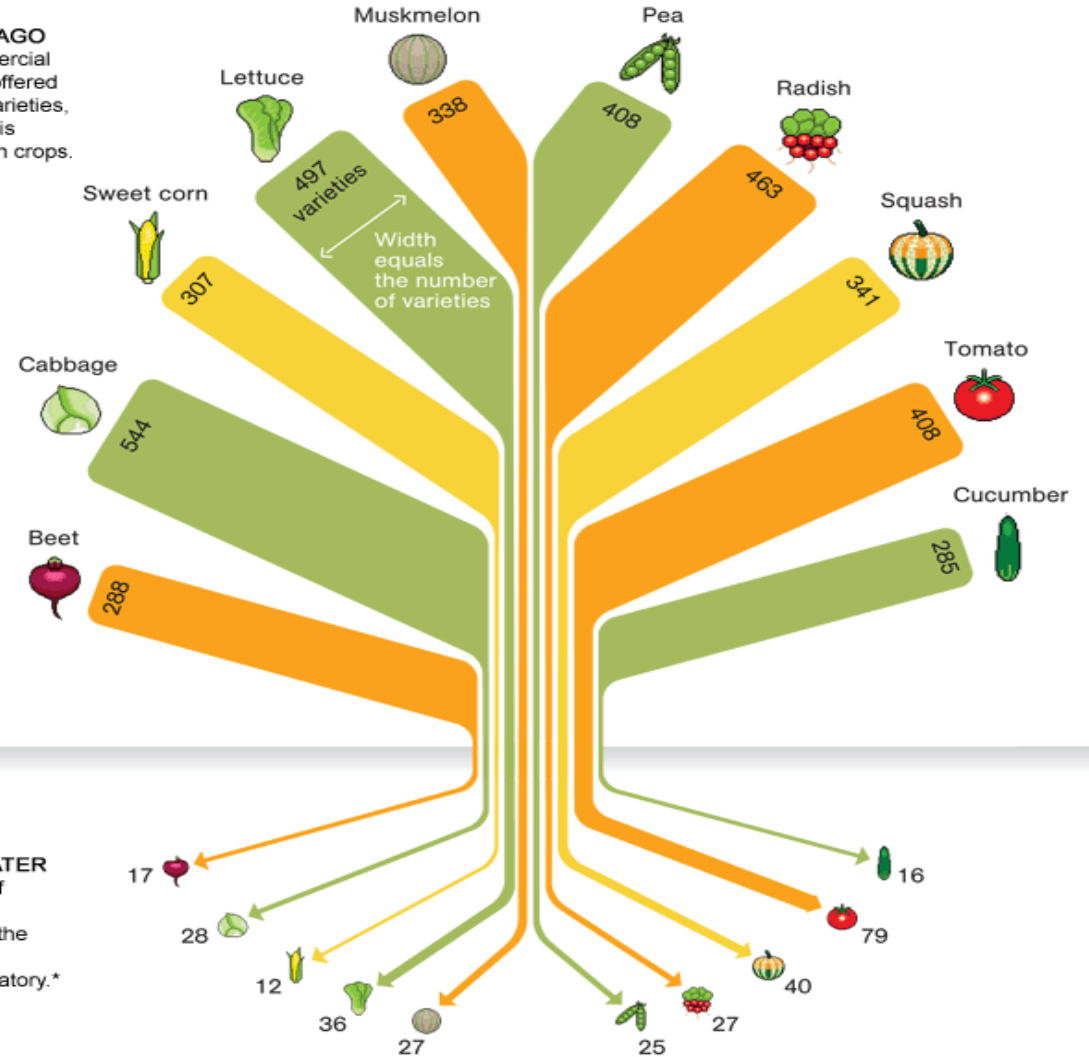
Each country's food supply composition in contribution to calories in:

● 1961 ● 1985 ● 2009



Source: Khoury et al. 2014. Proc. Natl. Acad. Sci. USA.

A CENTURY AGO
In 1903 commercial seed houses offered hundreds of varieties, as shown in this sampling of ten crops.

