Nutrition and Food Systems

A call for coherence, action and accountability

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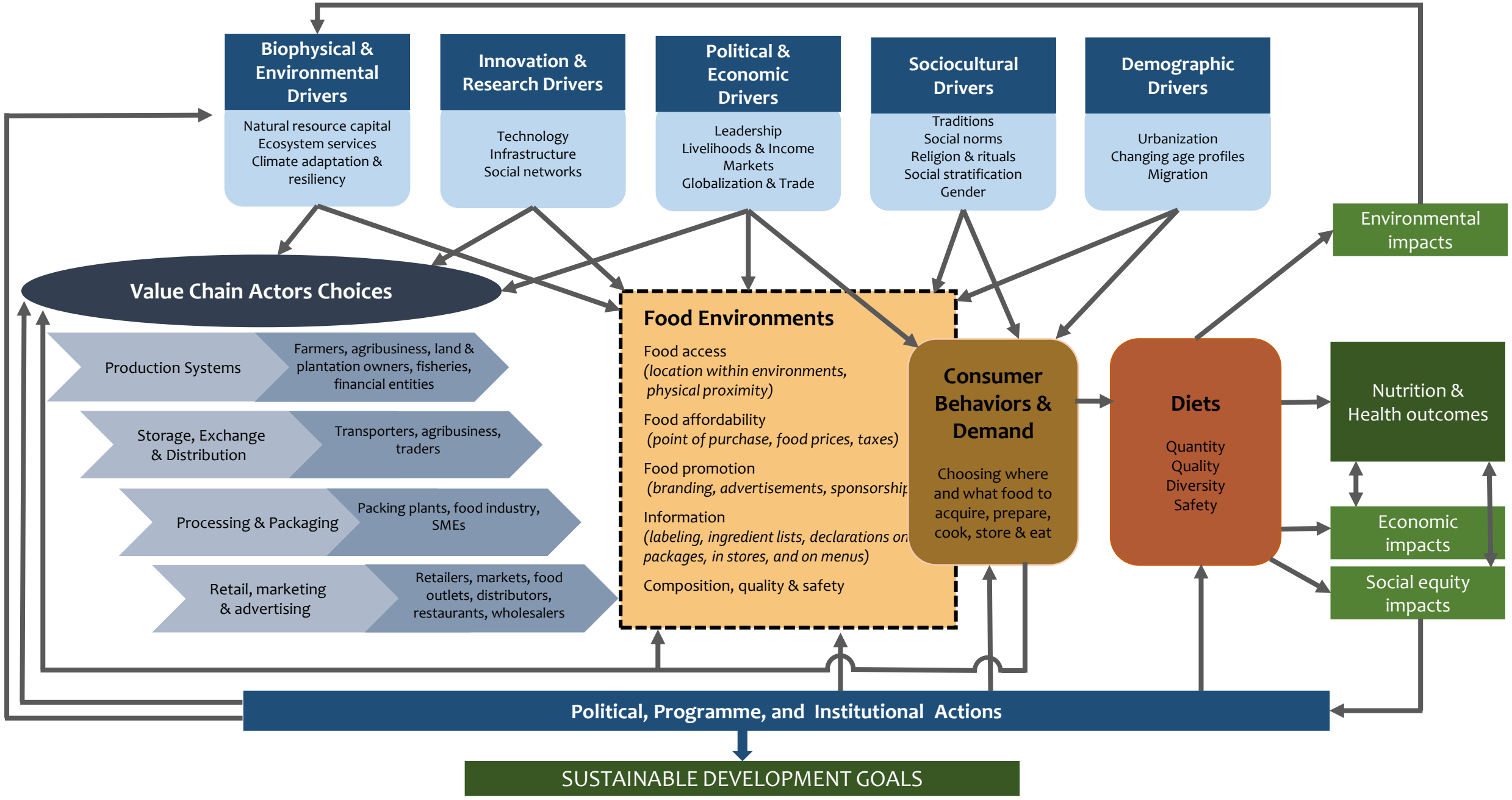
Part 1: Purpose and framing

- To analyse how food systems influence people's dietary patterns and nutritional outcomes.

- To highlight effective policies and programmes that have the potential to shape food systems, contribute to improved nutrition, and ensure that food is produced, made available, and consumed in a sustainable manner that protects the right to adequate food for all.

