



WELCOME TO THE TRA 6 LECTURE SERIES INNOVATION PATHWAYS TO SUSTAINABILITY

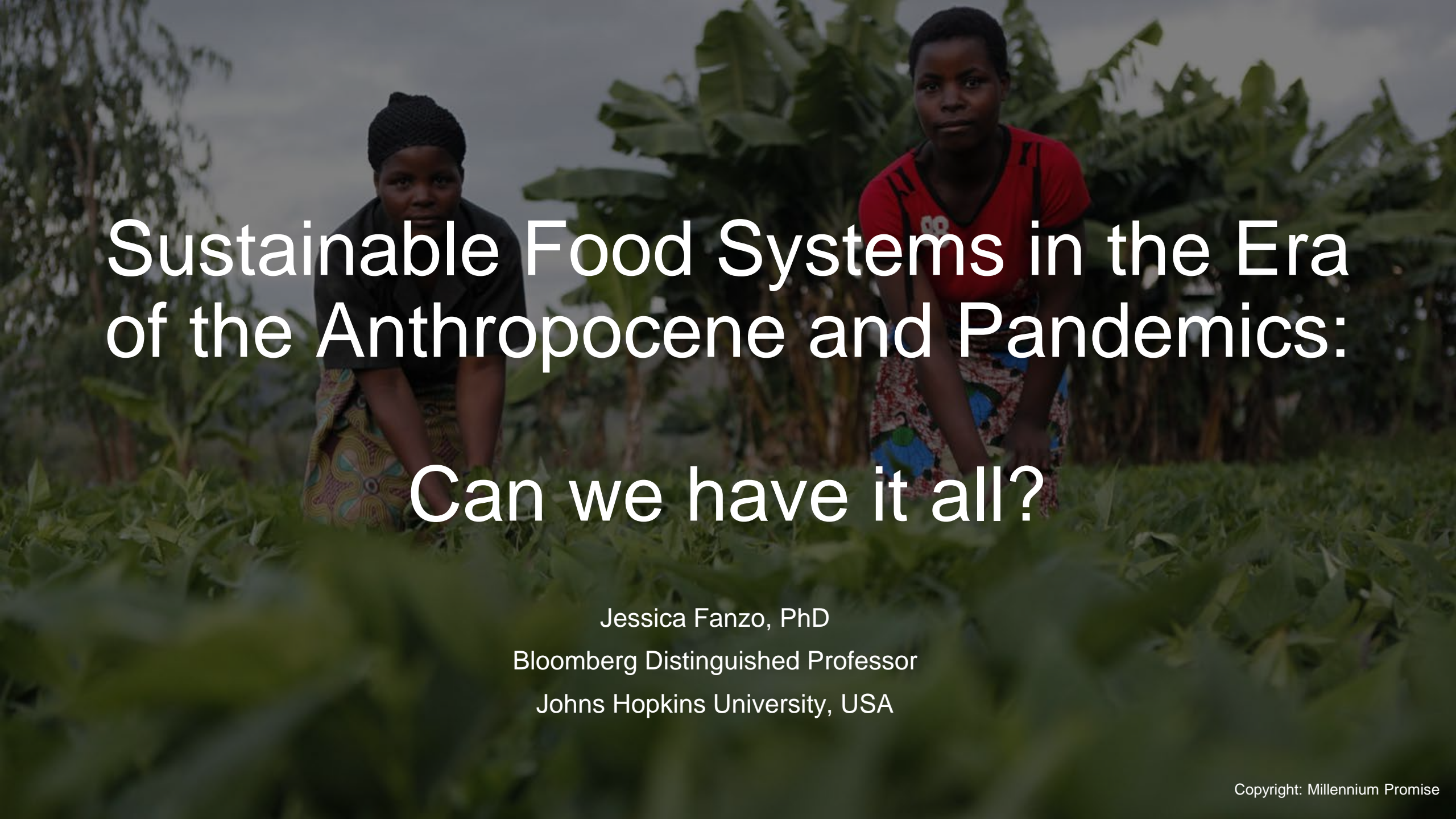
**"SUSTAINABLE FOOD SYSTEMS IN THE ERA OF THE
ANTHROPOCENE AND PANDEMICS: CAN WE HAVE IT ALL?"**

SPEAKER:

**JESSICA FANZO, BLOOMBERG DISTINGUISHED PROFESSOR OF
GLOBAL FOOD & AGRICULTURAL POLICY AND ETHICS, JOHNS
HOPKINS BERMAN INSTITUTE OF BIOETHICS**

MODERATORS:

**JOACHIM VON BRAUN, JAN BÖRNER,
TRA 6-SPEAKERS, UNIVERSITY OF BONN**

A photograph of two women standing in a lush green field, possibly a vegetable garden or farm. The woman on the left is wearing a dark top and a patterned skirt, while the woman on the right is wearing a red shirt and a patterned skirt. They are both looking towards the camera. The background is filled with various green plants and trees.

Sustainable Food Systems in the Era of the Anthropocene and Pandemics: Can we have it all?

Jessica Fanzo, PhD
Bloomberg Distinguished Professor
Johns Hopkins University, USA

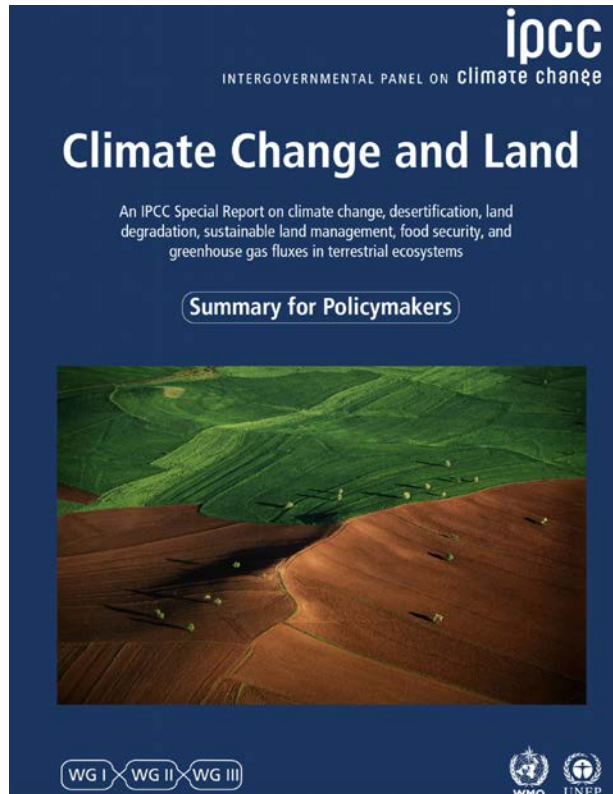
For our discussion

- How are food systems coping in the context of the Anthropocene, global malnutrition, and the COVID-19 pandemic?
- How can research and science, technological innovation, government action and consumer behavior ensure food systems are resilient?
- What are the potential trade-offs as we move forward?

Calls for food systems transformation

In the last five years, we have seen many calls for grand-scale food systems transformation to improve diets and nutrition.





And now, planetary health has come to the forefront

Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., Garnett, T., Tilman, D., DeClerck, F., Wood, A. and Jonell, M., 2019. Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, 393(10170), pp.447-492; Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security and greenhouse gas fluxes in terrestrial ecosystems. 2019. IPCC; Searchinger, T., Waite, R., Hanson, C., Ranganathan, J., Dumas, P., Matthews, E. and Klirs, C., 2019. Creating a sustainable food future: A menu of solutions to feed nearly 10 billion people by 2050. Final report. World Resources Institute, Washington DC. https://research.wri.org/sites/default/files/2019-07/WRR_Food_Full_Report_0.pdf

Making this transformation is not so easy with the challenges food systems face

With climate disruption, worsening food insecurity and malnutrition, systemic inequities, and now, the COVID-19 pandemic, the question remains:

Can the world expect so much from food systems?

The **Anthropocene** defines Earth's most recent geologic time period as being human-influenced, or anthropogenic, based on overwhelming global evidence that atmospheric, geologic, hydrologic, biospheric and other earth system processes are now altered by humans.



Geology of mankind

Paul J. Crutzen

For the past three centuries, the effects of humans on the global environment have escalated. Because of these anthropogenic emissions of carbon dioxide, global climate may depart significantly from natural behaviour for many millennia to come. It seems appropriate to assign the term 'Anthropocene' to the present, in many ways human-dominated, geological epoch,

referring to the "anthropozoic era". And in 1926, V. I. Vernadsky acknowledged the increasing impact of mankind: "The direction in which the processes of evolution must proceed, namely towards increasing consciousness and thought, and forms having greater and greater influence on their surroundings." Teilhard de Chardin and Vernadsky used the term 'noösphere' — the 'world of thought' — to mark the growing role of human brain-power in shaping its

RESEARCH

REVIEW SUMMARY

GLOBAL CONSERVATION

Pervasive human-driven decline of life on Earth points to the need for transformative change

Sandra Díaz*, Josef Settele, Eduardo S. Brondízio, Hien T. Ngo, John Agard, Almut Arneth, Patricia Balvanera, Kate A. Brauman, Stuart H. M. Butchart, Kai M. A. Chan, Lucas A. Garibaldi, Kazuhito Ichii, Jianguo Liu, Suneetha M. Subramanian, Guy F. Midgley, Patricia Miloslavich, Zsolt Molnár, David Obura, Alexander Pfaff, Stephen Polasky, Andy Purvis, Jona Razzaque, Belinda Reyers, Rinku Roy Chowdhury, Yunnan-Jai Shin, Ingrid Visseren-Hamakers, Katherine J. Willis, Cynthia N. Zayas

The Lancet Commissions

Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems



Walter Willett, Johan Rockström, Brent Loken, Marco Springmann, Tim Lang, Sonja Vermeulen, Tara Garnett, David Tilman, Fabrice DeClerck, Amanda Wood, Malin Jonell, Michael Clark, Line J. Gordon, Jessica Fanzo, Corinna Hawkes, Rami Zurayk, Juan A. Rivera, Wim De Vries, Lindiwe Majele Sibanda, Ashkan Afshin, Abhishek Chaudhary, Mario Herrero, Rina Agustina, Francesco Branca, Anna Lartey, Shenggen Fan, Beatrice Crona, Elizabeth Fox, Victoria Bignet, Max Troell, Therese Lindahl, Sudhvir Singh, Sarah E. Cornell, K. Srinath Reddy, Sunita Narain, Sania Nishtar, Christopher J. L. Murray

Editorial

A sixth mass extinction? Why planetary health matters



For many decades, scientists have warned that human activity is pushing life on our planet beyond the point of no return. In the Earth's history there have been five mass extinction events, most recently the Cretaceous–Tertiary mass extinction that occurred almost 65 million years ago and was thought to have been caused by the massive impact of an asteroid on Planet Earth. In the 21st century, we face a sixth mass extinction. According to an article published in July by Gerardo Ceballos and colleagues, the Earth is experiencing a huge decline in

their fastest rate in more than a decade, and today the government is proposing the release of 860 000 acres of Amazon forest—an area the size of Portugal—for agricultural production, farming, and mining following pressure from the rural lobbies. They are claiming this will bring economic progress to the whole country. As for the consequences on food production, fewer species to provide natural pest control will mean farmers have to rely more on chemical pesticides. Similarly, crop production on a mass scale will continue to rely on insect pollinators,



For Ceballos and colleagues' paper see <http://www.pnas.org/content/early/2017/07/05/1704949114.abstract>

Catastrophic climate breakdown...

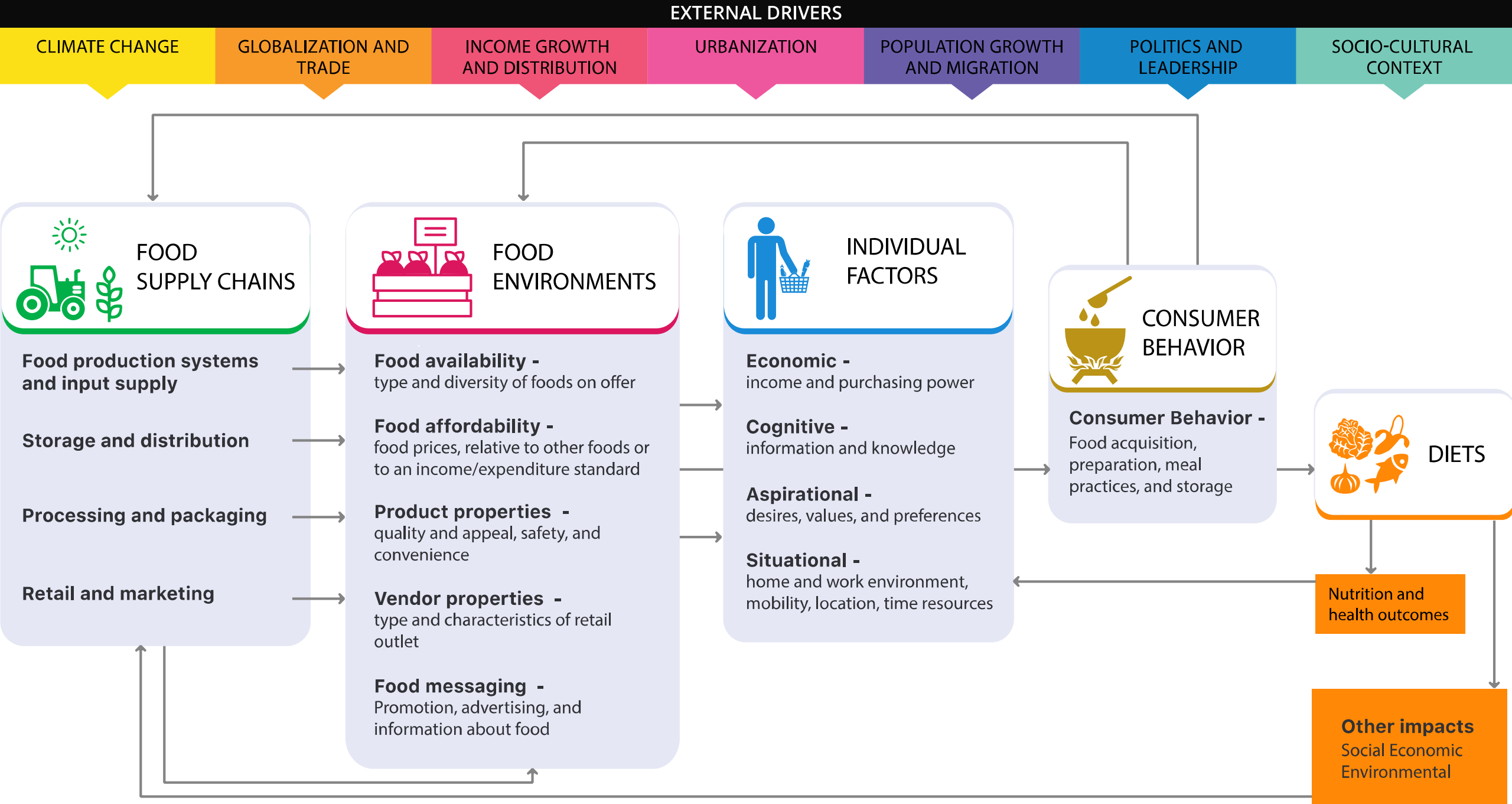
The challenge of avoiding catastrophic climate breakdown requires “rapid, far-reaching and unprecedented changes in all aspects of society.”