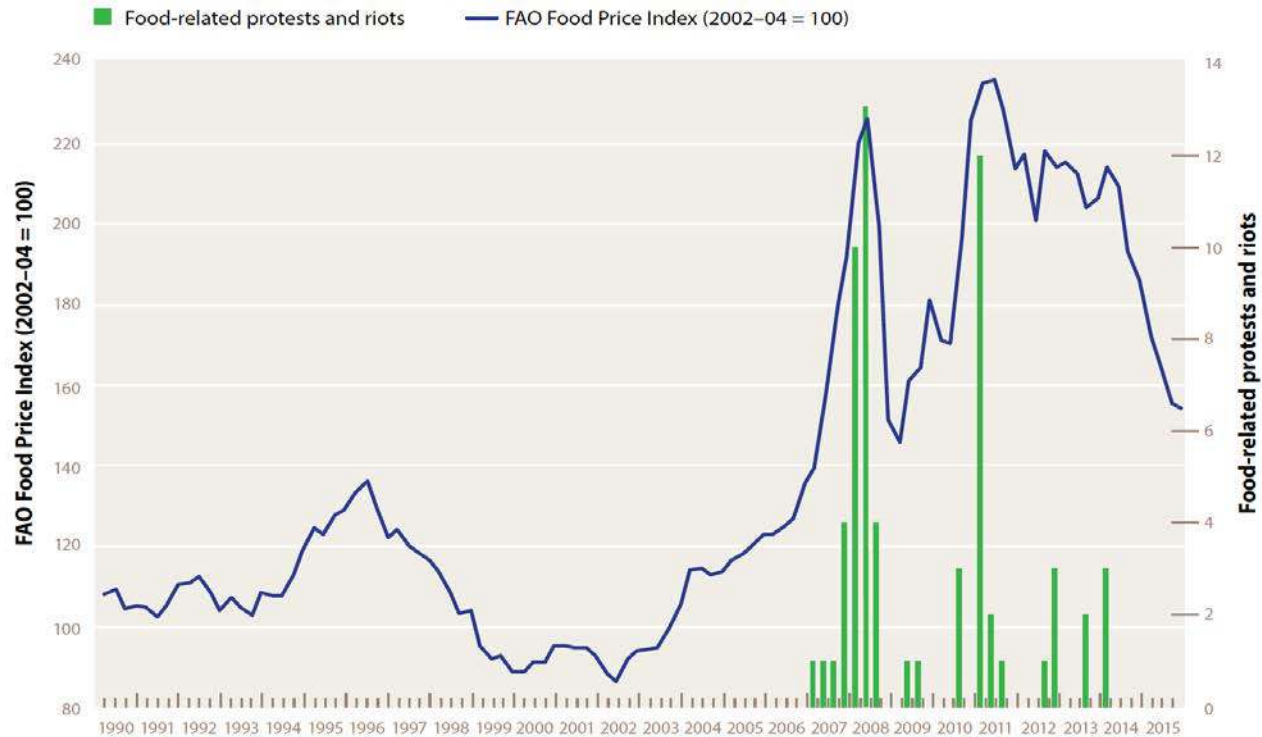
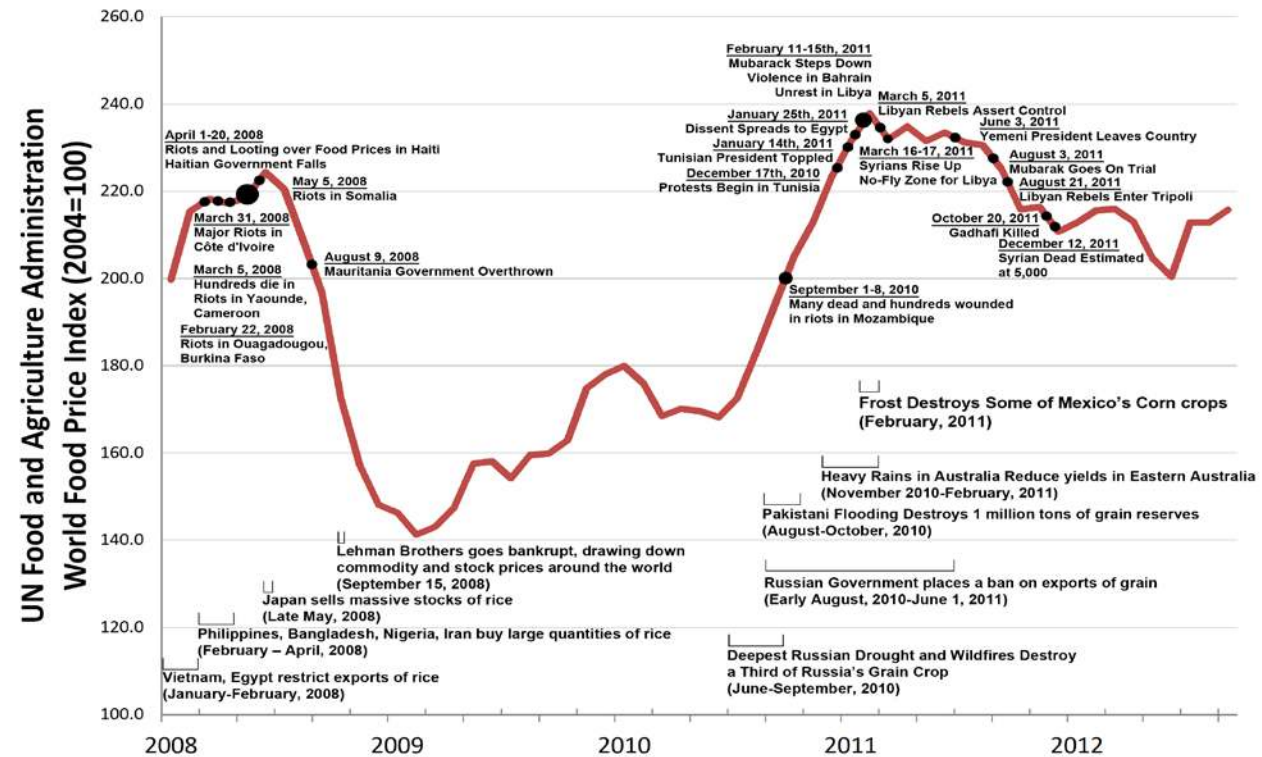