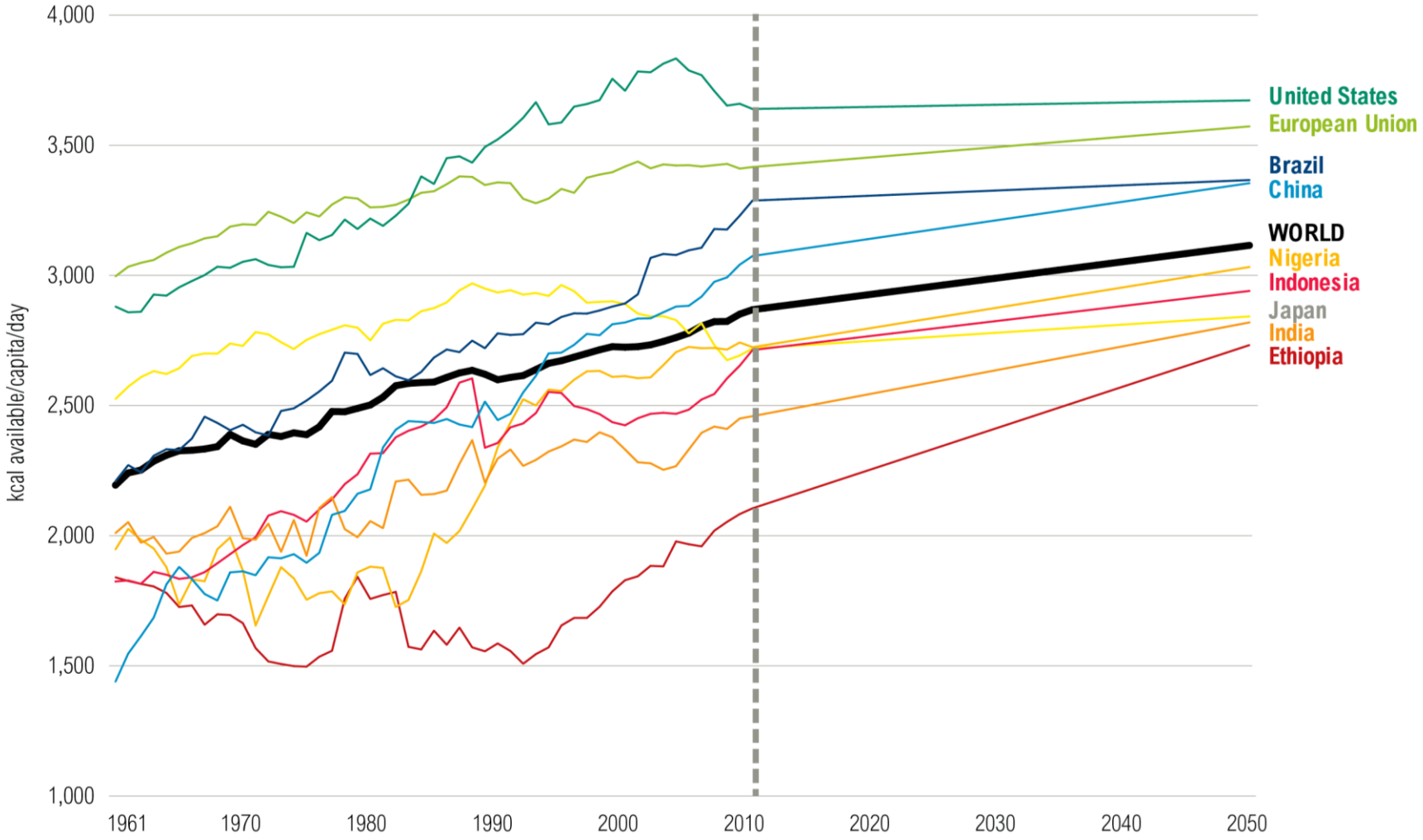


Fanzo et al 2017 UN HLPE Report

Part 2: Transitioning Diets

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

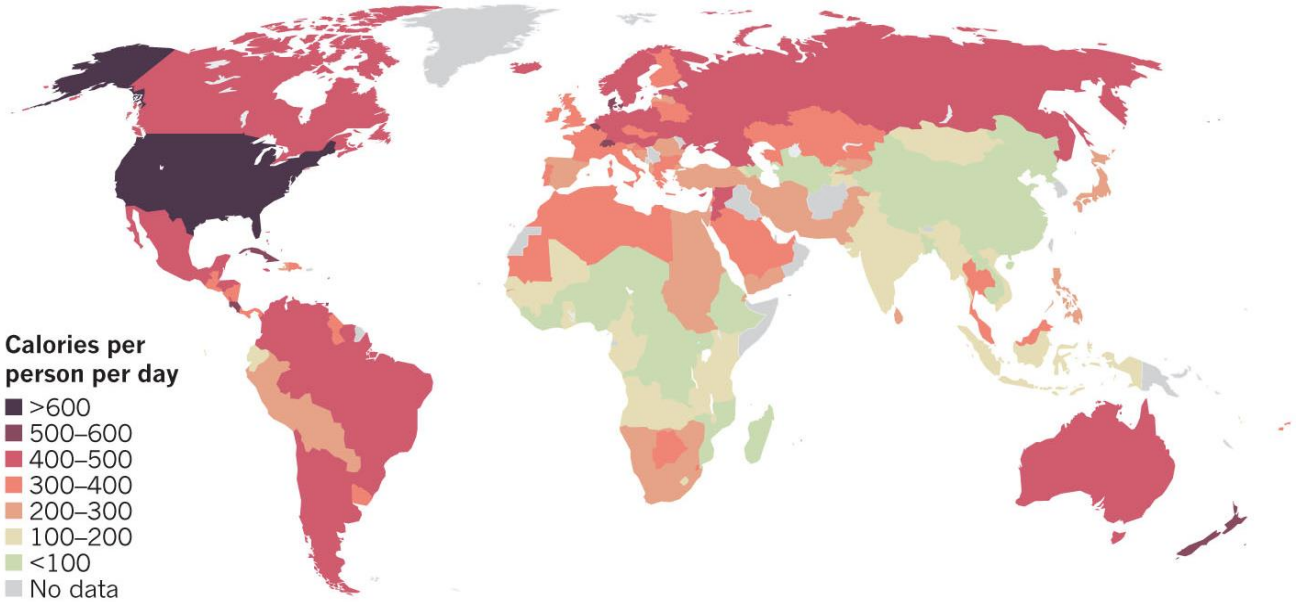
1. Too Much

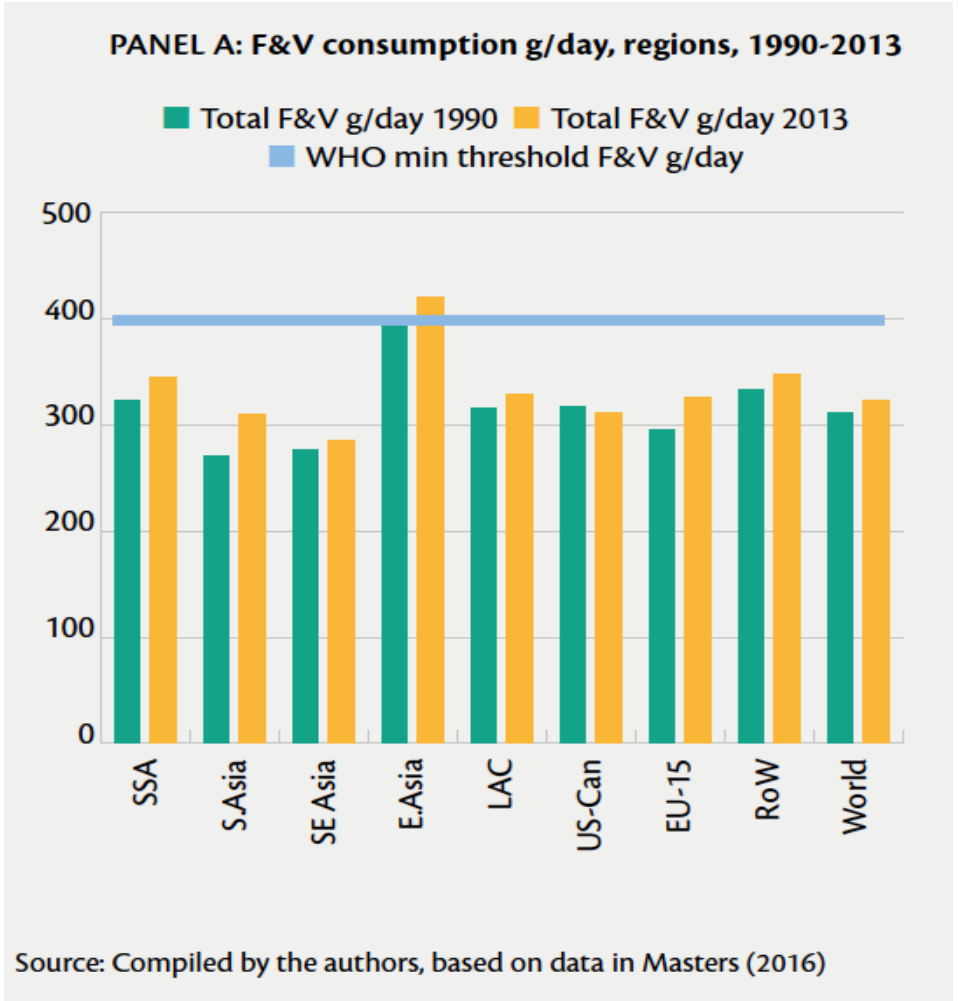


Ranganathan, J. et al. 2016. "Shifting Diets for a Sustainable Food Future." Working Paper, Installment 11 of Creating a Sustainable Food Future. Washington, DC: World Resources Institute. Accessible at http://www.worldresourcesreport.org

2. Poor Quality

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





Micha et al 2015 BMJ; Harvard, Neel 2012; Global Panel Foresight Report 2016

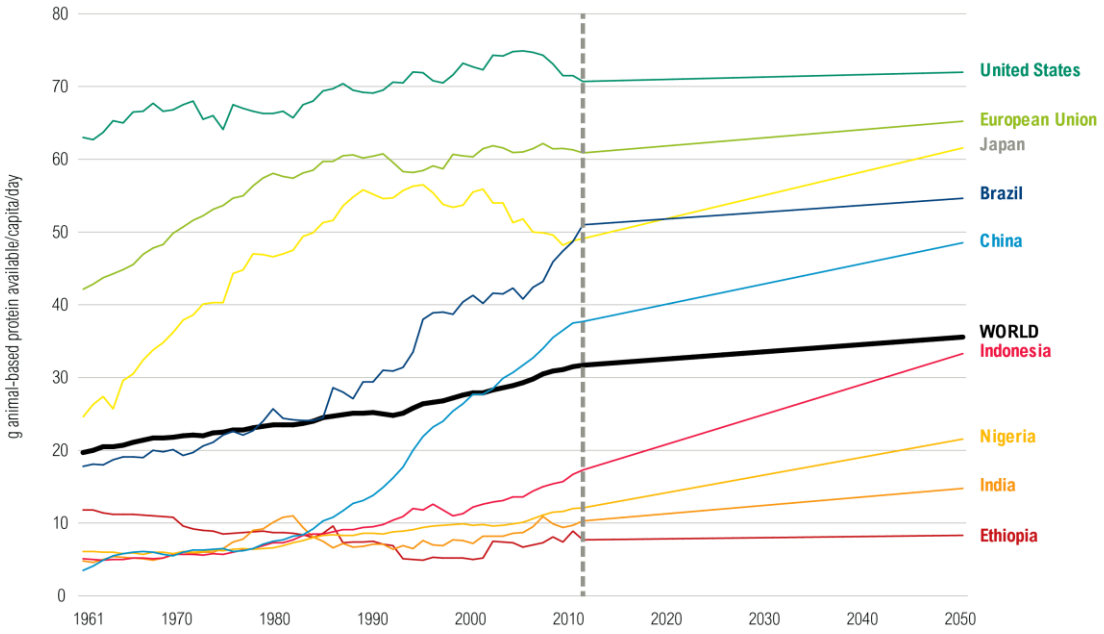
3. Not Affordable

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.