IPCC, 2018

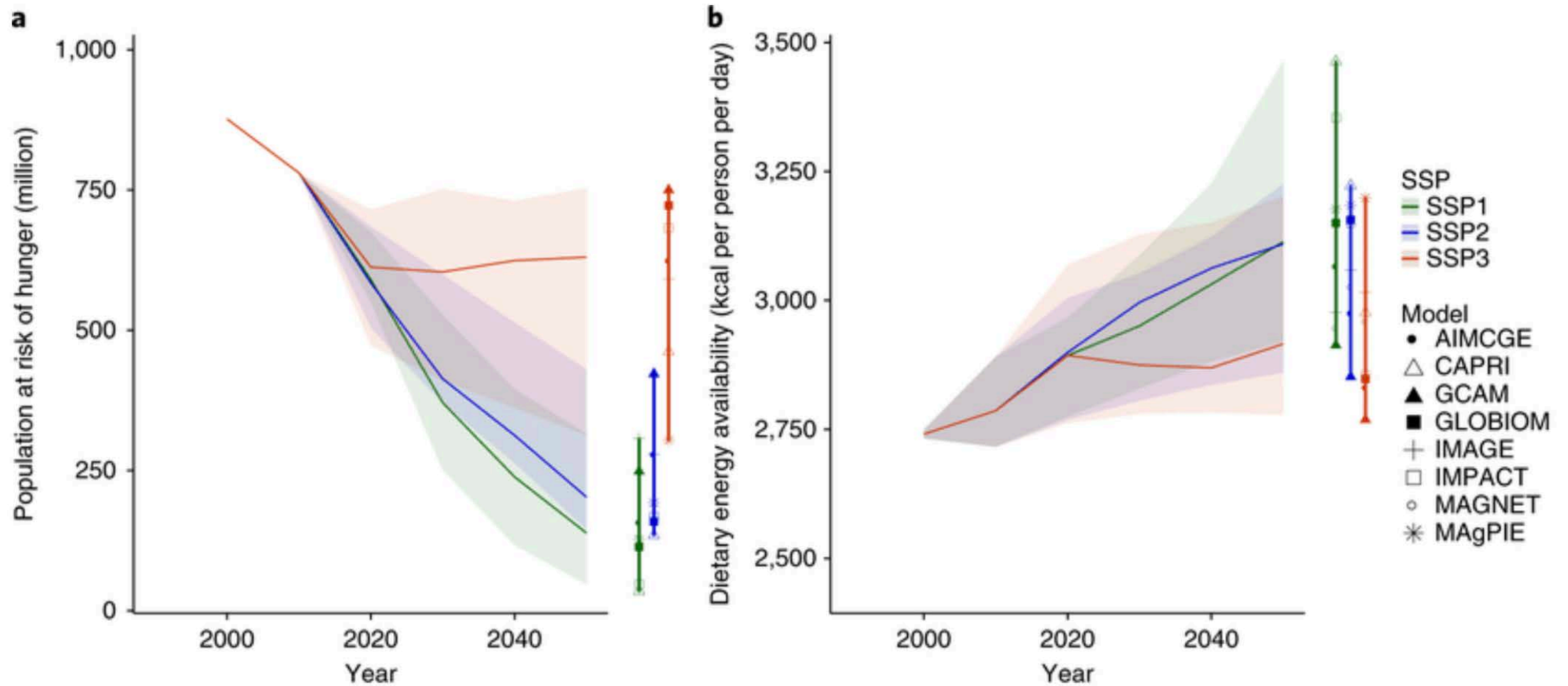


Food systems are
both victims and
instigators of
climate change



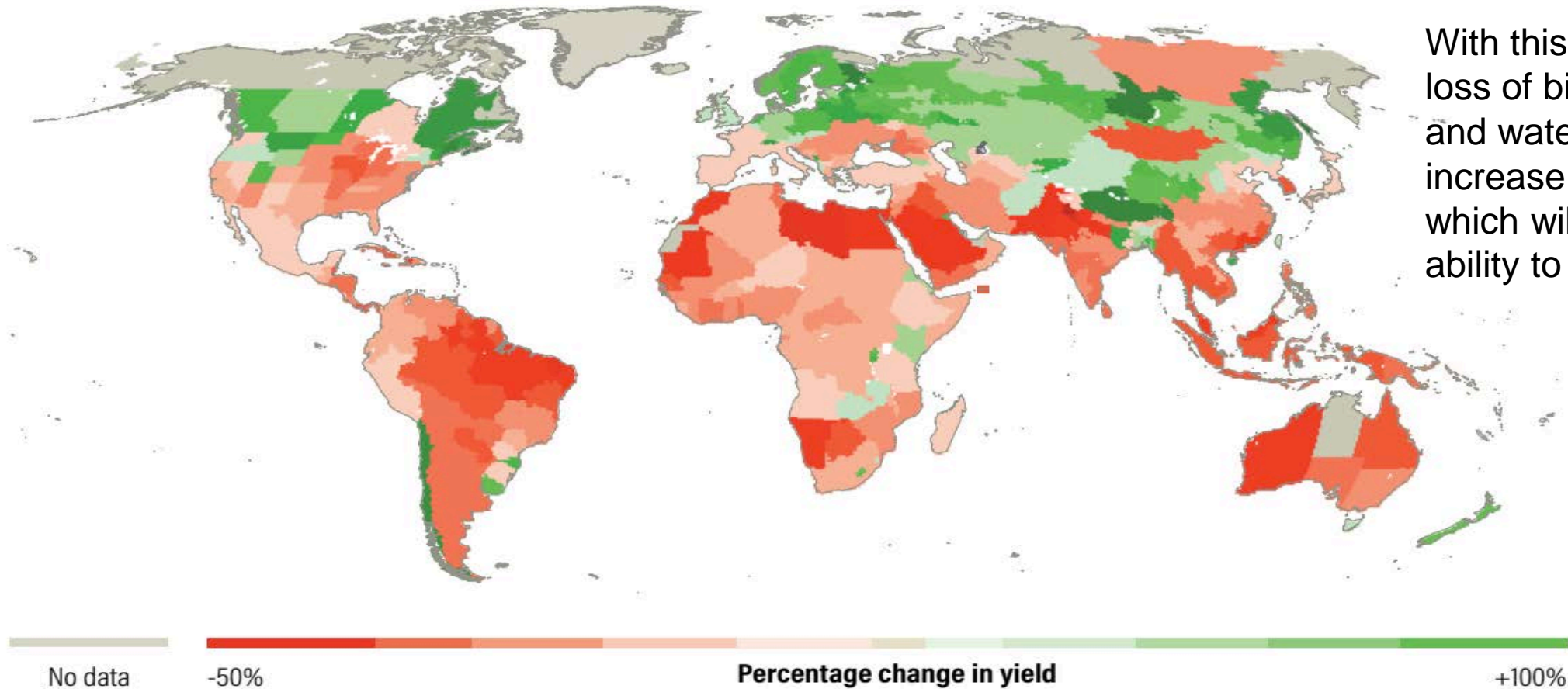


Climate change is a threat to food security



Climate change is projected to have a net adverse impact on crop yields

3C warmer (scarier) world scenario



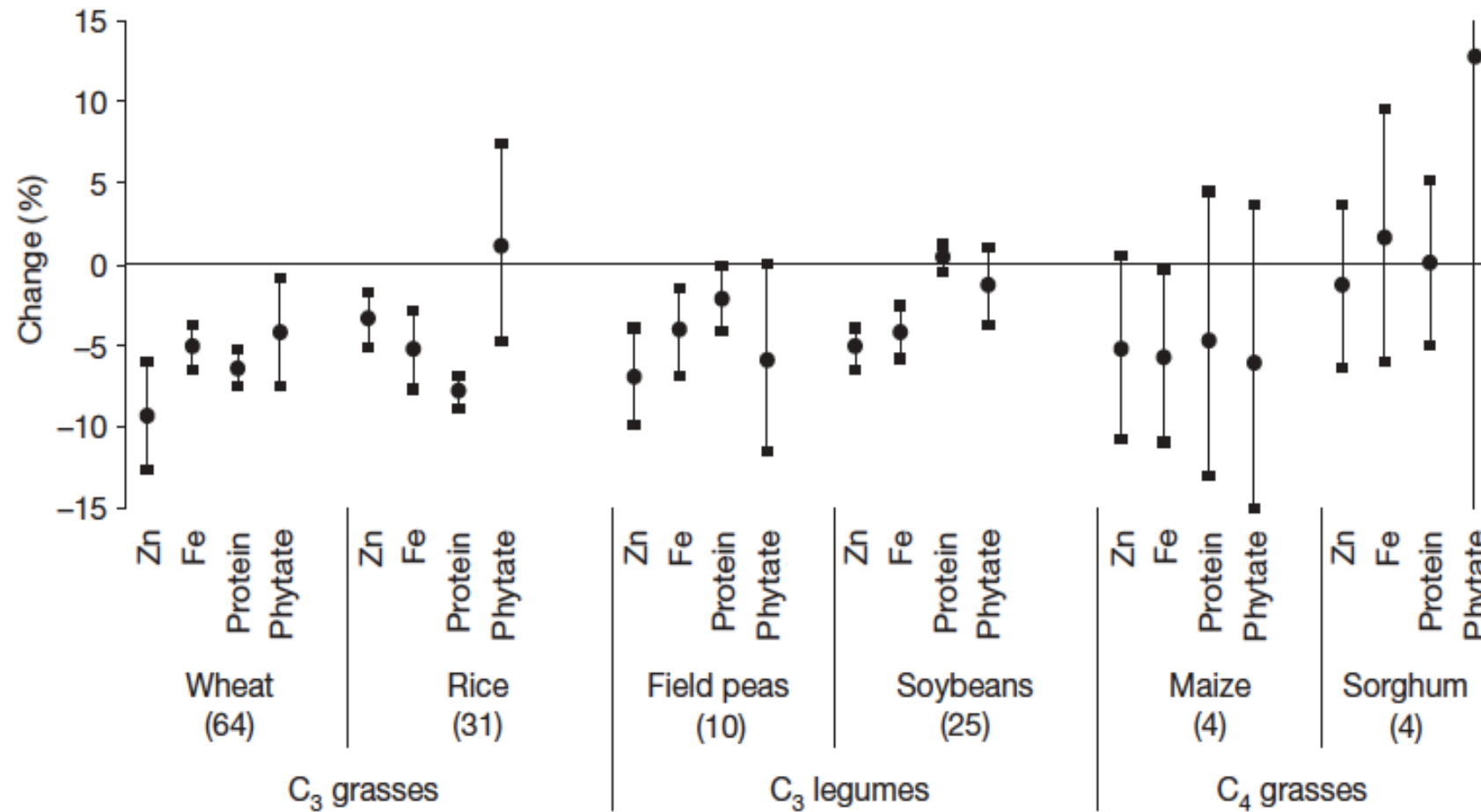
With this scenario, loss of biodiversity and water stress will increase as well, which will impact the ability to grow food.

Threatening multiple breadbasket failures

Extreme weather events such as heat waves, droughts and flooding and cold spells can lead to devastating crop failures of major crops such as wheat, maize, soybean and rice. The risk of extreme weather events co-occurring at multiple cropping locations globally is increasing because of climate change.