80 YEARS LATER
By 1983 few of those varieties were found in the National Seed Storage Laboratory.*

* CHANGED ITS NAME IN 2001 TO THE NATIONAL CENTER FOR GENETIC RESOURCES PRESERVATION

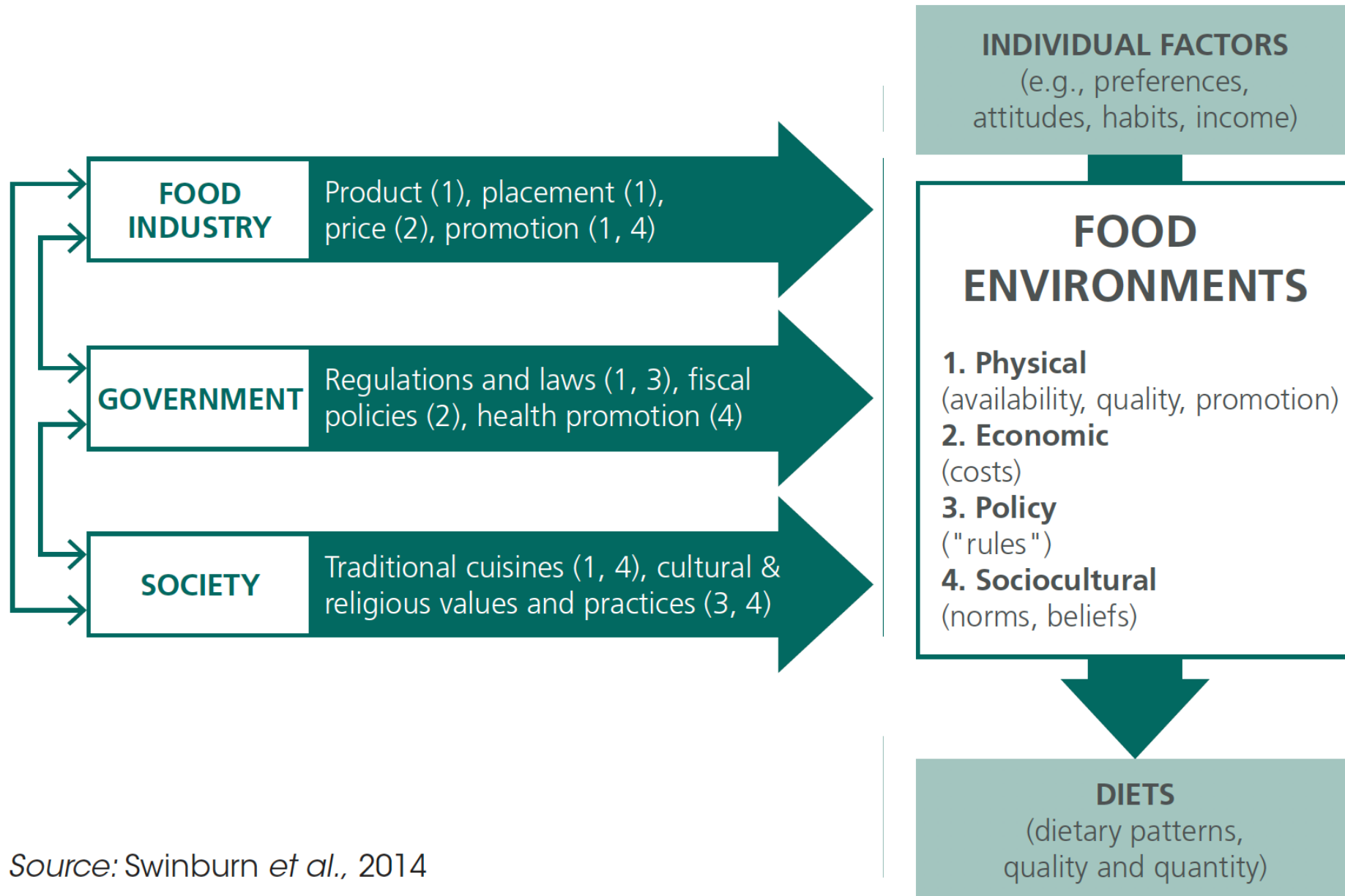
JOHN TOMANIO, NGM STAFF. FOOD ICONS: QUI SOURCE: RURAL ADVANCEMENT FOUNDATION INTER