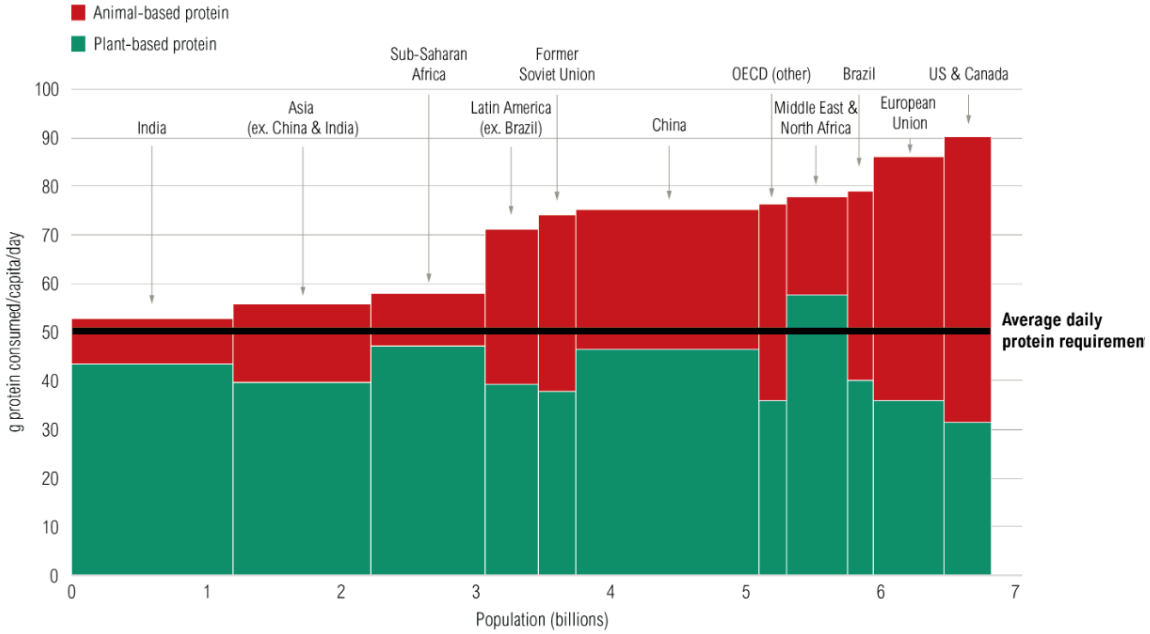
Hallegatte, Stephane, Mook Bangalore, Laura Bonzanigo,Marianne Fay, Tamaro Kane, Ulf Narloch, Julie Rozenberg, David Treguer, and Adrien Vogt-Schilb. 2016. Shock Waves: Managing the Impacts of Climate Change on Poverty. Climate Change and Development Series. Washington, DC: World Bank.

4. Not Sustainable

People Are Consuming More Animal-Based Protein



People Are Eating More Protein than They Need—Especially in Wealthy Regions



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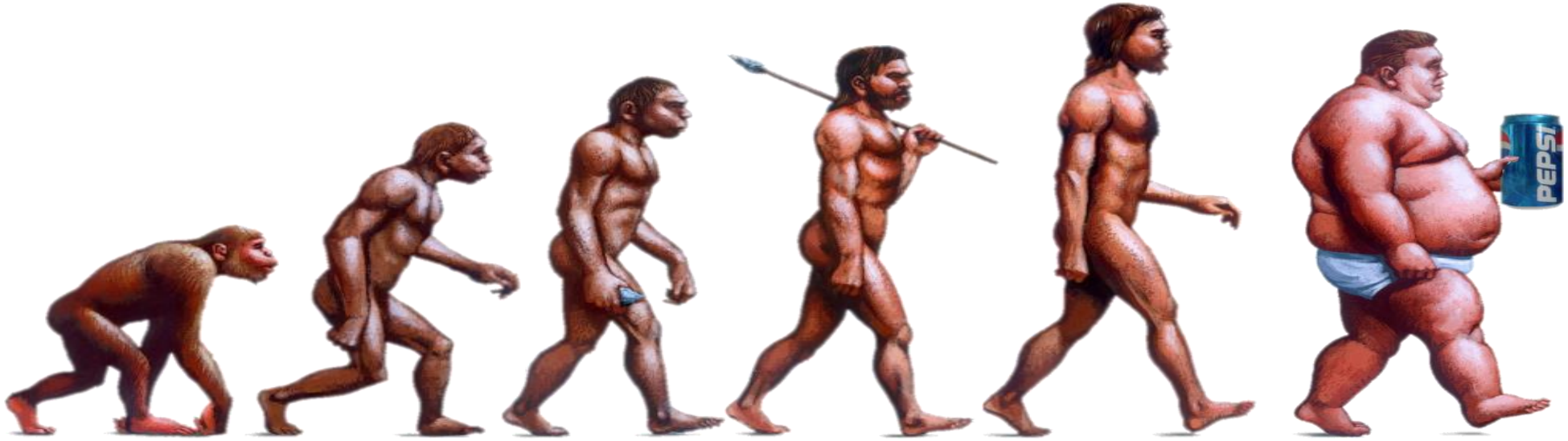
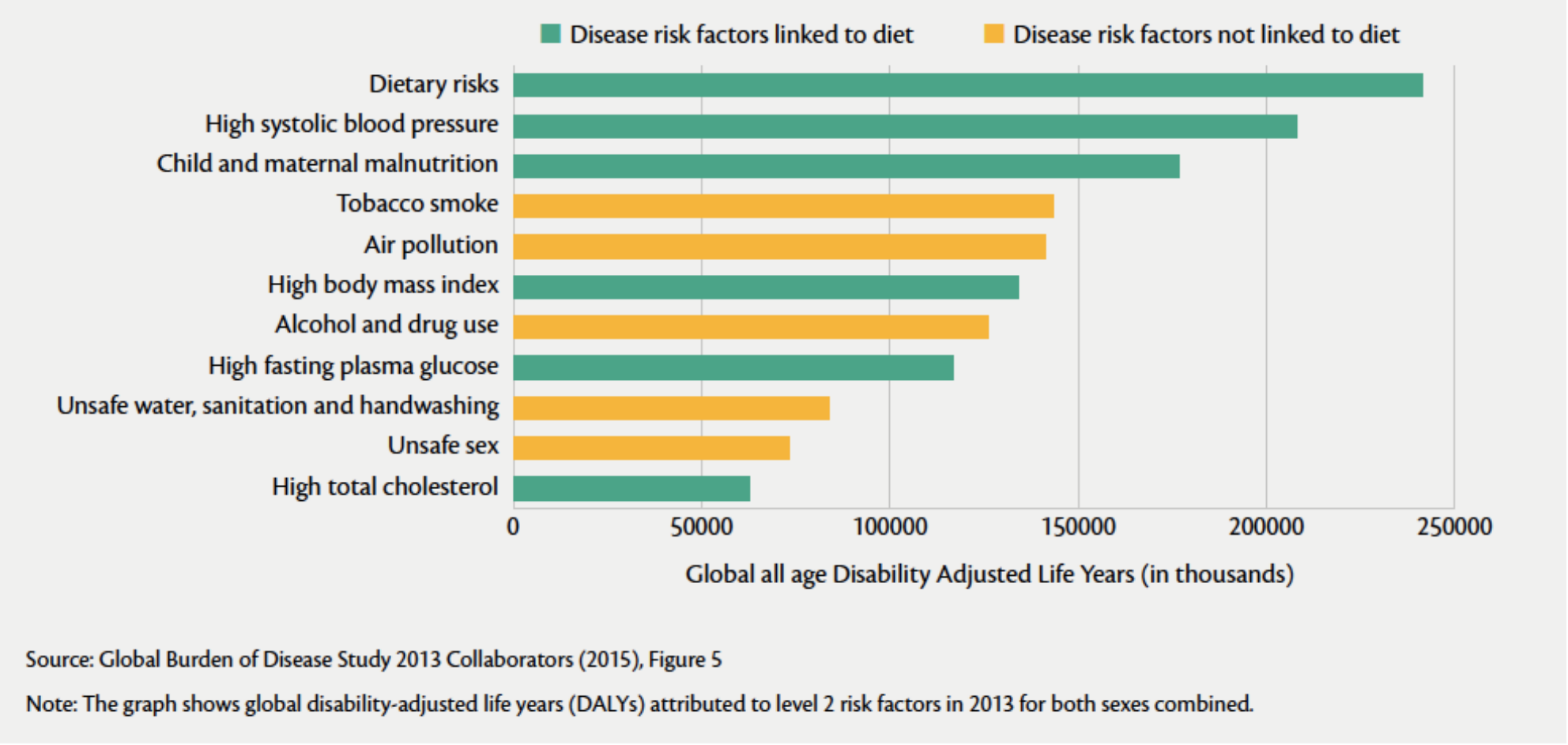
The Implications of Our Diet "Choices"