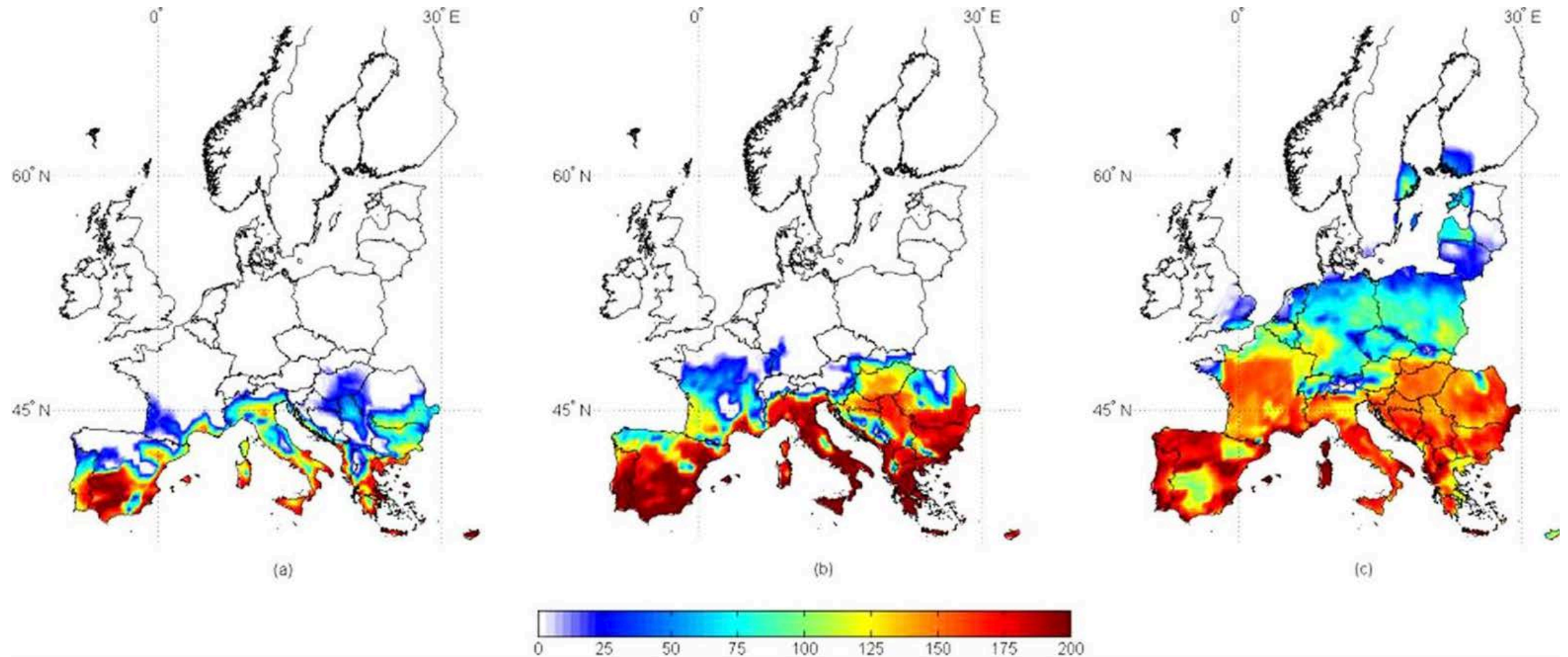


Nutritional quality of crops are altered by CO₂ fertilization effects



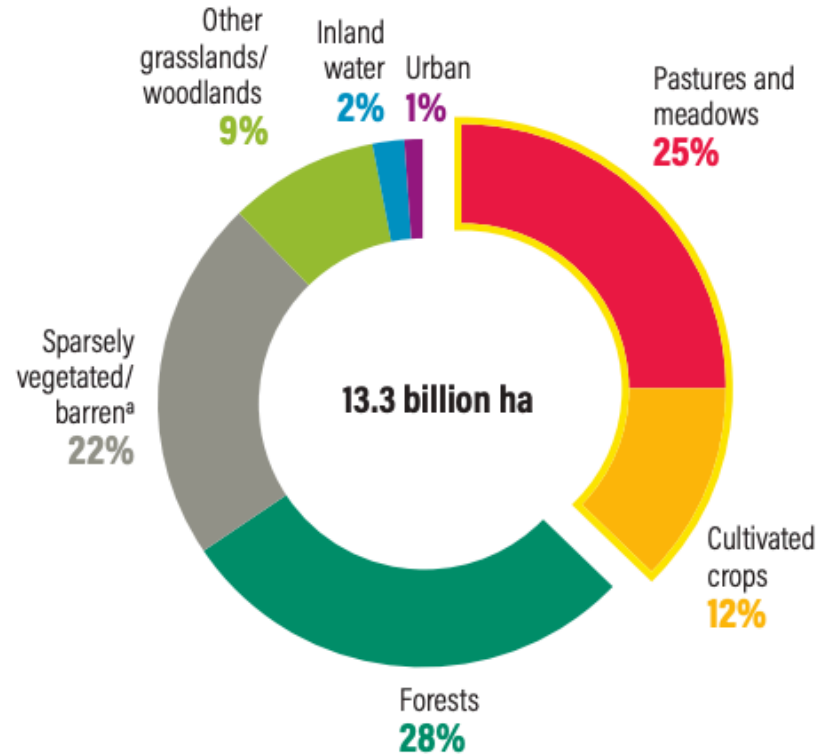
Food safety risks will change with a warmer world

Risk maps for aflatoxin contamination in maize at harvest in 3 different climate scenarios, present, +2 °C, +5 °C.



Food systems contribute to GHG emissions

37% of Earth's landmass (excluding Antarctica) is used for food production

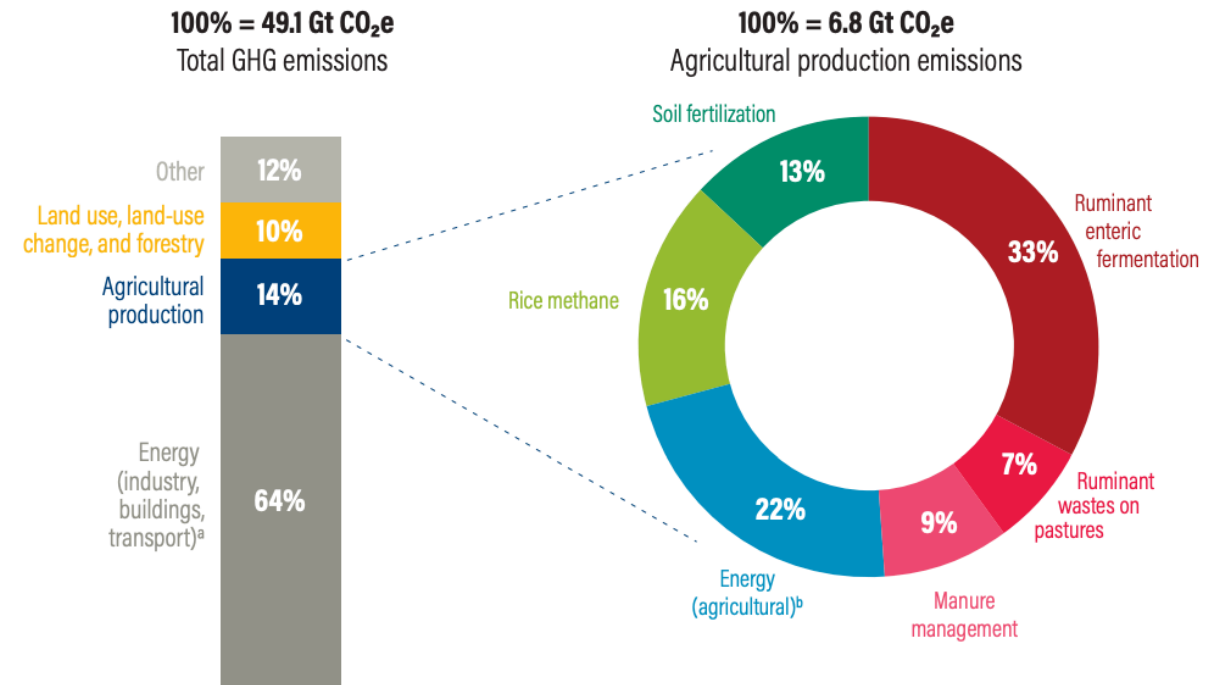


Note: Numbers may not sum to 100% due to rounding.

^a Permanent ice cover, desert, etc. When excluding deserts, ice, and inland water bodies, nearly 50 percent of land is used to produce food.

Source: FAO (2011b).

Agriculture accounts for 1/4 of global GHG emissions



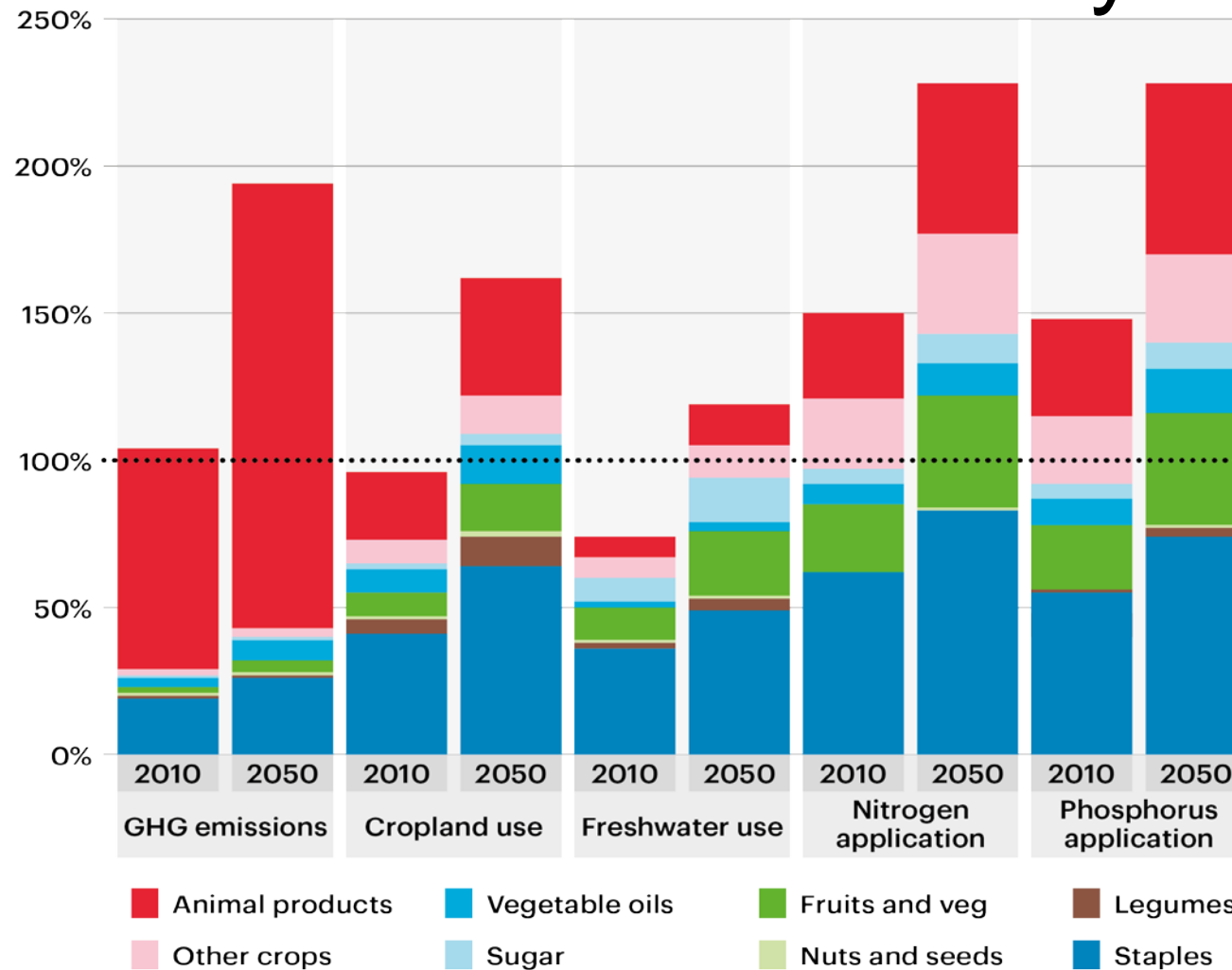
Note: Numbers may not sum to 100% due to rounding.

^a Excludes emissions from agricultural energy sources described above.

^b Includes emissions from on-farm energy consumption as well as from manufacturing of farm tractors, irrigation pumps, other machinery, and key inputs such as fertilizer. It excludes emissions from the transport of food.

Sources: GlobAgri-WRR model (agricultural production emissions); WRI analysis based on UNEP (2012); FAO (2012a); EIA (2012); IEA (2012); and Houghton (2008) with adjustments.

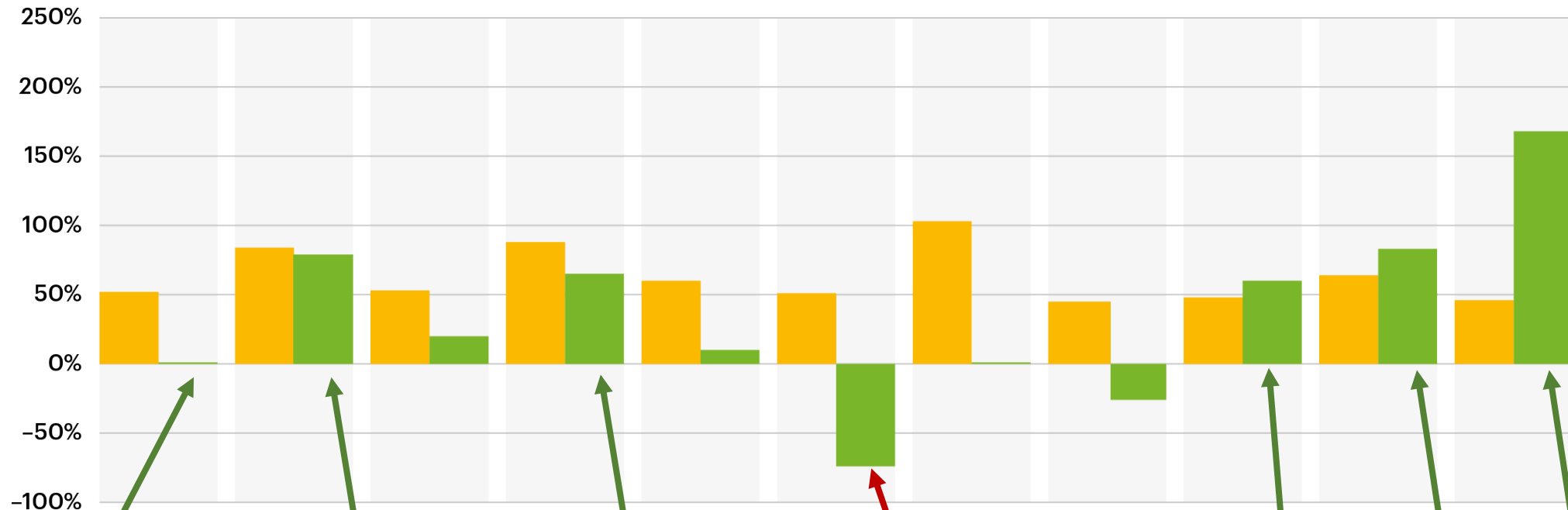
Environmental stress of food production will continue in order to meet dietary demands



The EAT Lancet Commission calls for grand transformations to food production systems

2050 BAU + full waste

2050 planetary health diet + halve waste



Almost no increase
in cereal production

Vegetables +75%

Fruits >50%

Protein sources

Fish >50%

Legumes >75%

Nuts >150%

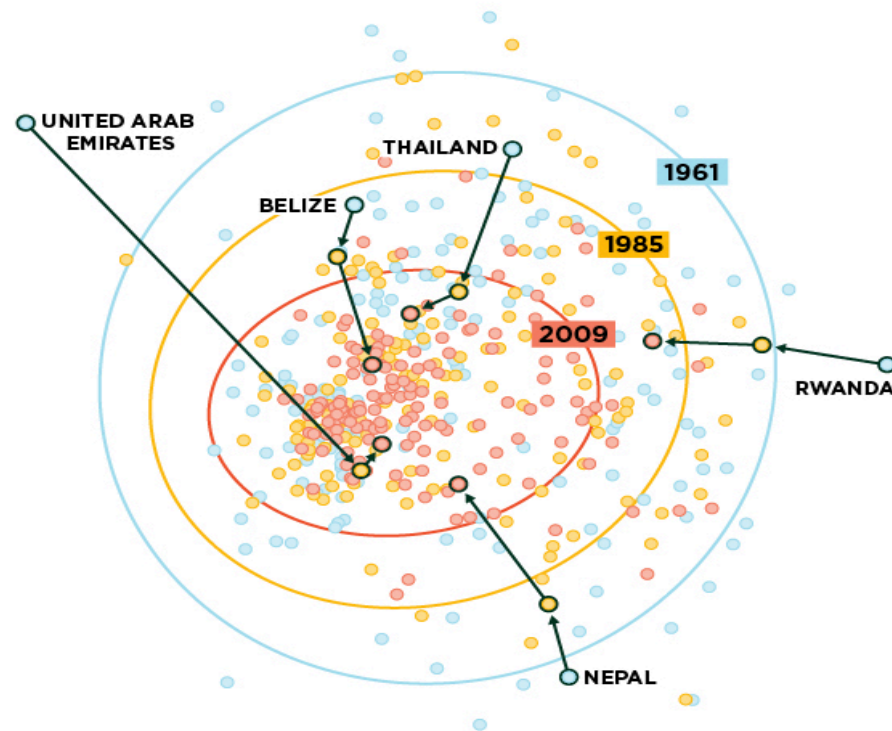
Red meat production >65%

But how?