Food Geopolitics: Food Crises & Social Unrest



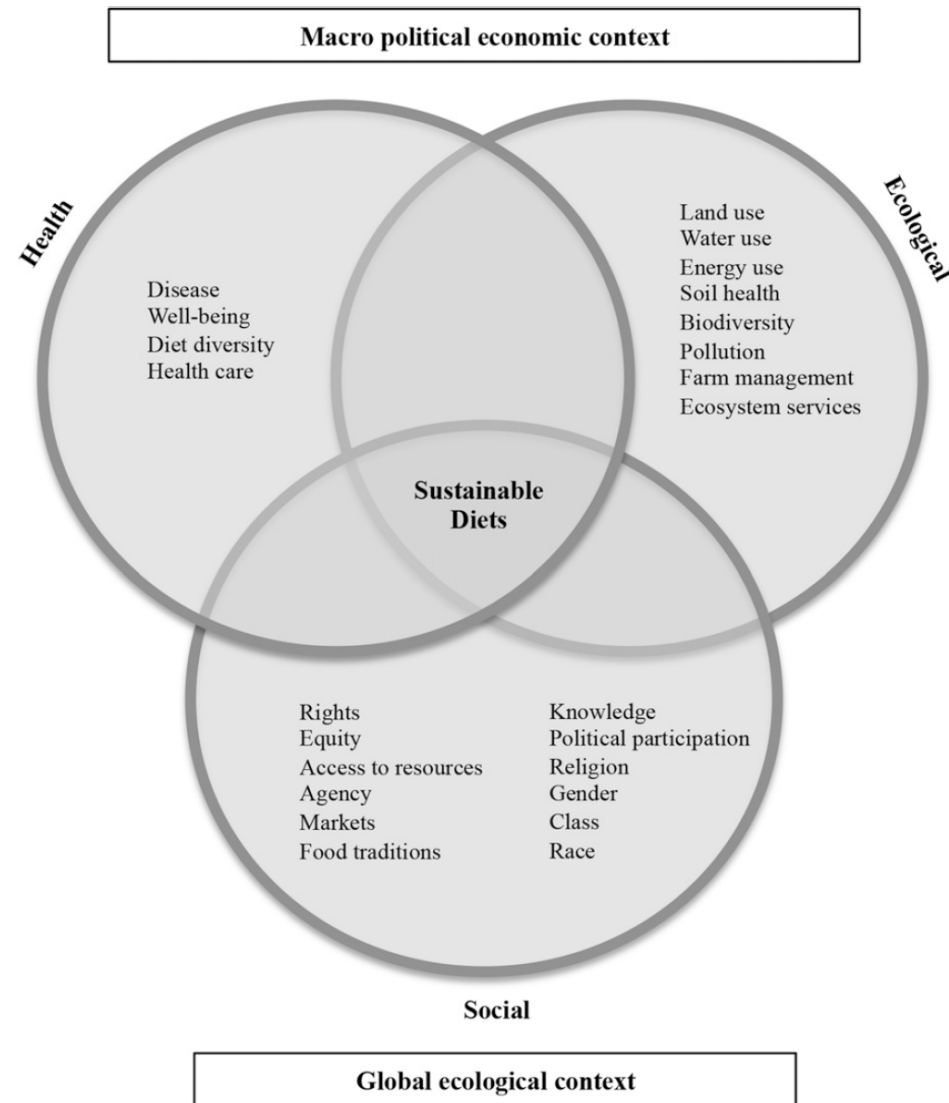
Andrew Holland Arab Spring and World Food Prices: <http://www.americansecurityproject.org/climate-security-report>; Hendrix C (2016) When Hunger Strikes: How Food Security Abroad Matters for National Security at Home. The Chicago Council on Global Affairs, Chicago USA.

Complex food environments



Source: Swinburn *et al.*, 2014

Sustainable Diets – How do we get there?