1. Health Consequences
2. Environmental Consequences
3. Social Inequity Consequences

Importance of Diets

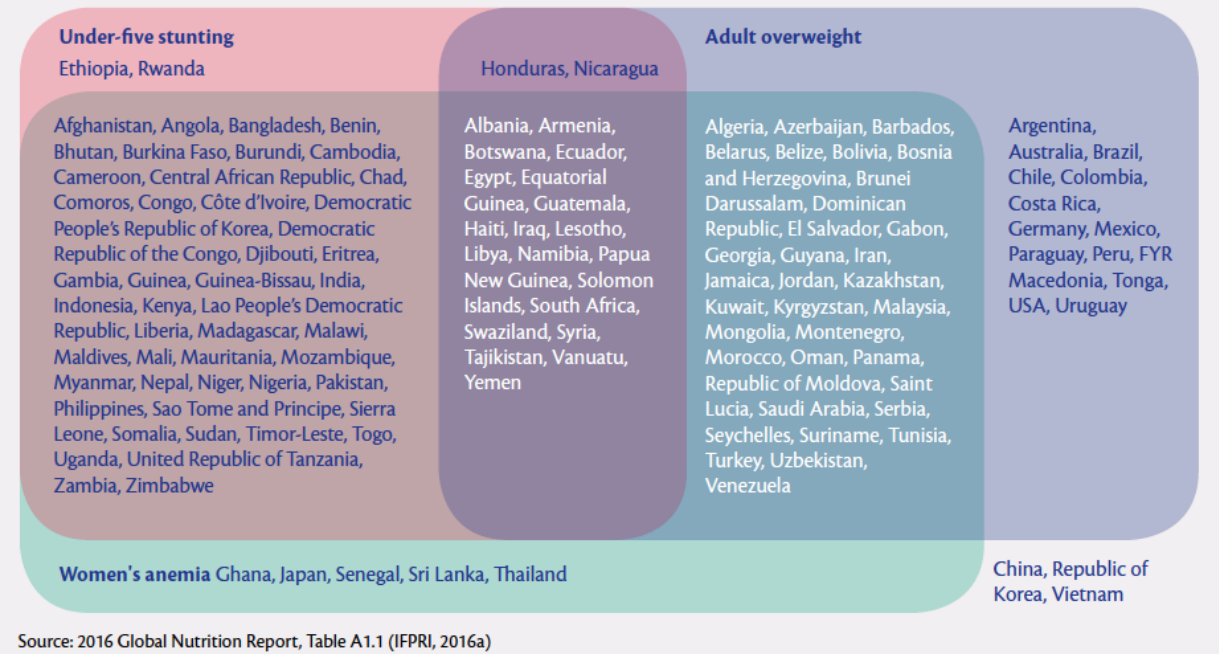


Source: Global Burden of Disease Study 2013 Collaborators (2015), Figure 5

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

1. Health and Nutrition Outcomes

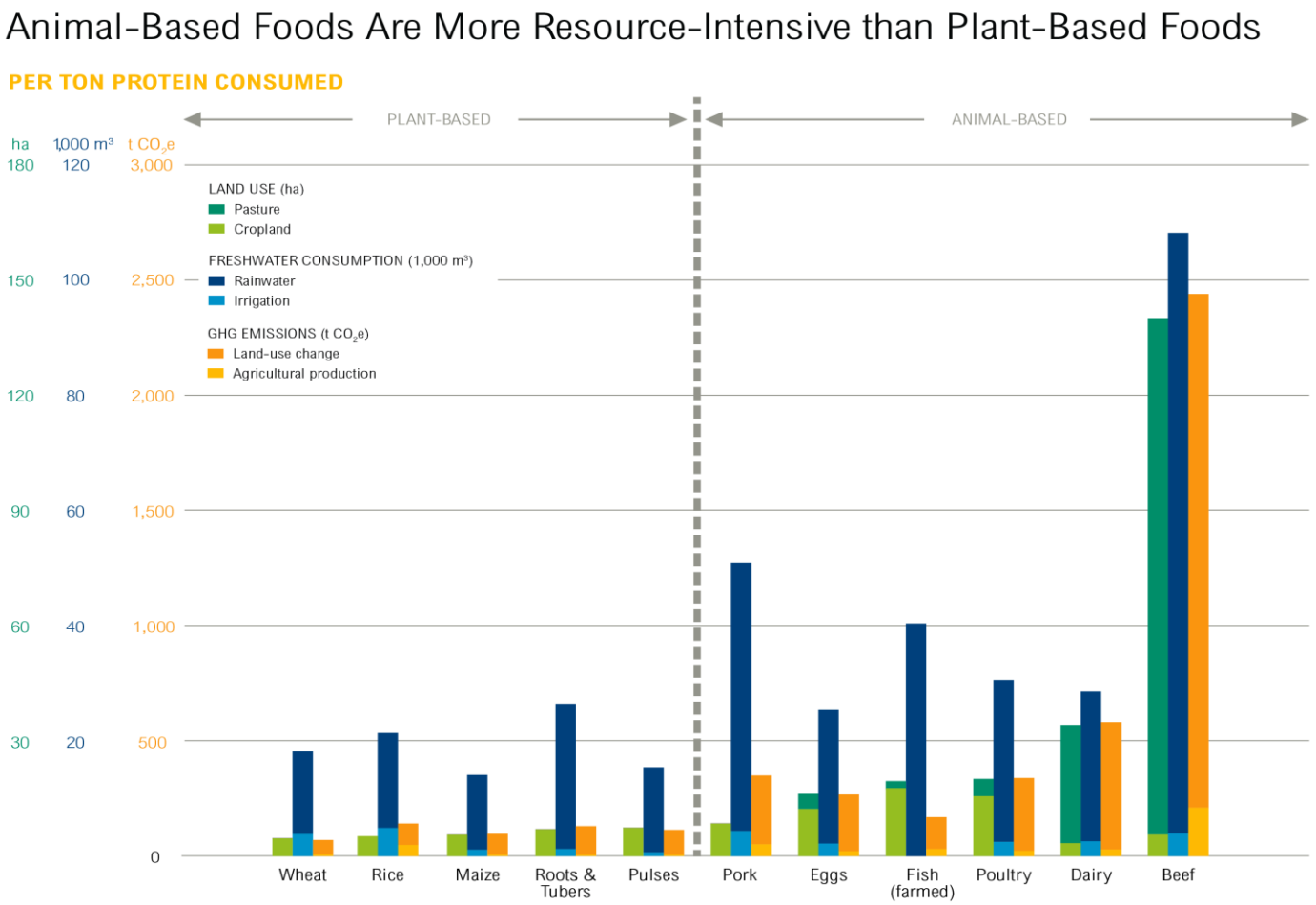
- **795 million** undernourished (hungry)
- **156 million** children under five stunted, or chronically undernourished
- **50 million** children under five wasted, or acutely undernourished
- **2.1 billion** adults overweight or obese
- **2 billion** people with some type of micronutrient deficiency



Source: 2016 Global Nutrition Report, Table A1.1 (IFPRI, 2016a)