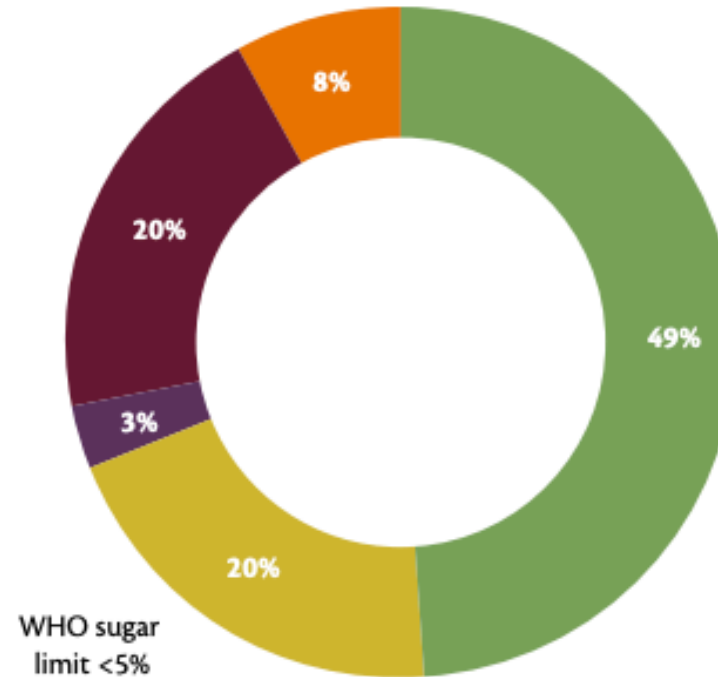
A study of the world's countries finds that over the last 50 years, diets have become ever more similar.

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

● 1961 ● 1985 ● 2009



How we should be eating
(Harvard's healthy eating plate model)



Sugar

Cereals & Starches

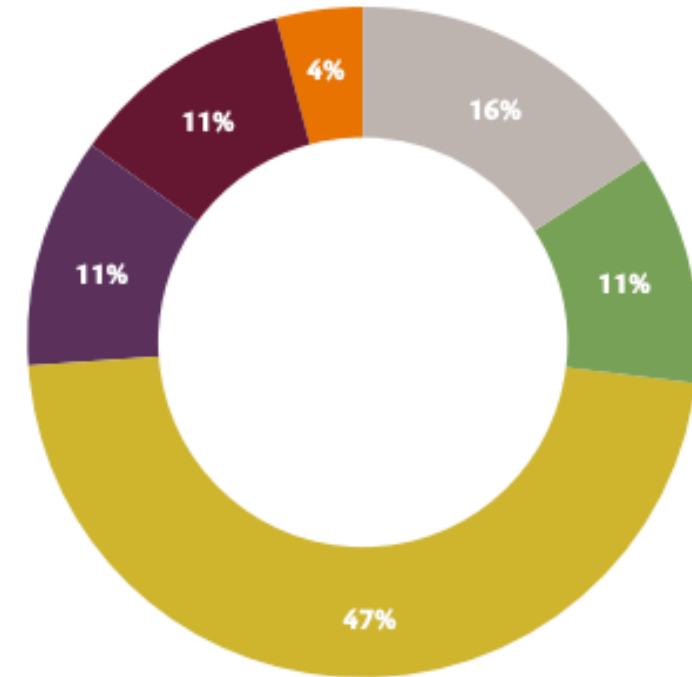
Fruits & Vegetables

Oils & fats

Meat, fish, eggs, beans

Milk & milk products

What we are actually producing
(According to 2011 FAO)



Source: Adapted from bar chart in KC, K.B et al., 2018¹⁸.

Worsening and
inequitable food
insecurity, malnutrition
& diets



Global malnutrition is massive, and complex

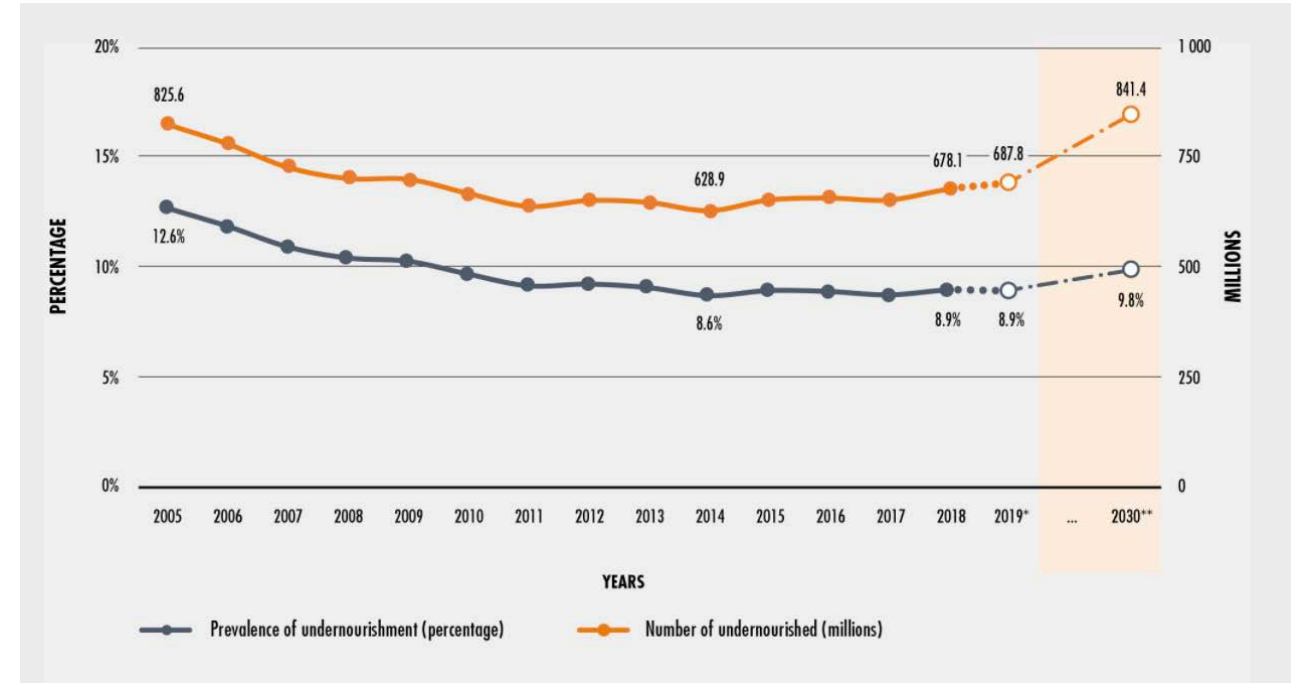
690 million
of the world's population are undernourished

144 million
children under five years of age are stunted

47 million
children under five years of age are wasted

38 million
children under five years of age are overweight

2.1 billion
adults are overweight or obese

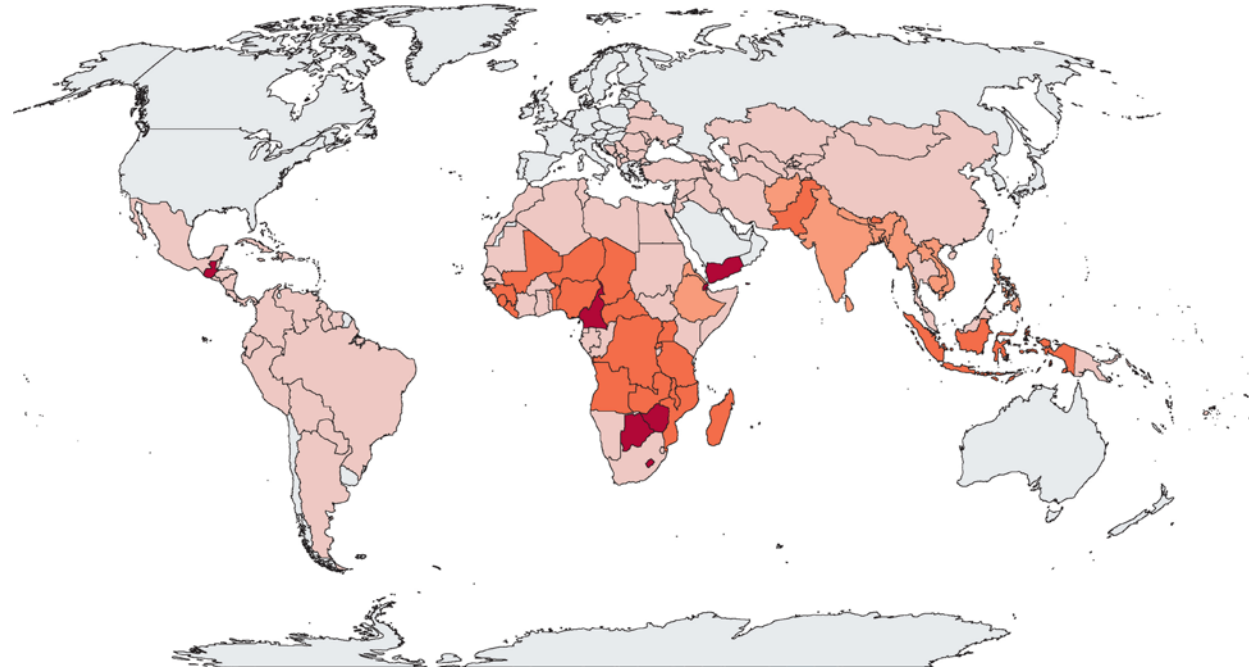


The double burden of malnutrition is rising in low- and middle-income countries

Countries with DBM in the 1990s

Countries with DBM in the 2010s

B Countries with DBM in the 2010s according to weight and height data

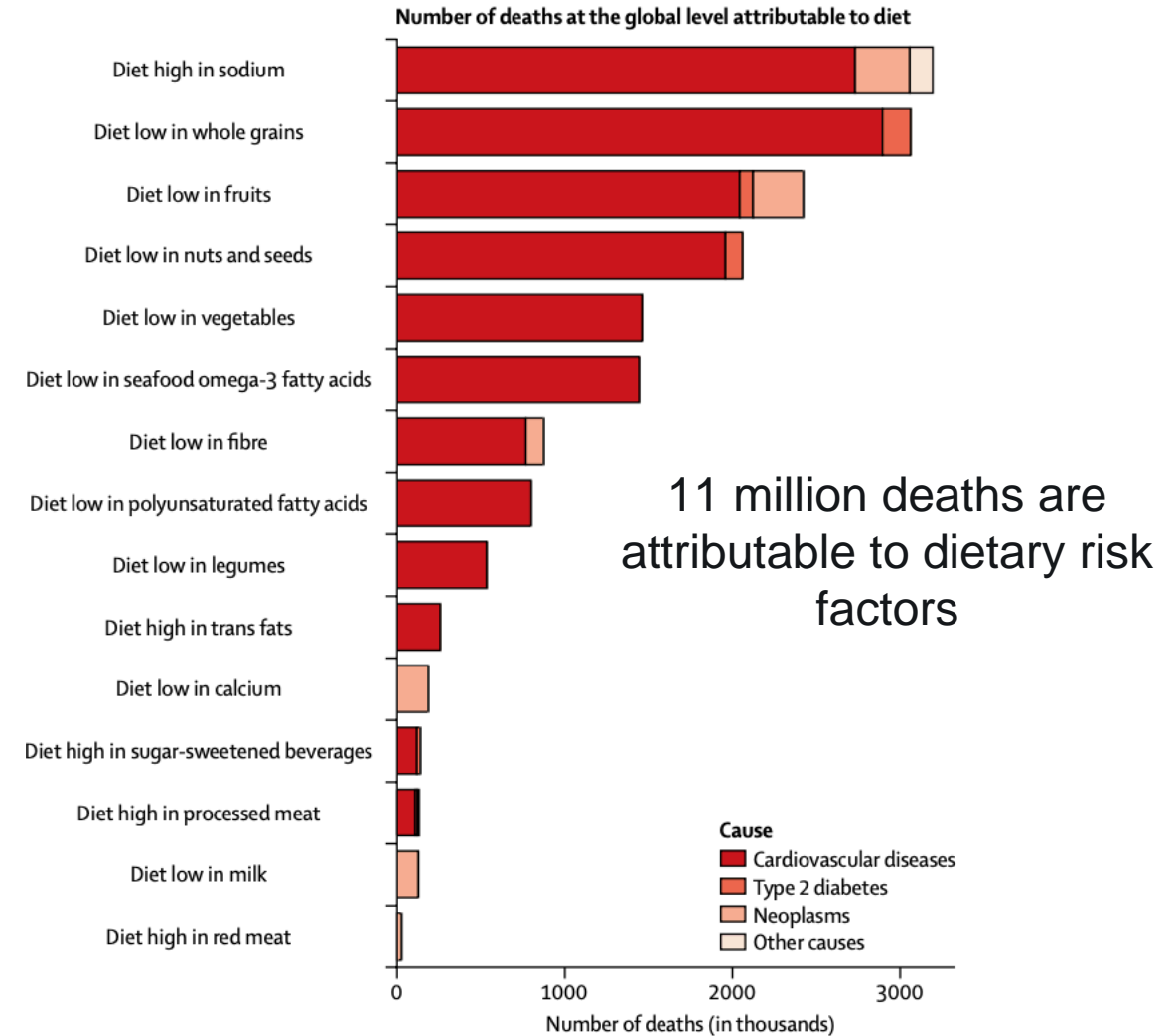
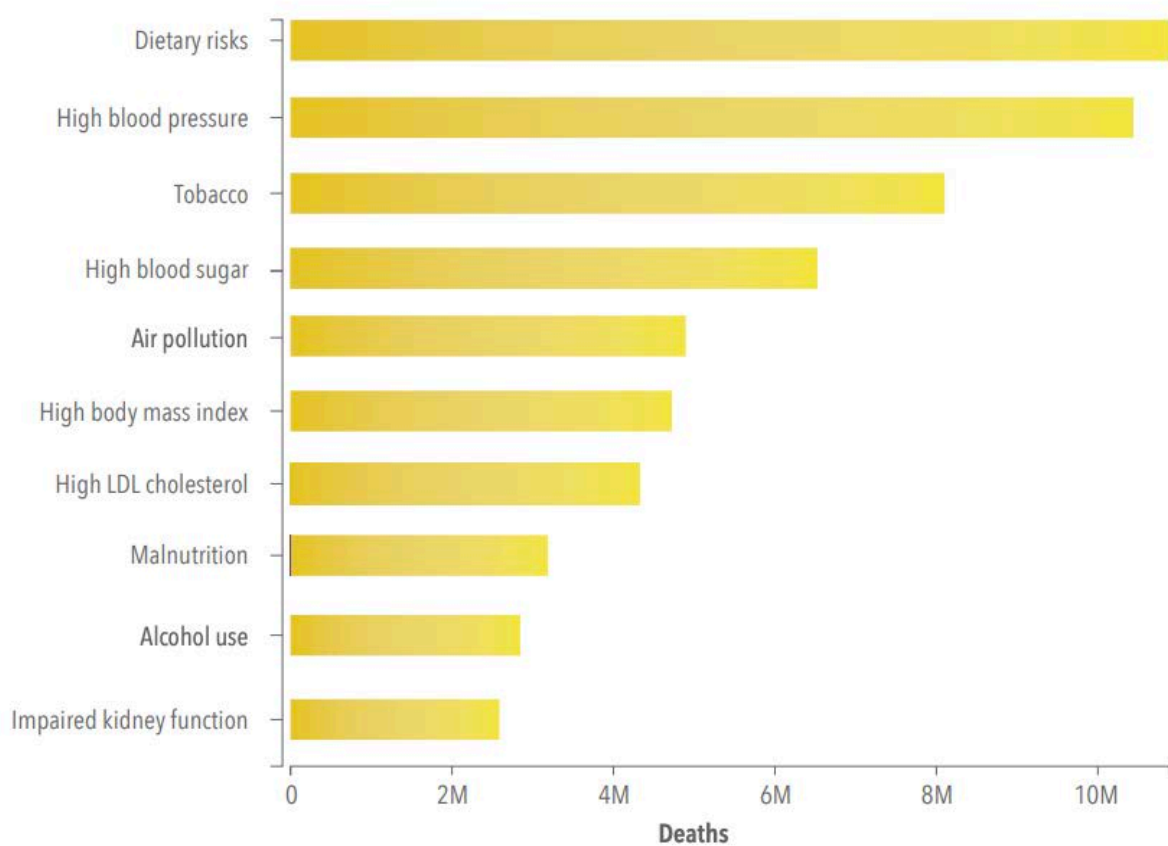