Globalization
Urbanization
Food chain consolidation
Governance systems

Climate change
Fossil fuel
Natural resource depletion

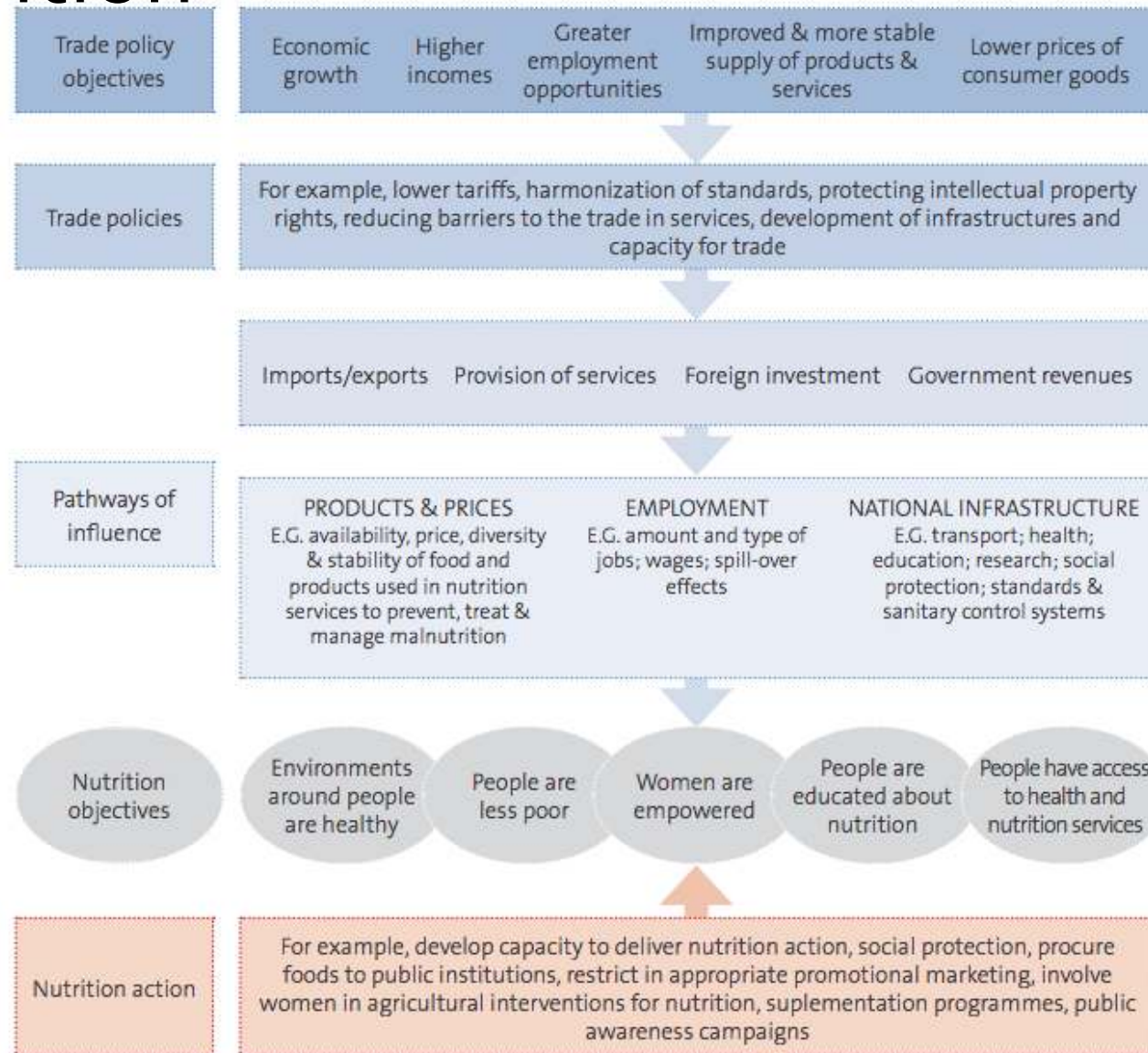
Ten Ideas Towards Solutions: From Macro to Micro