Global Nutrition Report, 2016

2. Environmental Outcomes



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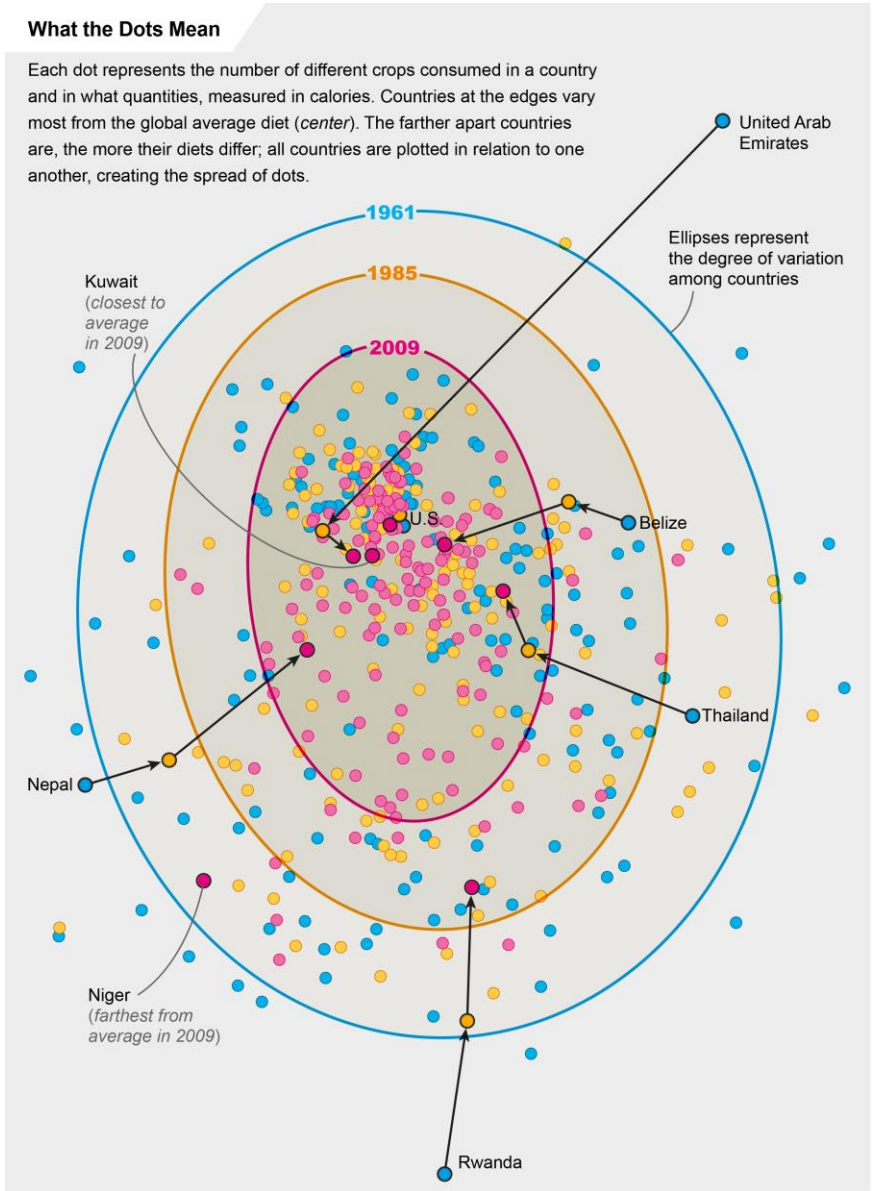
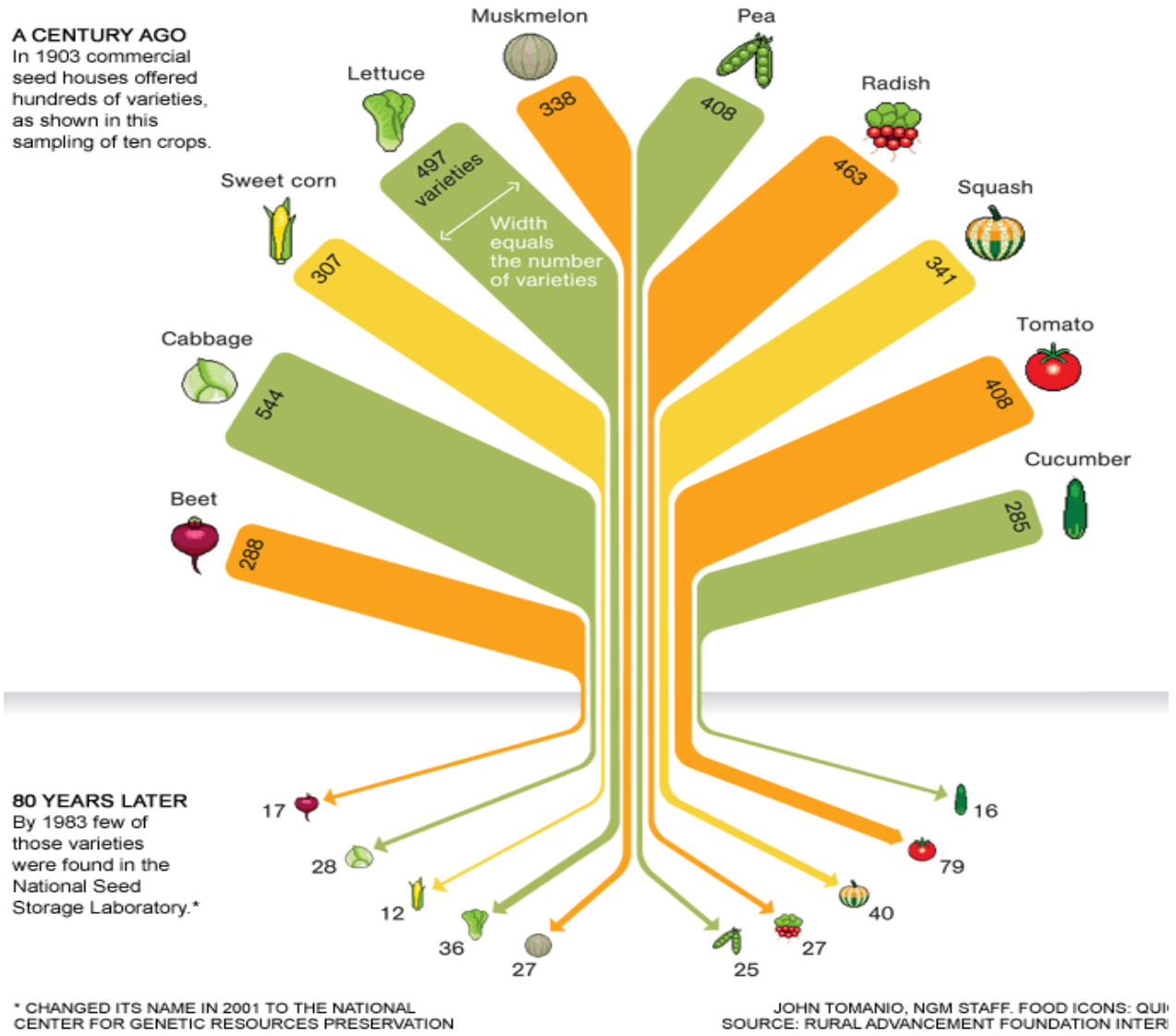
3. Social Inequity and Economic Outcomes

- 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 (with some exceptions). How do we get to a more equitable (and ethical) range of meat consumption?
- 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.