We are experiencing a profound paradox, with diets being a significant contributor to the burden

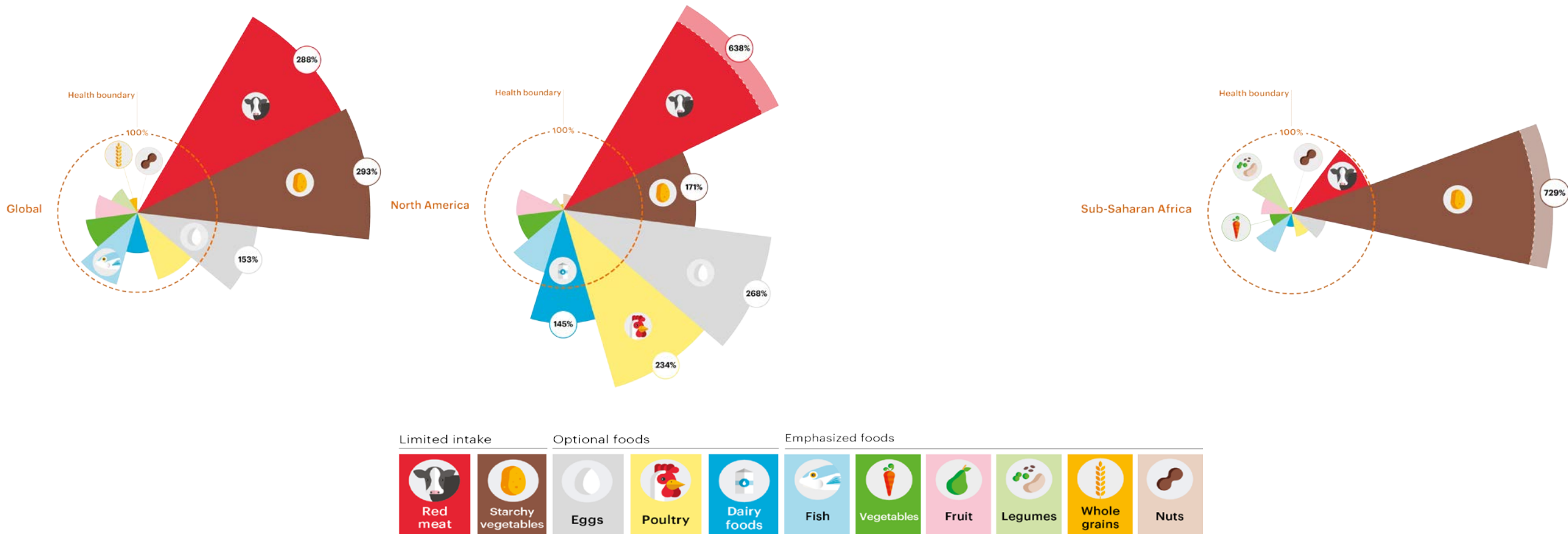


Sub-optimal diets are a top risk factor of disease and death

TOP 10 RISK FACTORS FOR DEATH, GLOBALLY, IN 2017

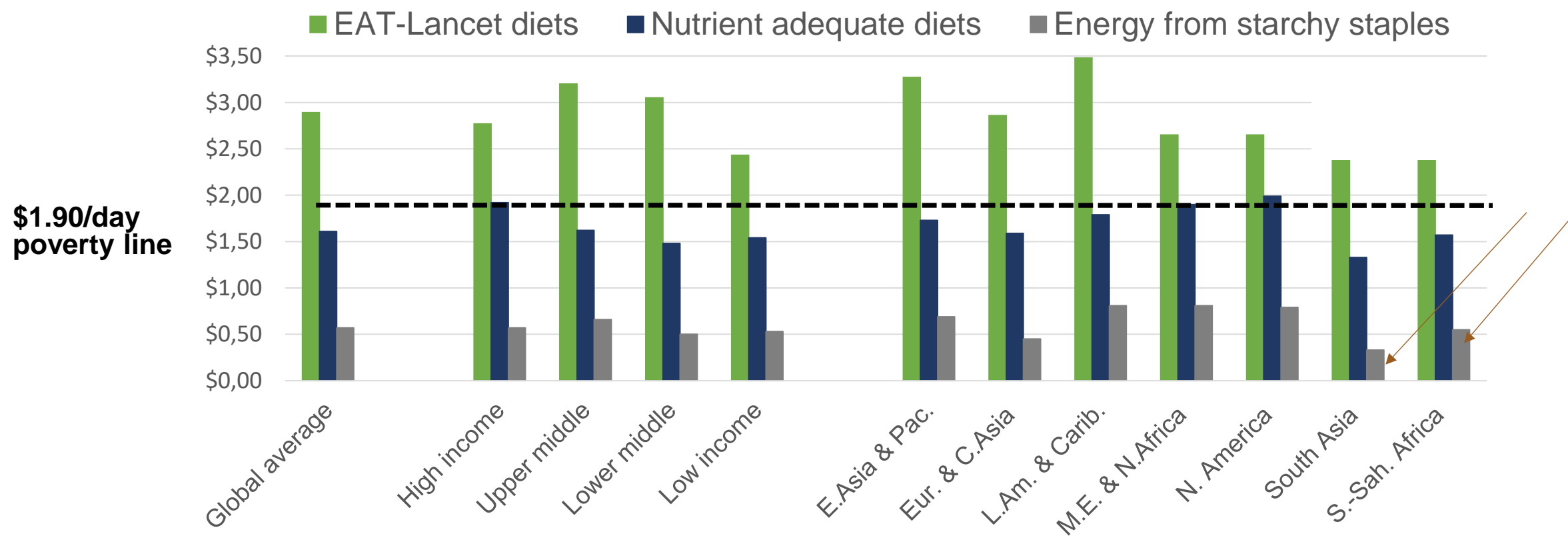


The EAT Lancet Commission shows inequities of diets when compared to a "healthy reference diet"



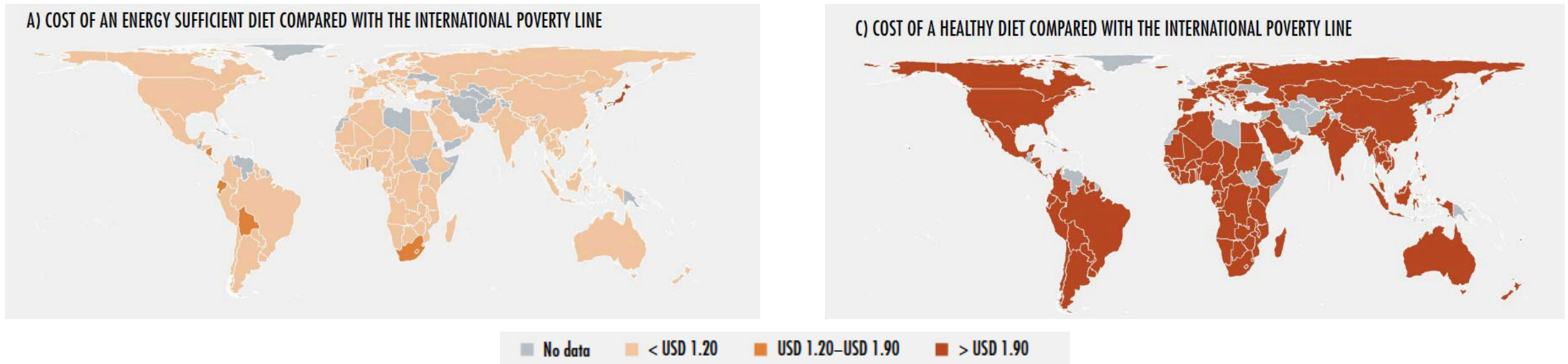
And the reference Lancet-EAT diet is unaffordable for 1.6 billion people

The least-cost sources of nutrient adequacy are less expensive than the EAT-Lancet reference diet, but still unaffordable

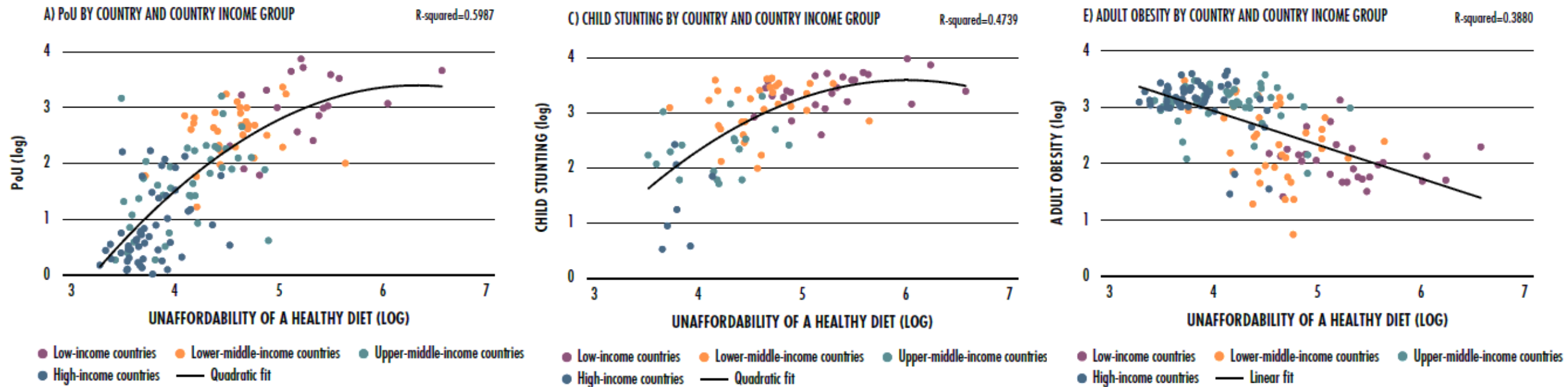


Who suffers the consequences of world diet choices?