1. Global Goal Setting Matters

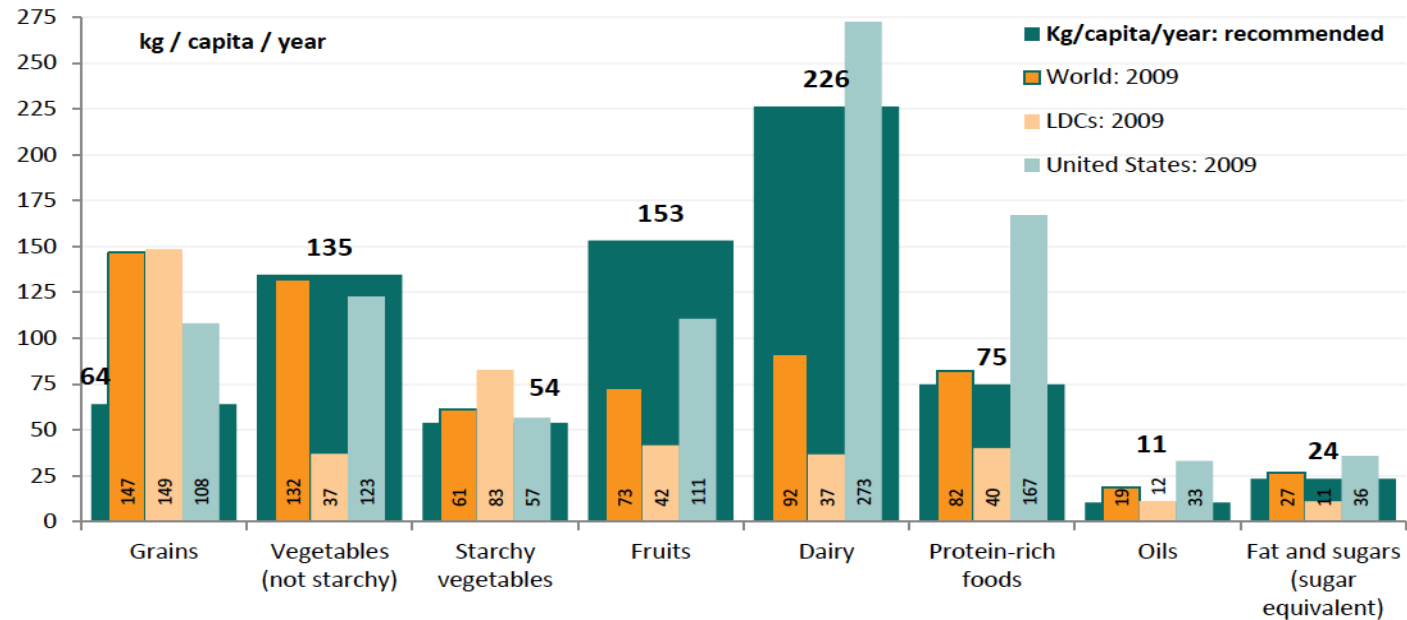


2. More Coherence Between International Trade Policies & Nutrition

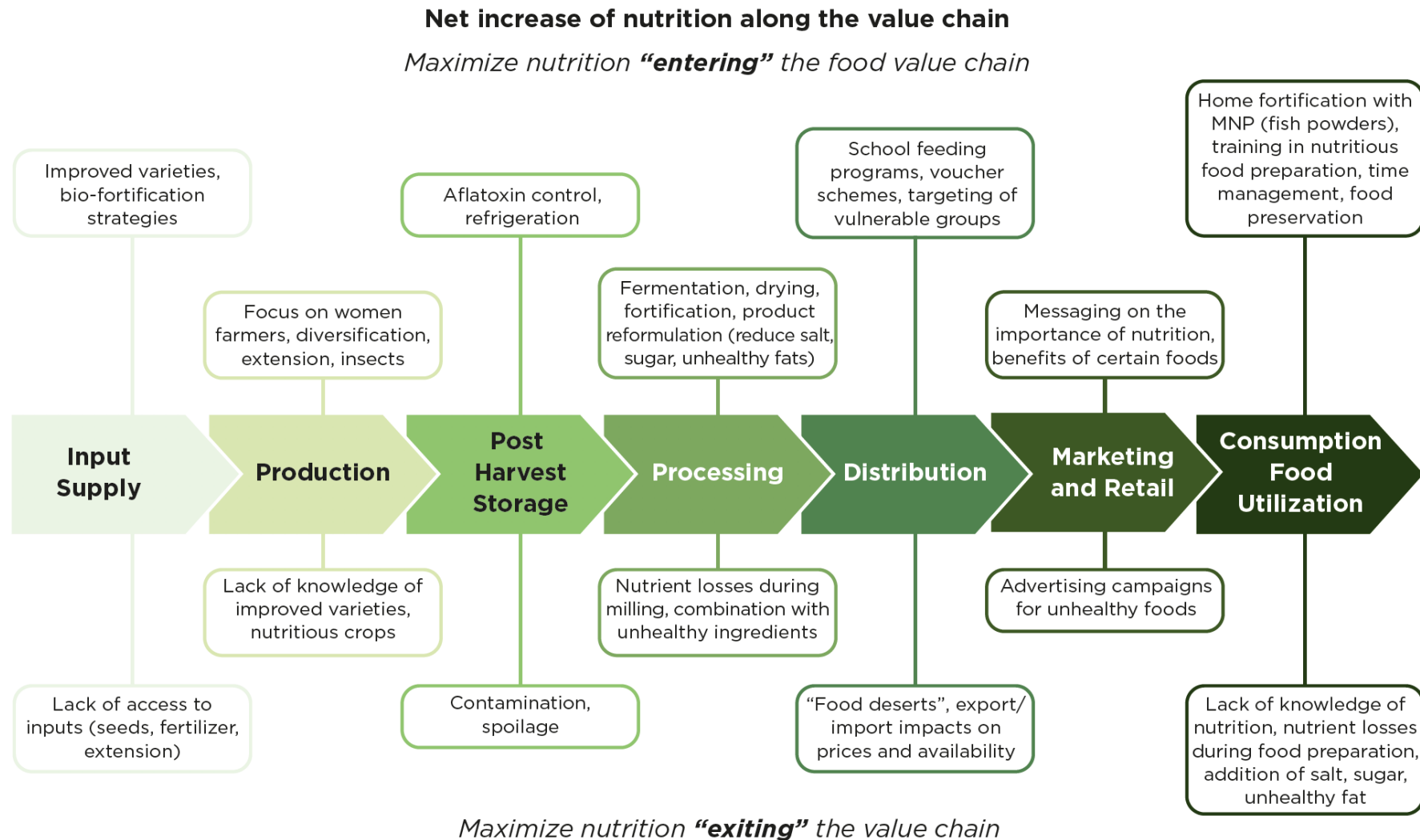


3. Align national dietary and food policies

US and Swedish food-based dietary recommendations in weight compared with global supply averages for 2009



4. Maximize Entry Points, Minimize Exit Points for Nutrition



5. Double duty: Create economic and nutrition incentives along the value chain

- tax incentives for “nutrition retail zones”
- premiums paid to wet market retailers if they meet above minimum food safety standards
- leverage start up funds for SMEs that are engaged in value chains for healthier foods
- incentives to street vendors to use healthier ingredients
- corporate tax rates that incentivize higher nutrition quality product lines

6. Think About Trade-offs Along the Value Chain



Promotion of grass fed beef, potential omega 3 benefits
Increased methane gas production

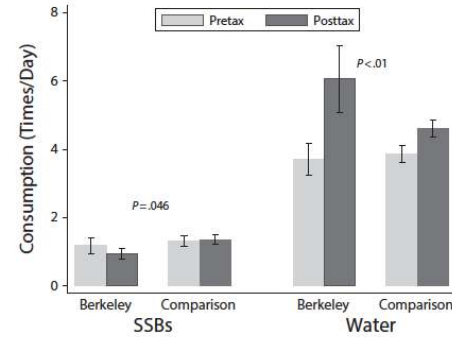