Part 3: Drivers of Food System Changes

Depletion of Natural Resources in the Food Supply





Khoury et al 2014 PNAS; Stockholm Resilience Center; Science 2013; Rockstrom et al

Climate Change Impacts on Diets and Health

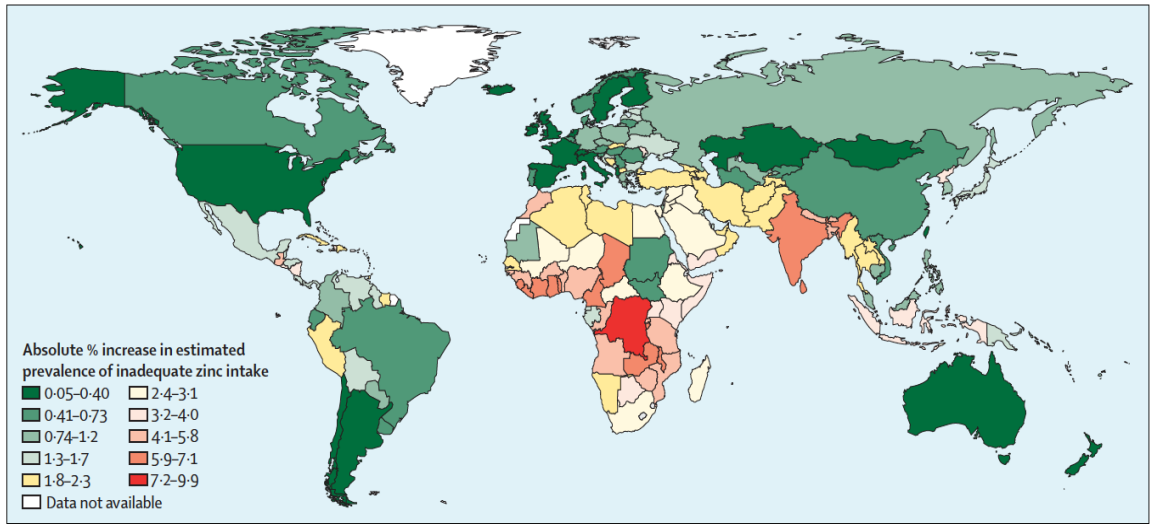
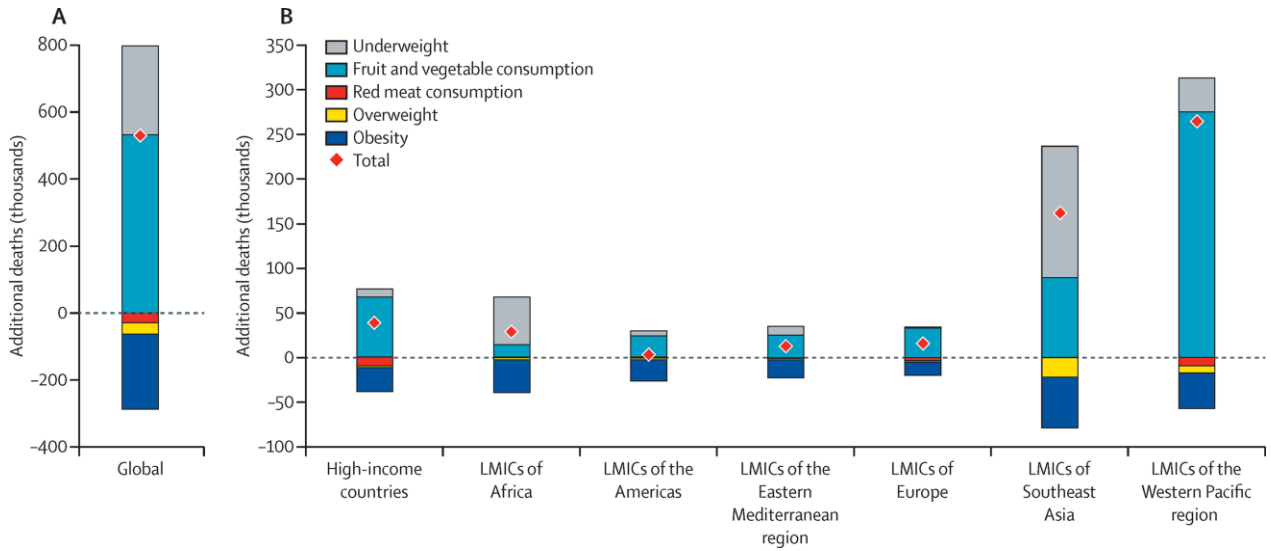


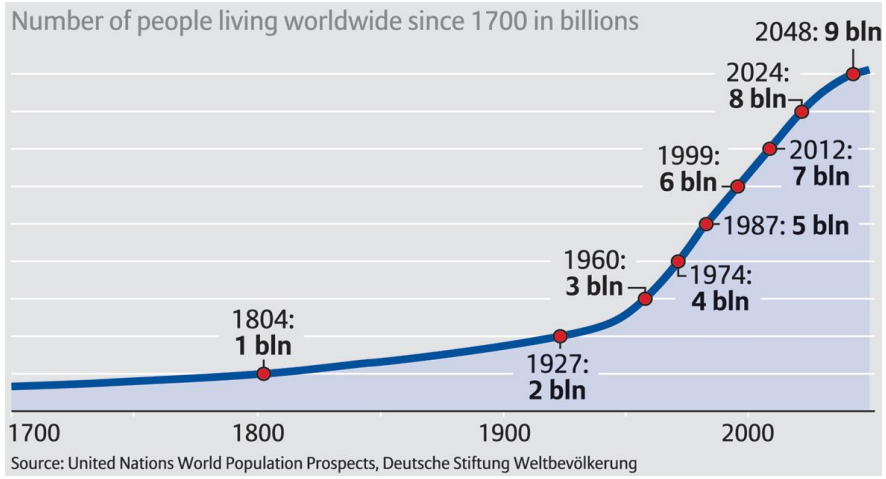
Figure 1: Absolute percentage increase in risk of zinc deficiency in response to elevated atmospheric [CO_2]

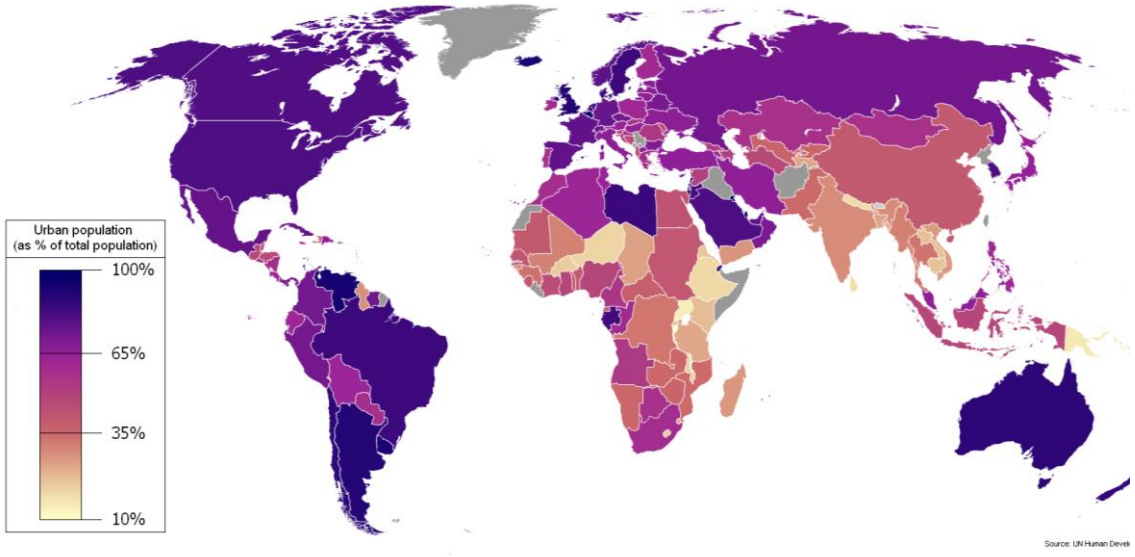


The negative health effects associated with reductions in fruit and vegetable consumption lead to 534 000 climate-related deaths