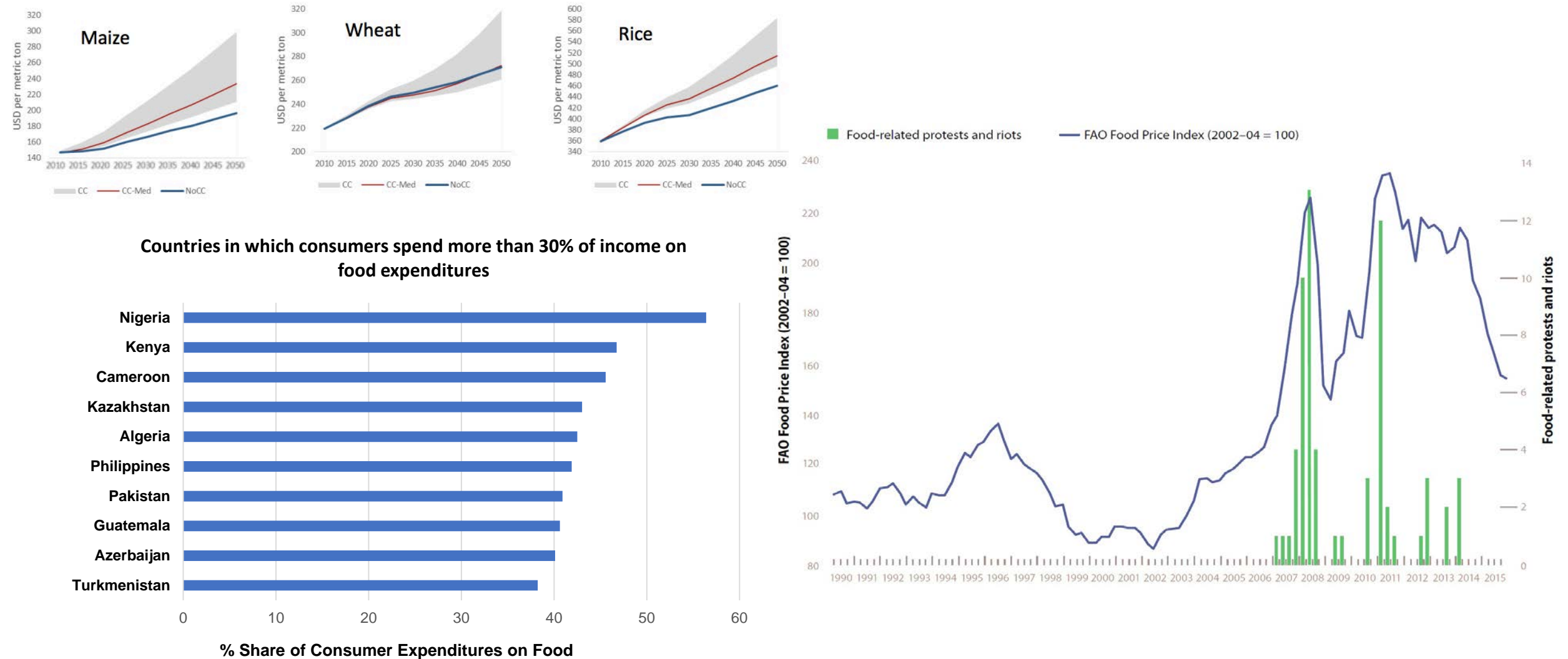
- Energy intensive lifestyles and dietary choices of those living in high-income countries are significant anthropogenic contributors to climate change.
- Economically poor households are likely to experience a disproportionate burden of the impacts of climate change.



Unaffordable healthy diets are correlated with food insecurity and malnutrition



Food prices can lead to social unrest



Source: IFPRI, IMPACT version 3.2, 8 September 2015

Source: Hendrix C (2016) When Hunger Strikes: How Food Security Abroad Matters for National Security at Home. The Chicago Council on Global Affairs, Chicago USA; UN HLPE 2017 Report on Nutrition and Food Systems

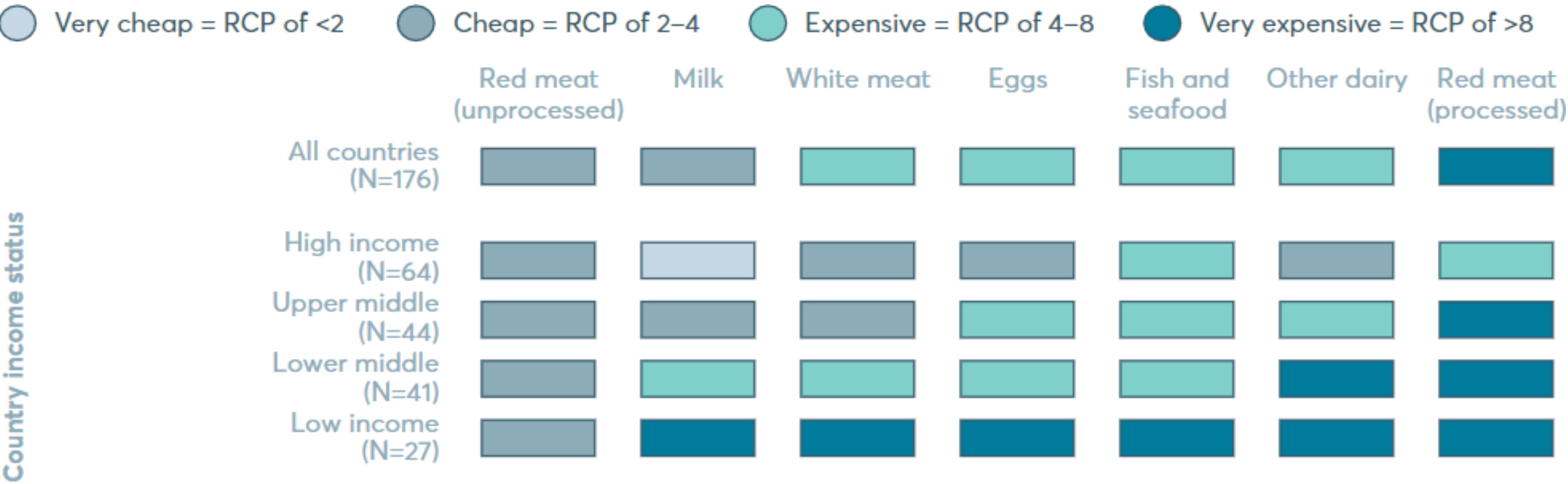
Sedentarizing Pastoralists in Kenya Amidst Climate Change

- Pastoral communities are among the most politically and economically marginalized in society.
- Evaluated the constraints hindering pastoralists' abilities to secure their livelihoods in Isiolo, Kenya.
- Findings: there is a systemic failure to account for pastoralists' experiences, endowments (such as assets and income), conversion factors (such as political and environmental conditions), and capabilities to engage makes it difficult to realize policies that meet the needs and goals of already marginalized populations.



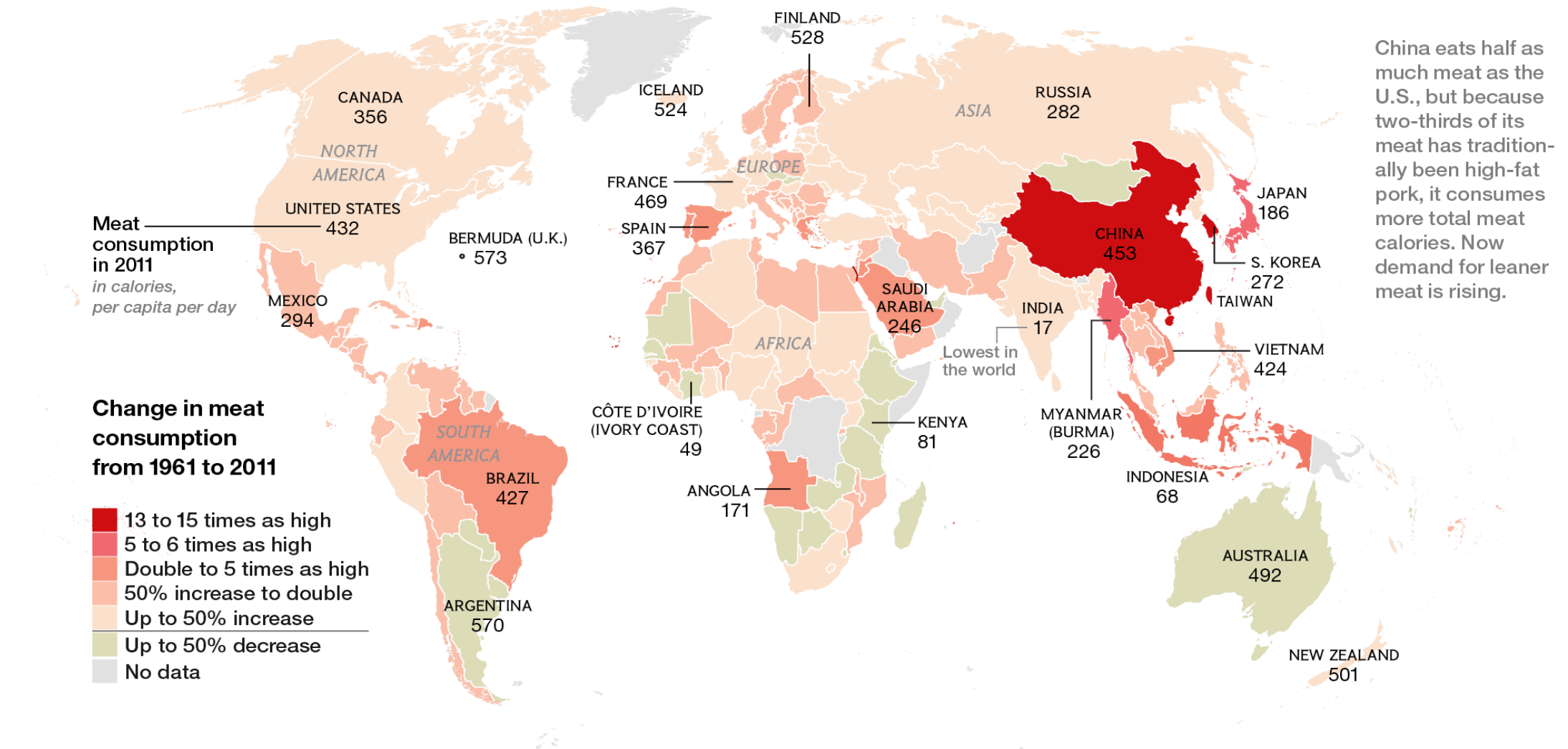
Animal source foods are even more expensive

A heat map of **Relative Caloric Prices** of animal-sourced foods in 176 countries, grouped by World Bank income levels and major regions

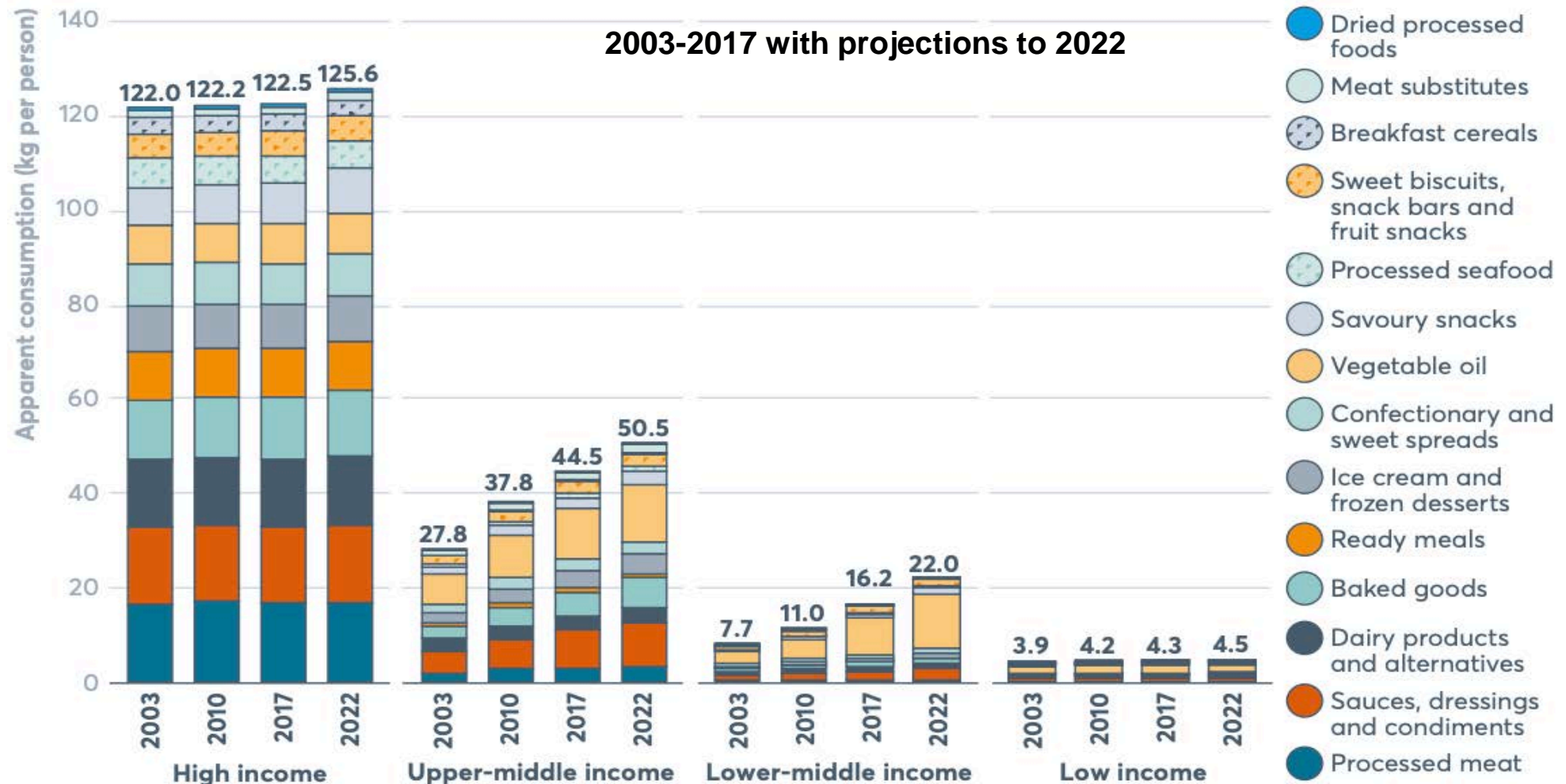


Headey, D.D. and Alderman, H.H., 2019. The relative caloric prices of healthy and unhealthy foods differ systematically across income levels and continents. *The Journal of nutrition*, 149(11), pp.2020-2033.

And there is a growing demand for meat



Highly processed foods (which are associated with poor health outcomes) are also rising



COVID-19 began as a food system risk

- SARS-CoV-2 infected people through a zoonotic spillover event, most likely from a bat, although another animal may have been involved.
- Case trace back from the December outbreak in Wuhan, China implicated a seafood wet food market.
- COVID-19 is a zoonosis, a disease that jumped from animals to humans. 60% of emerging infectious diseases are zoonotic, and of that 60%, 72% originate in wildlife.
- Food and agriculture have a big part to in the rise of zoonotic disease - animals are in close proximity to humans, either because their natural habitat has shrunk or been destroyed, or they are moved from their habitats.
- No other species has so profoundly changed the planet and the ecosystems that support species' diversity in such a short span of time.