Promotion of Mediterranean diet & olive oil for heart health
Increased use of significant amounts of water

7. Taxes: Not a Panacea but One Tool

Putting Sugary Soda Out of Reach

By ANAHAD O'CONNOR NOV. 3, 2016



Note: Adjusted means and 95% confidence intervals were obtained by using the margins command in Stata/IC version 13.1 (StataCorp LP, College Station, TX) after running generalized linear models adjusting for neighborhood, gender, age, education, race/ethnicity, and language. P values shown are for the difference between Berkeley and comparison cities in change in consumption and come from the generalized linear models.

A Carbon Tax on Meat?

Officials say taxing red meat could improve people's diets and lower greenhouse gas emissions, but economists say it won't work

By Niina Heikkinen, [ClimateWire](#) on February 4, 2016



8. Change Perverse Food Environments & Eliminate “Food Deserts”



9. Consider Nudges & Choice Architecture

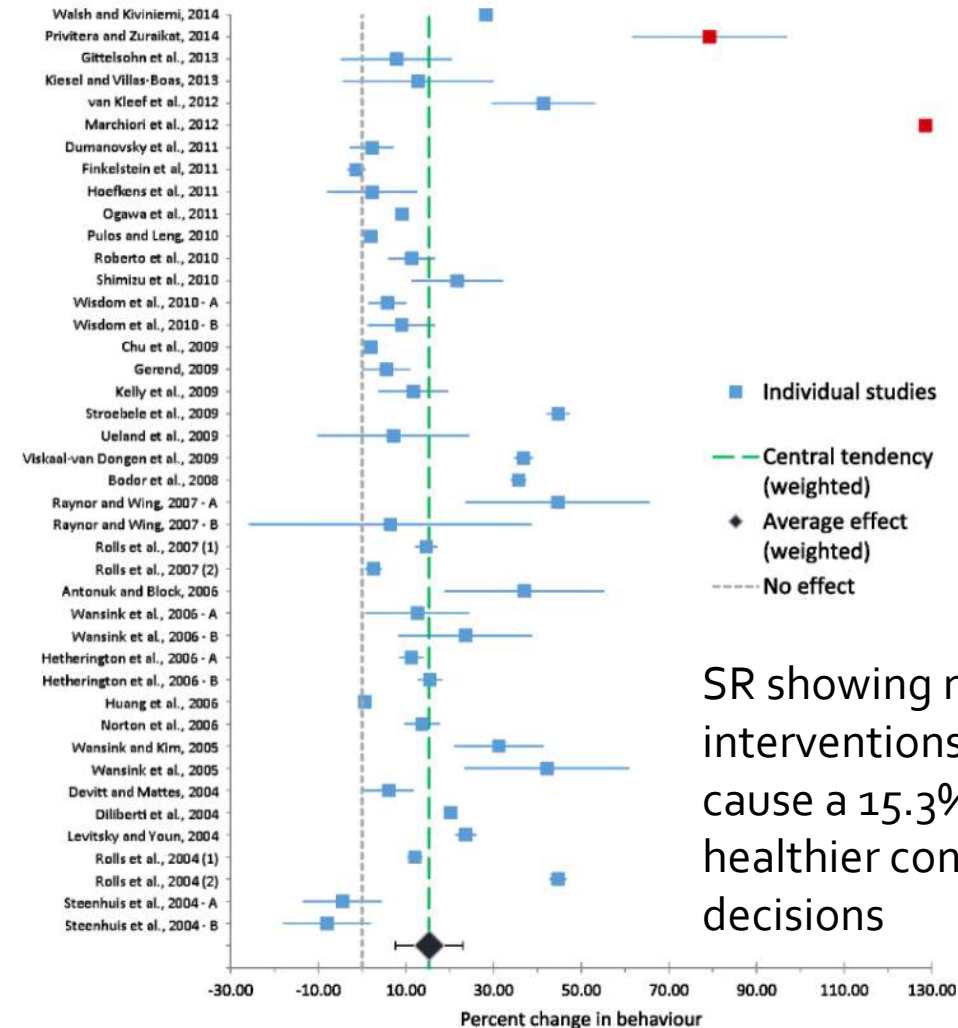
Example:
“default” side
of fries with a
hamburger