Myers et al Lancet 2015; Springmann et al 2016 Lancet

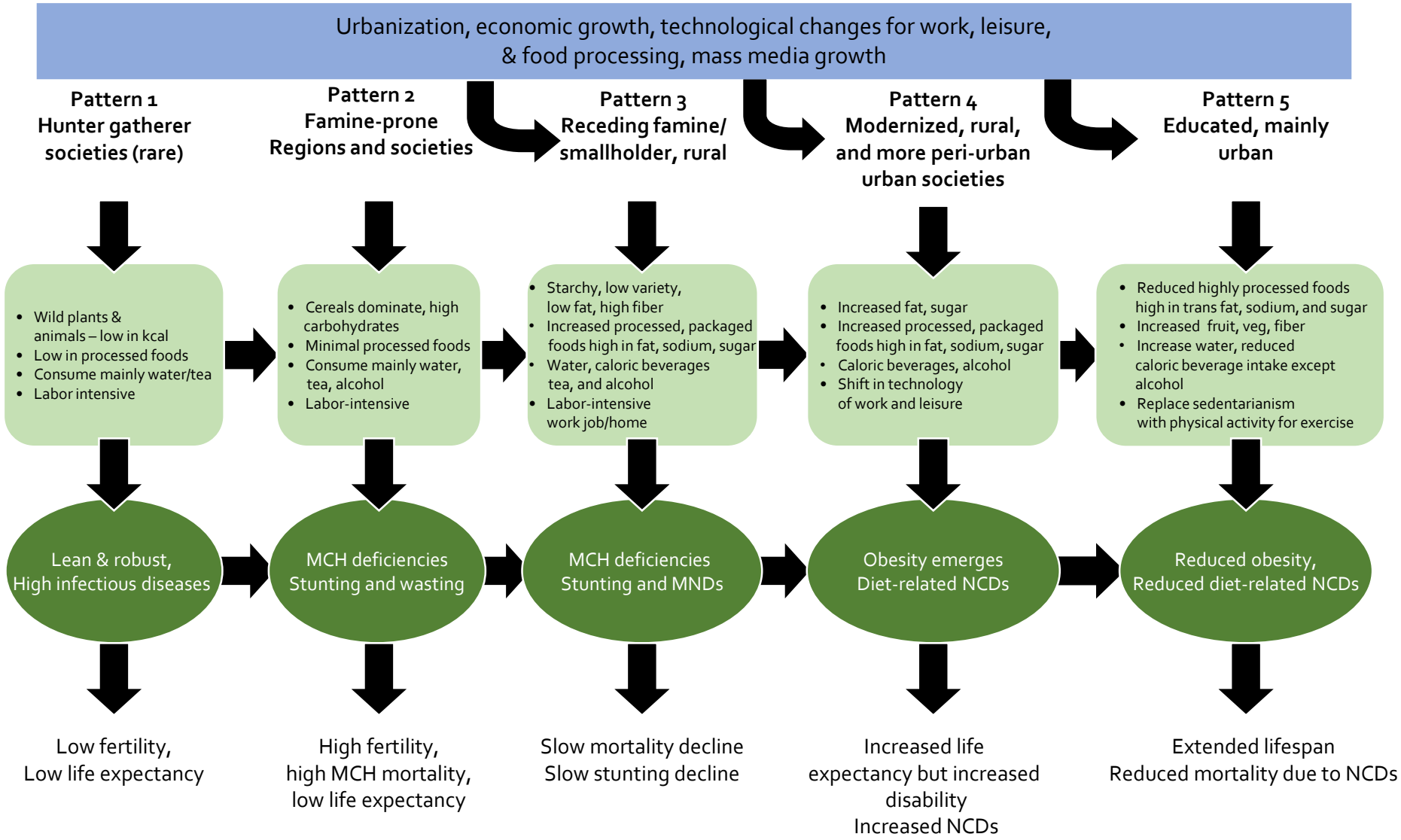
Population Growth & Pressure, & Urbanization