COVID-19 pandemic and its impacts on food security

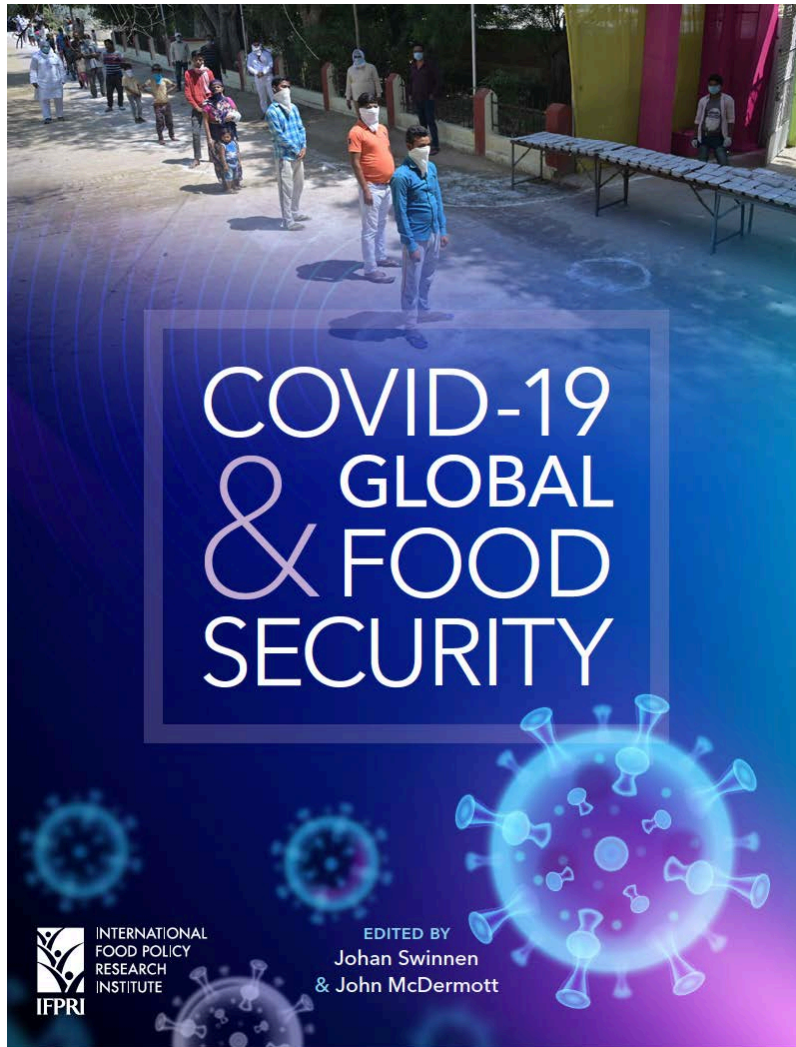
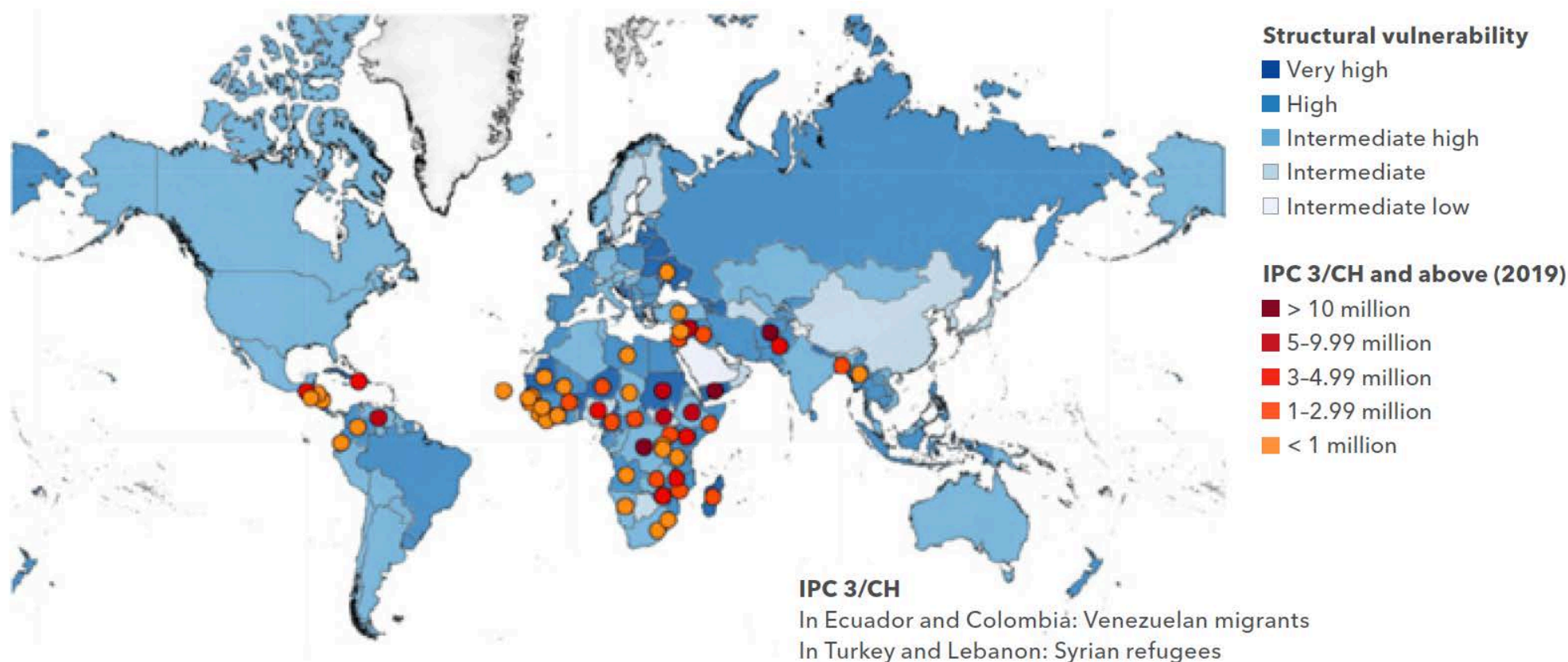


FIGURE 2 Formal jobs at risk in food systems

Where in value chain	Jobs (in millions)	Livelihoods (in millions)
Primary production	716.77	2,023.80
Food processing	200.73	484.54
Food services	168.97	339.44
Distribution services	96.34	241.48
Transportation services	41.61	101.05
Machinery	6.51	13.18
Inputs	4.89	11.06
R&D	0.13	0.29
Total	1,280.93	3,214.84
Total at risk due to COVID-19	451.64	1,090.89

Food insecurity hotspots

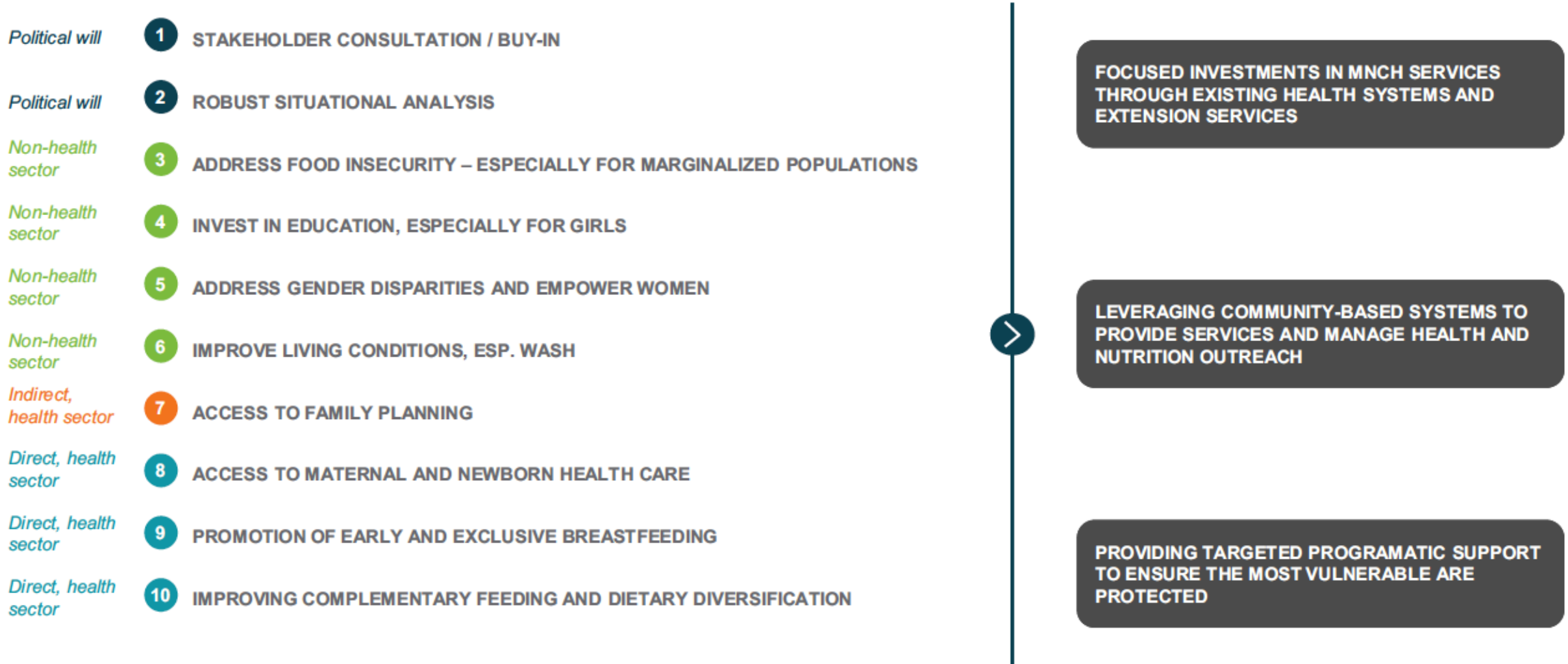
Estimates suggest that acute food insecurity will rise to 265 million by the end of 2020



Source: FAO/Hand-in-Hand, Integrated Phase Classification.

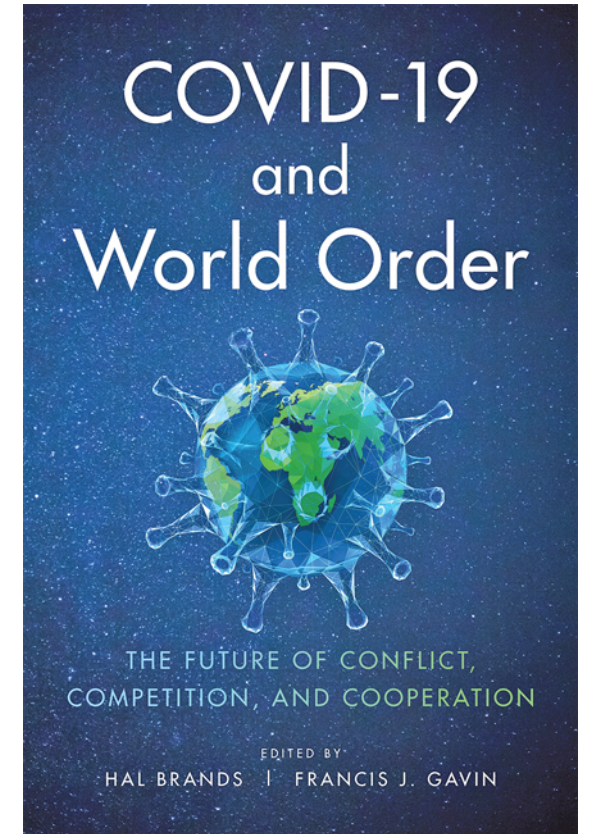
Note: IPC/CH (Integrated Phase Classification/Cadre Harmonisé) provides a scale for classifying the severity and magnitude of food insecurity and malnutrition. Phase 3 (IPC 3) indicates crisis-level food insecurity.

COVID-19 direct effects on malnutrition



7 recommendations

1. Stabilize food systems and keep trade open and flowing (by supporting and protecting food system workers).
2. Ensure global food supplies are safe, nutritious and equitable.
3. Govern the regulation of illegal sales of wildlife in global food trade and food markets.
4. Link social protection programs to promoting the consumption and production of nutritious food and addressing food insecurity.
5. Consider a one-health approach for research collaborations.
6. Institute a systematic global effort to monitor pathogens emerging from animals that put human populations at risk.
7. Adequately finance the COVID-19 Global Humanitarian Response Plan.



Should we expect so much for food systems?

- Future modeling and some scenarios show that we should call on food systems to do much more – that is, promote optimal human health, ensure future sustainable planetary health, and provide equitable and fair livelihoods of food system actors.
- However, this will depend on science and research, technology, political will and cooperation, and behaviors and decisions of the unpredictable variable in the equation - humans.



The screenshot shows a webpage header with a blue and orange bar. On the right, there is a 'Check for updates' button and a 'comment' button. Below the header, the article title 'Five priorities to operationalize the EAT-Lancet Commission report' is displayed in a large, bold font. Under the title, a summary paragraph states: 'To operationalize the great food system transformation and ensure its sustainability, five areas of research and action require more attention: economic and structural costs; political economy; diversity of cultural norms; equity and social justice; and governance and decision support tools.' At the bottom, the authors are listed: 'Christophe Béné, Jessica Fanzo, Lawrence Haddad, Corinna Hawkes, Patrick Caron, Sonja Vermeulen, Mario Herrero and Peter Oosterveer'.

Check for updates **comment**

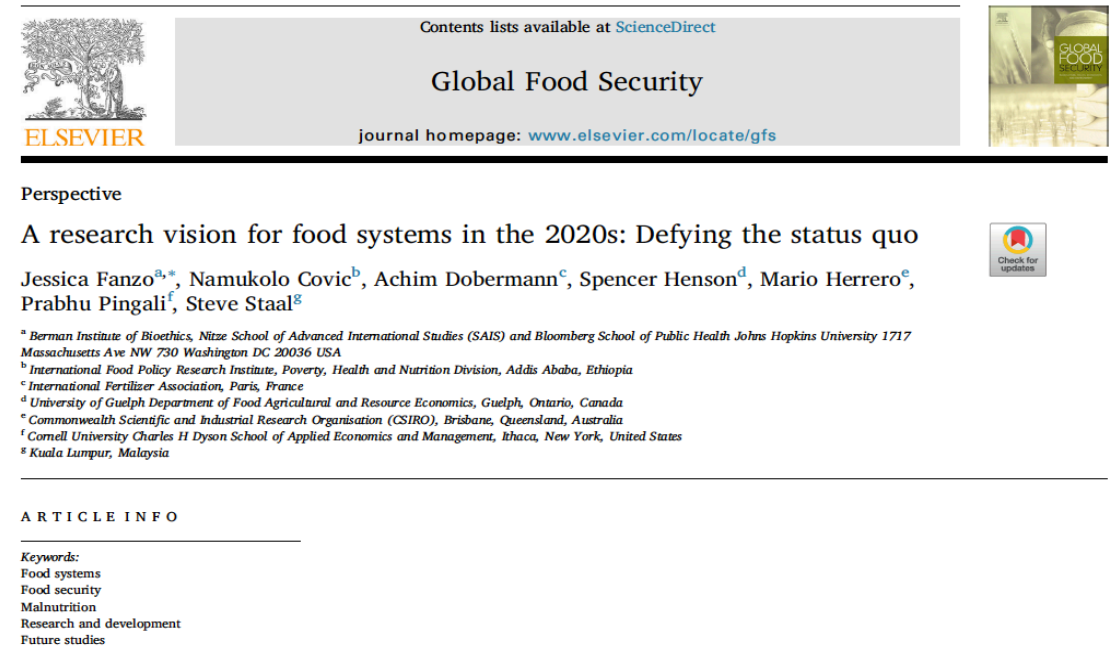
Five priorities to operationalize the EAT-Lancet Commission report

To operationalize the great food system transformation and ensure its sustainability, five areas of research and action require more attention: economic and structural costs; political economy; diversity of cultural norms; equity and social justice; and governance and decision support tools.