Putting fruit at eye level *is* a nudge.

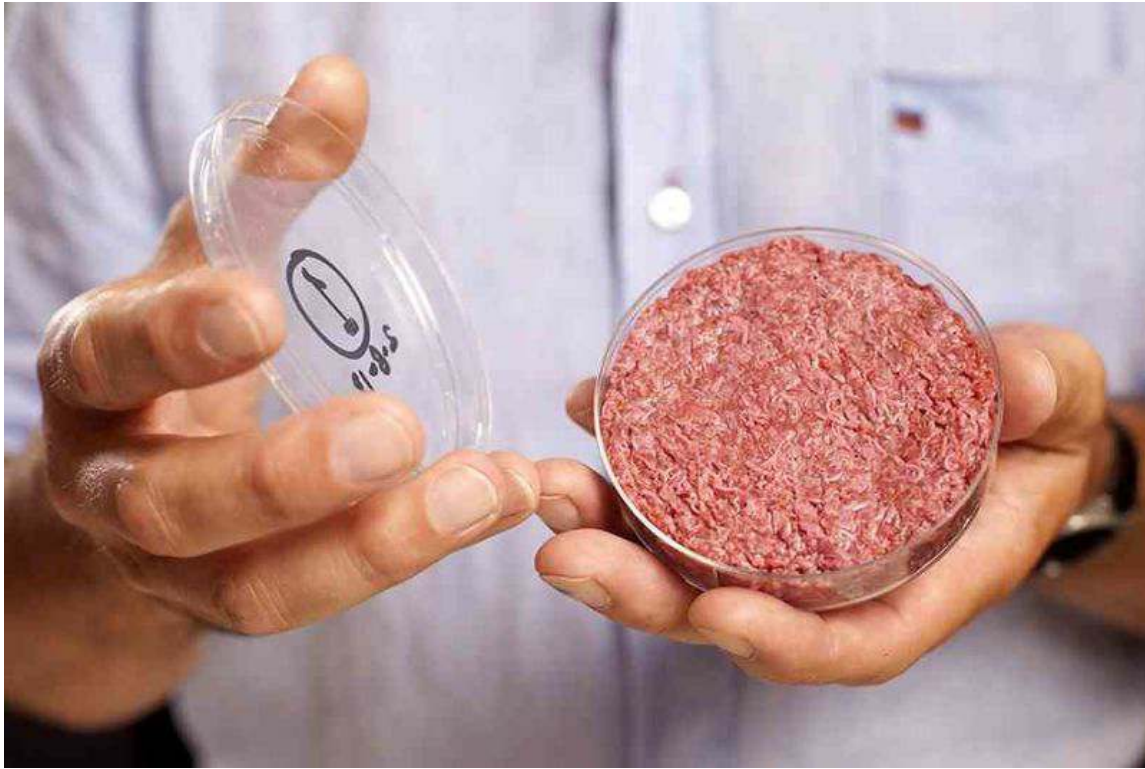
Banning junk food *is not* a nudge.

- Nudging includes positive reinforcement and indirect suggestions to encourage better choices.
- Nudging does not include direct instruction, legislation, or enforcement.
- Nudging alters people’s behavior in a predictable way without forbidding any options.



10. Sustainable Alternatives & Reformulations

“Eat Food. Not too much. Mostly Plants.” *Michael Pollan*



Thank you!



[Foodandnutritionsecurity.org](https://www.foodandnutritionsecurity.org)
[@jessfanzo](https://twitter.com/jessfanzo)