UNICEF 2012 SOWC Report

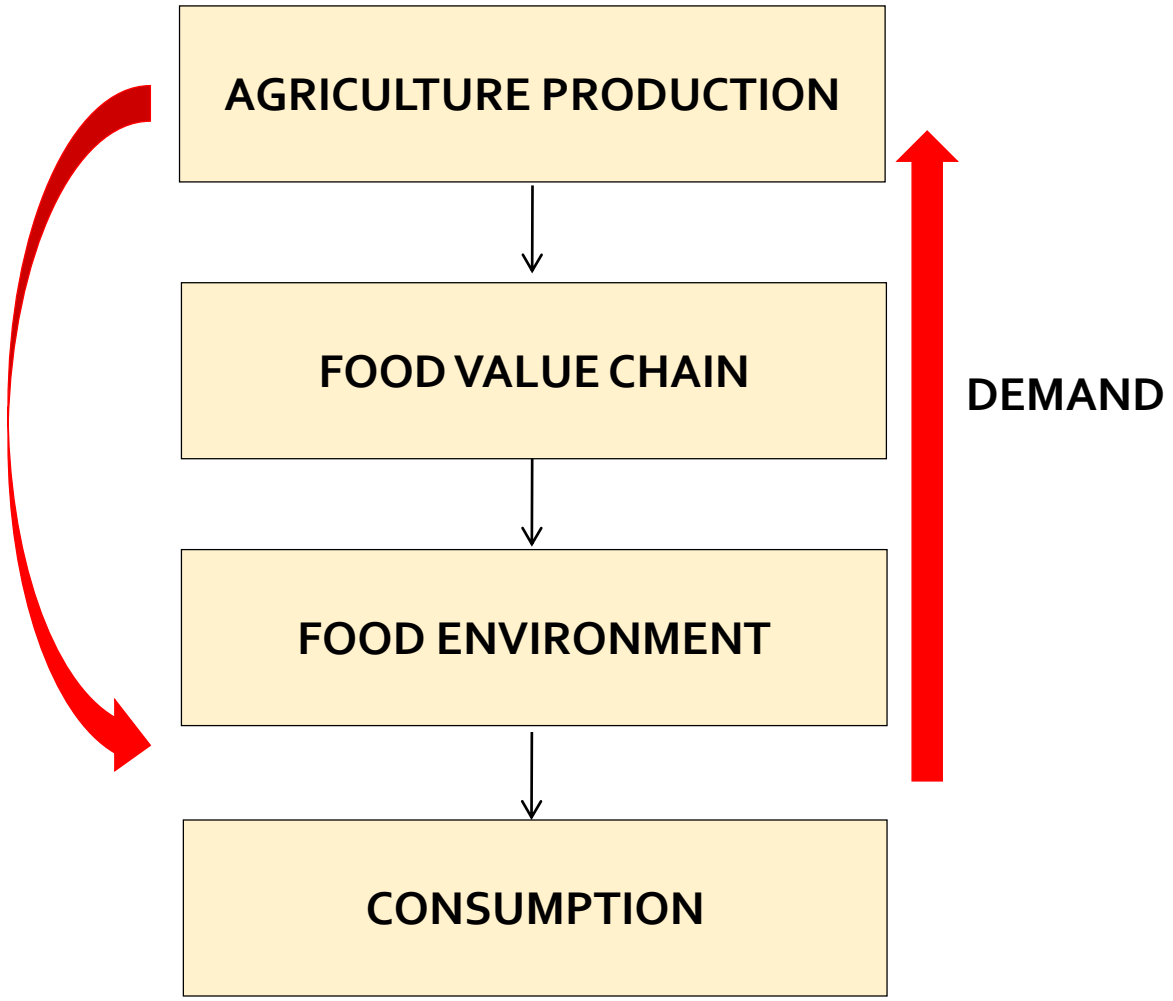
Stages of the Nutrition Transition



Source: Popkin 2006; Crino et al 2016; Revised Fanzo et al 2017

Part 4: Best Practices, Best Evidence

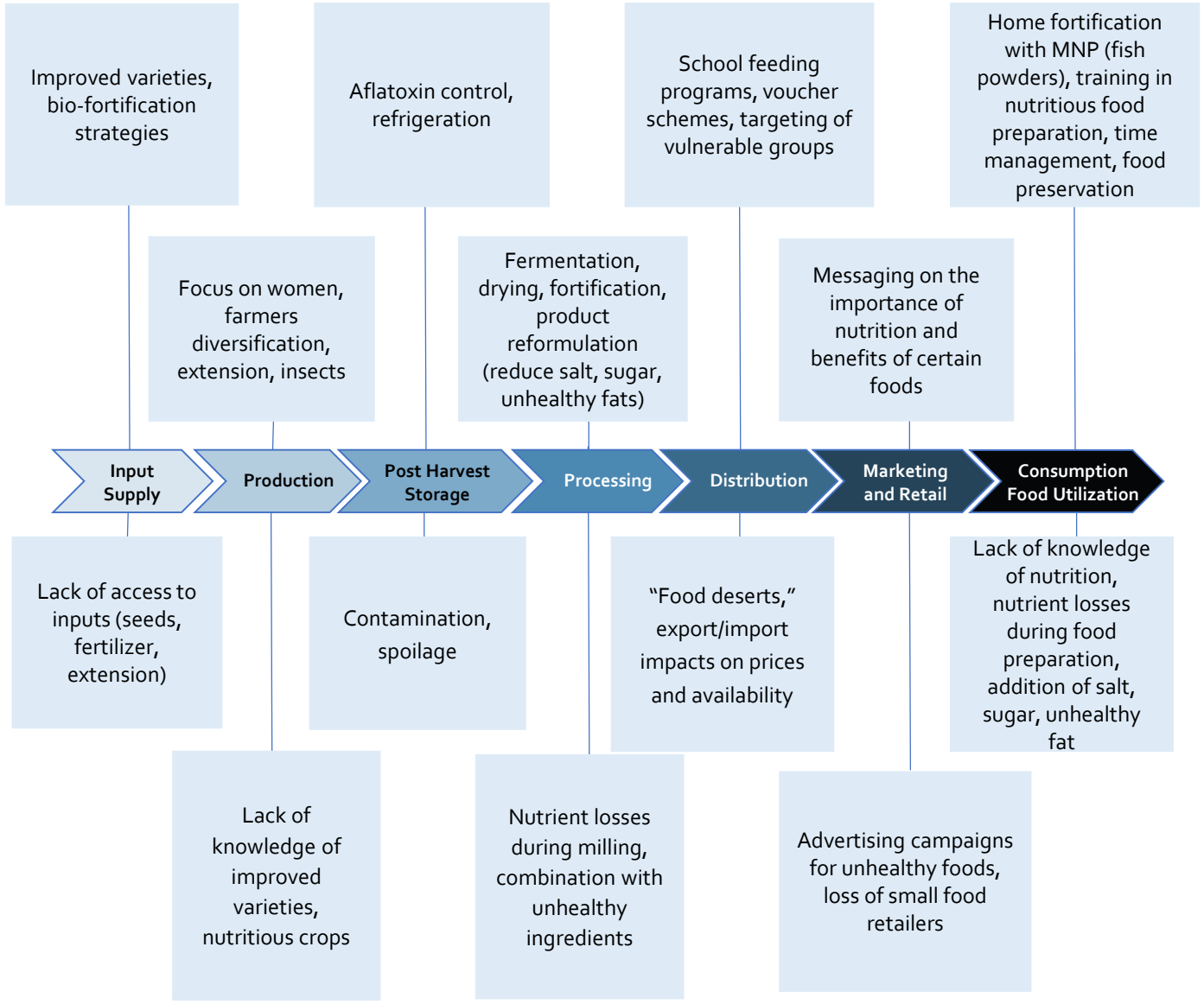
- Upstream policies have repercussions downstream in the food supply
- Downstream policies have repercussions upstream in the food supply



Nutrition Exit and Entry Points Along the Supply Chain

Maximize nutrition "entering" the food value chain

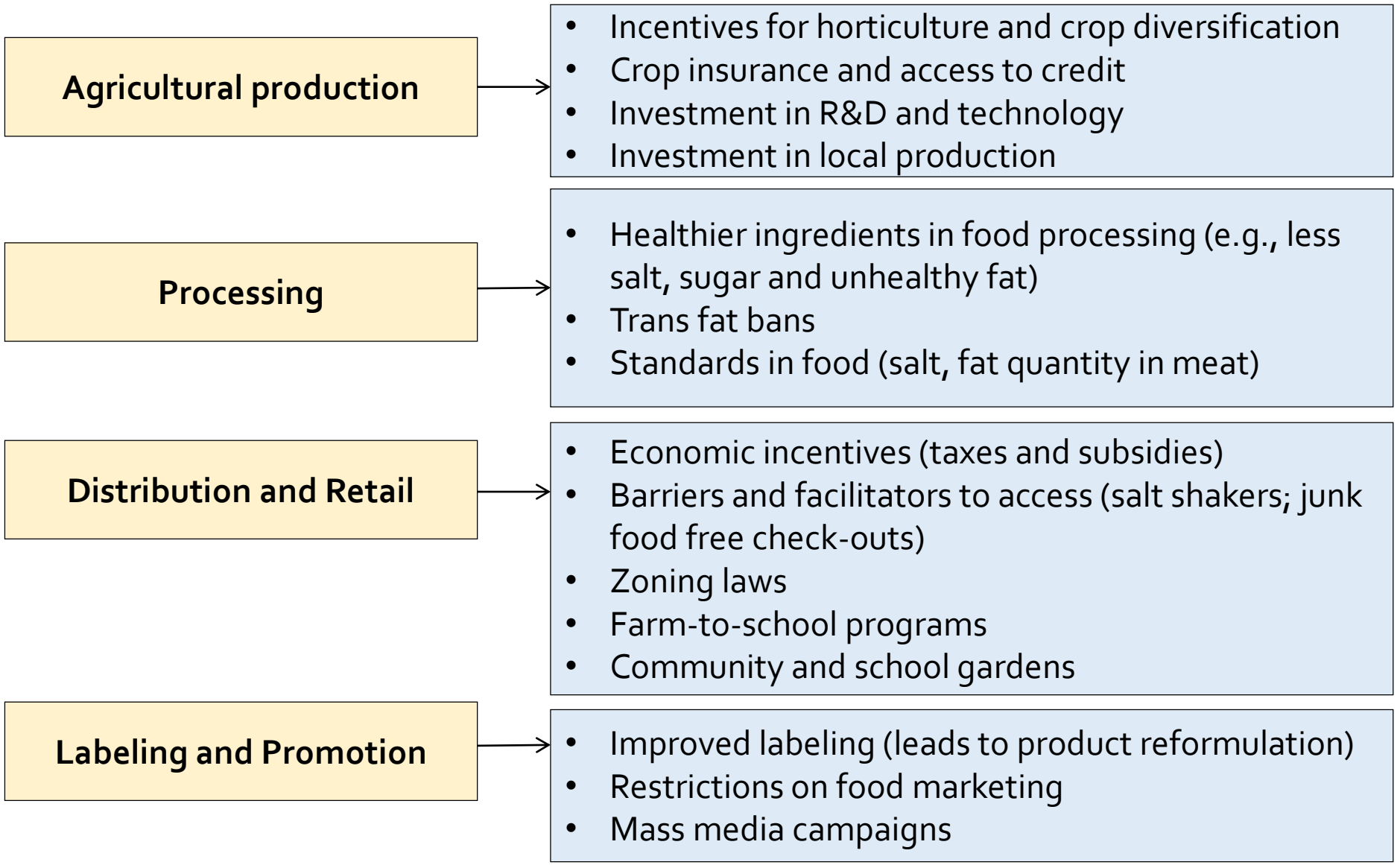
Minimize nutrition "exiting" the value chain



Supply Chain Trade-Offs

	Benefits	Drawbacks
More infrastructure (storage, transport, communication)	Less waste	More energy use, greater environmental impact
More food processing	Less waste, Longer shelf life, Opportunities to fortify	More ultra-processed, convenience foods (cheap, calorie-dense)
Leveraging economies of scale	Potential for lower prices	Lower prices for less healthy foods?
Fewer seasonal gaps in food availability	Benefits for seasonal hunger / malnutrition	Lose touch with seasonality —> greater demand for convenience?
More coordination and vertical integration	Efficiency	Power shifts from farmers —> corporations?

Potential policy levers to improve the food system



Future Food Systems Research

QUESTIONS:

1. Is it even possible to have both human and planetary health and if yes, what are the trade-offs we are willing to live with? And how to we account for and measure those trade-offs?
2. How can create more social equity and justice across the food system and who should be responsible for ensuring that?
3. Where can we better align policies, policy decision making and funding to have double and triple duty effects?
4. Who owns the food system and if no one owns it, how do we hold anyone accountable? How do we deal with power dynamics?

What the food system needs…

- **Need a sense of urgency**
- **Experiment with interventions, but evaluate**
- **Don’t see the private sector** only as part of the problem, they can be part of the solution too
- **Not necessarily an expensive agenda**
- **Improve assessment**

The Team