Christophe Béné, Jessica Fanzo, Lawrence Haddad, Corinna Hawkes, Patrick Caron, Sonja Vermeulen, Mario Herrero and Peter Oosterveer

1. Building and communicating research and evidence

- At a time when facts and evidence are under ever greater scrutiny, and even openly disregarded as suspect by some political and business leaders, the rigors of science and evidence must be maintained.
- Research has a vital role in charting a positive and sustainable direction for global food security, nutrition, and health.
- Research can and does bring about wholesale changes in attitudes, political thought, and action.



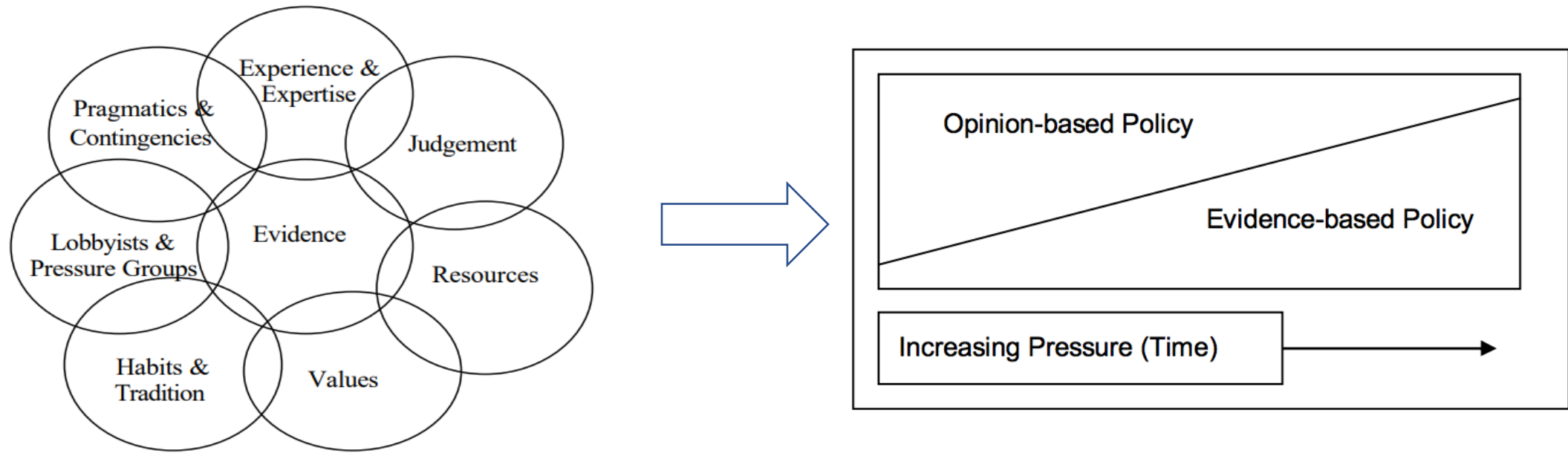
But we need to sort ourselves out along with our messages

Different narratives about the failure of food systems.

The state of play	What is the failure about?	What is threatened and needs to be fixed?	Where do the priorities for action stand?
“our food system is failing us”	Inability of the system to feed the future world population	Food security	Closing the yield gap
	Inability of the system to deliver a healthy diet	Nutrition security and health	Closing the nutrient gap and ensuring the quality of diet
	Inability of the system to produce equal and equitable benefits	Social justice, democratic process, small-scale actors	Decentralization, grass-roots autonomy
	Unsustainability of the system and its impact on the environment	Natural resources, agrobiodiversity, energy-water-carbon efficiency	Reducing the food-print of the system on the environment

Does evidence always matter in policy decision-making?

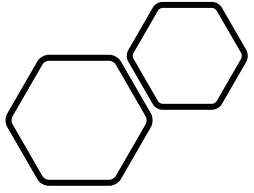
“The good news is that evidence can matter. The bad news is that it often does not.” – Julius Court, ODI



Coming to grips with evidence-based policy realities

“When presenting evidence to policymakers, researchers need to engage with the policy process that exists, not the one we wish existed.”

- Efforts fail when researchers do not understand how the policy process works.
- Need to reject the romantic notion that policymakers will ever think like scientists.
- “Bounded rationality” - policymakers can only gather limited information before they make decisions quickly. They will have made either rational or irrational choices before you have a chance to say, “more research is needed”!

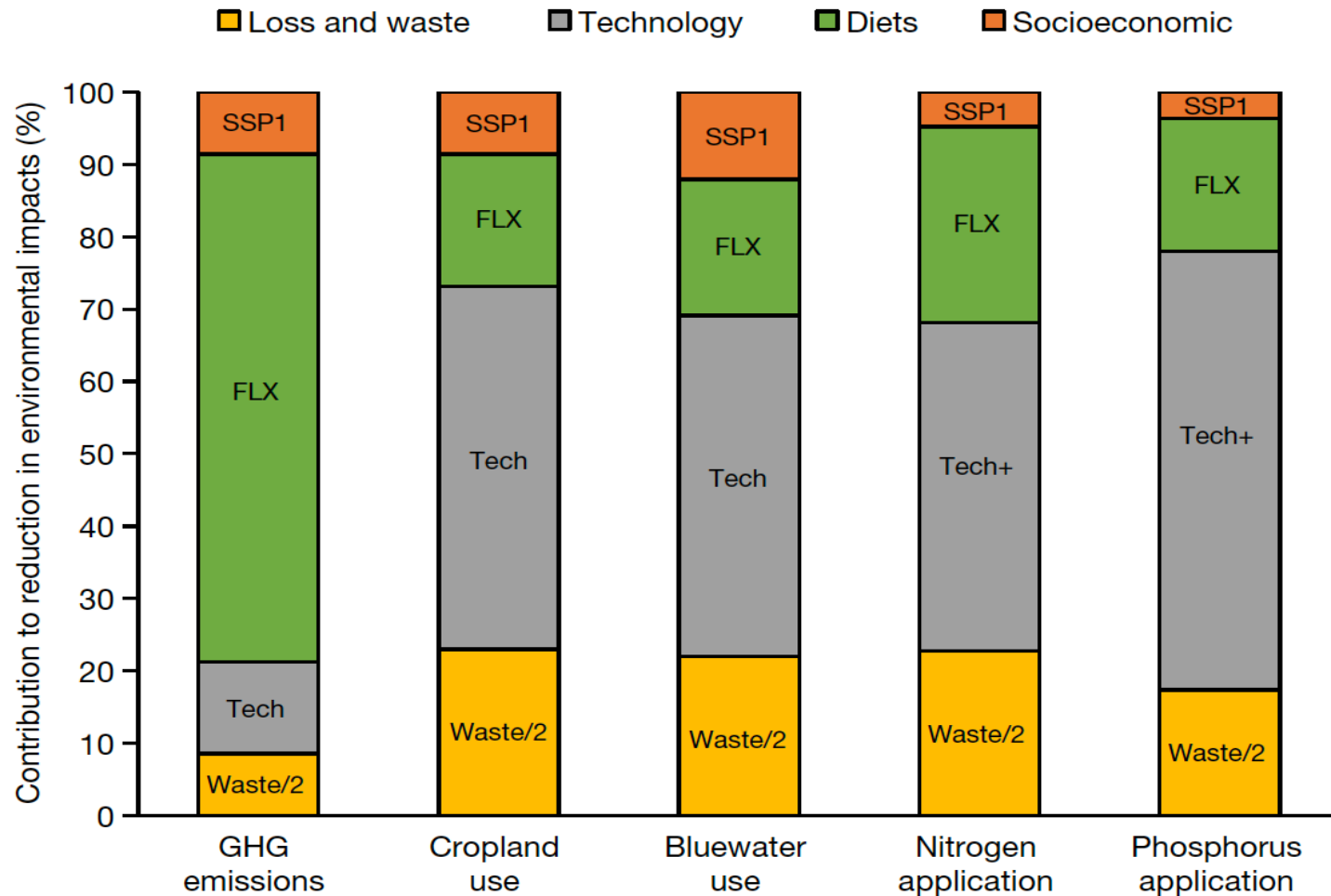


2. Bringing technology to the table

- There has never been a time in history as there is now when progress can be made towards a better world in the context of communication, technologies, innovation, big data and global cooperation.
- What technology options are ethically permissible and acceptable and what is considered fair?

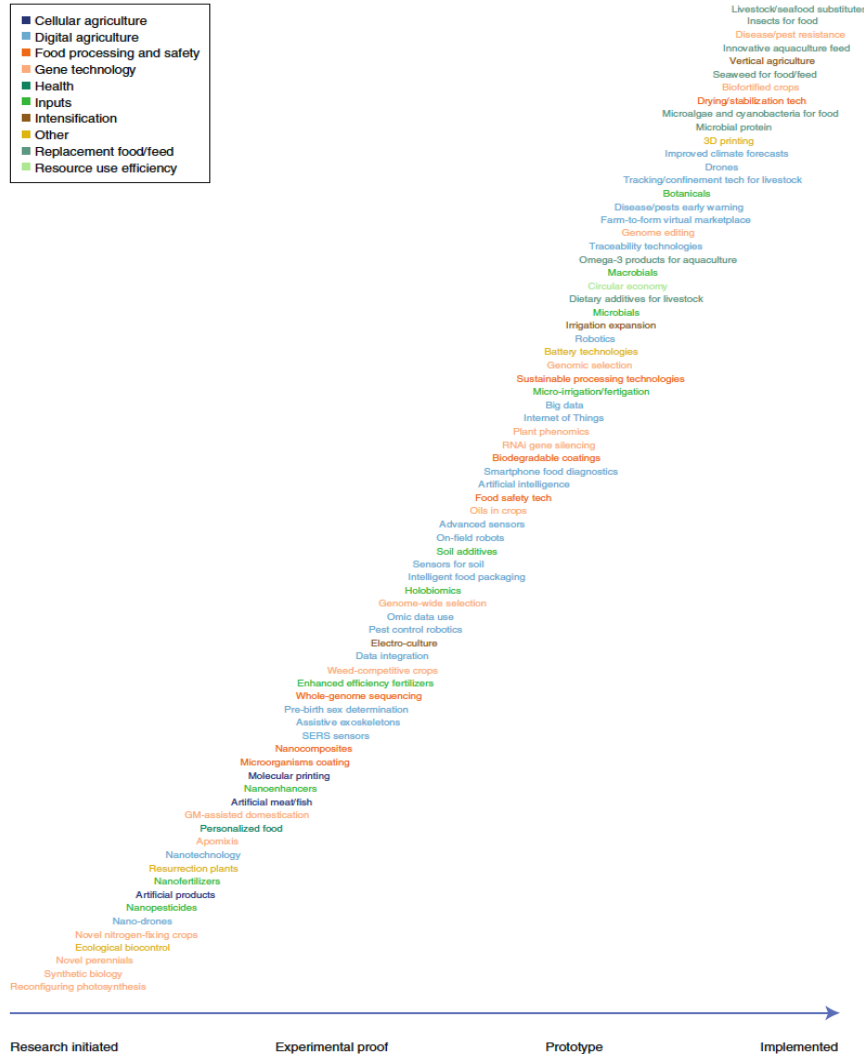


Dietary, technology on farms, minimizing FLW are critical to reduce environmental impacts of food systems



Springmann, M., Clark, M., Mason-D'Croz, D., Wiebe, K., Bodirsky, B.L., Lassaletta, L., De Vries, W., Vermeulen, S.J., Herrero, M., Carlson, K.M., Jonell, M., Troell, M., DeClerck, F., Gordon, L.J., Zurayk, R., Scarborough, P., Rayner, M., Loken, B., Fanzo, J., Godfray, H.C.J., Tilman, D., Rockström, J., Willett, W., n.d. Options for keeping the food system within environmental limits. *Nature*. doi:10.1038/s41586-018-0594-0.

Technological readiness of future food system technologies



Essential accelerators to help achieve healthy and sustainable diets, productive food systems and improved waste management— three outcomes necessary to transform and attain sustainable food systems.



Innovations to build sustainable, equitable, inclusive food value chains

- Expert panel led by Chris Barrett and the Cornell University Atkinson Center for Sustainability
- The panel is composed of industry, academia and broadly civil society
- Tasks are to:
 - Explore the feasible innovations likely to ameliorate the human and environmental outcomes of the food system.
 - Identify and assess potential actions able to move the food value chain to meet criteria: more inclusive, equitable and sustainable.

editorial

Innovating the food value chain

While global efforts to tackle hunger and other food-related crises are stepping up, *Nature Sustainability* and the Cornell Atkinson Center for Sustainability convene a new Expert Panel focusing on system changes and human agency.

Food system is a concept, and a reality, which is rapidly gaining momentum within global sustainable development debates. The 2030 Agenda for Sustainable Development has indeed a strong focus on food as captured by SDG 2 'End hunger, achieve food security and improved nutrition and promote sustainable agriculture'. Research on food security and nutrition has informed how to increase the availability of food to satisfy the needs of a growing population, as well as how to improve food quality to achieve healthy nutritional outcomes. More is needed as hunger is still a pressing challenge as much as ensuring healthy diets globally. The environmental impacts of food have evolved into real crises and can no longer be left out of the global food agenda. Experts have produced mounting evidence about the chain effects of using pesticides, of deforesting land to farm



Credit: Image courtesy of Cornell University/Jesse Winter

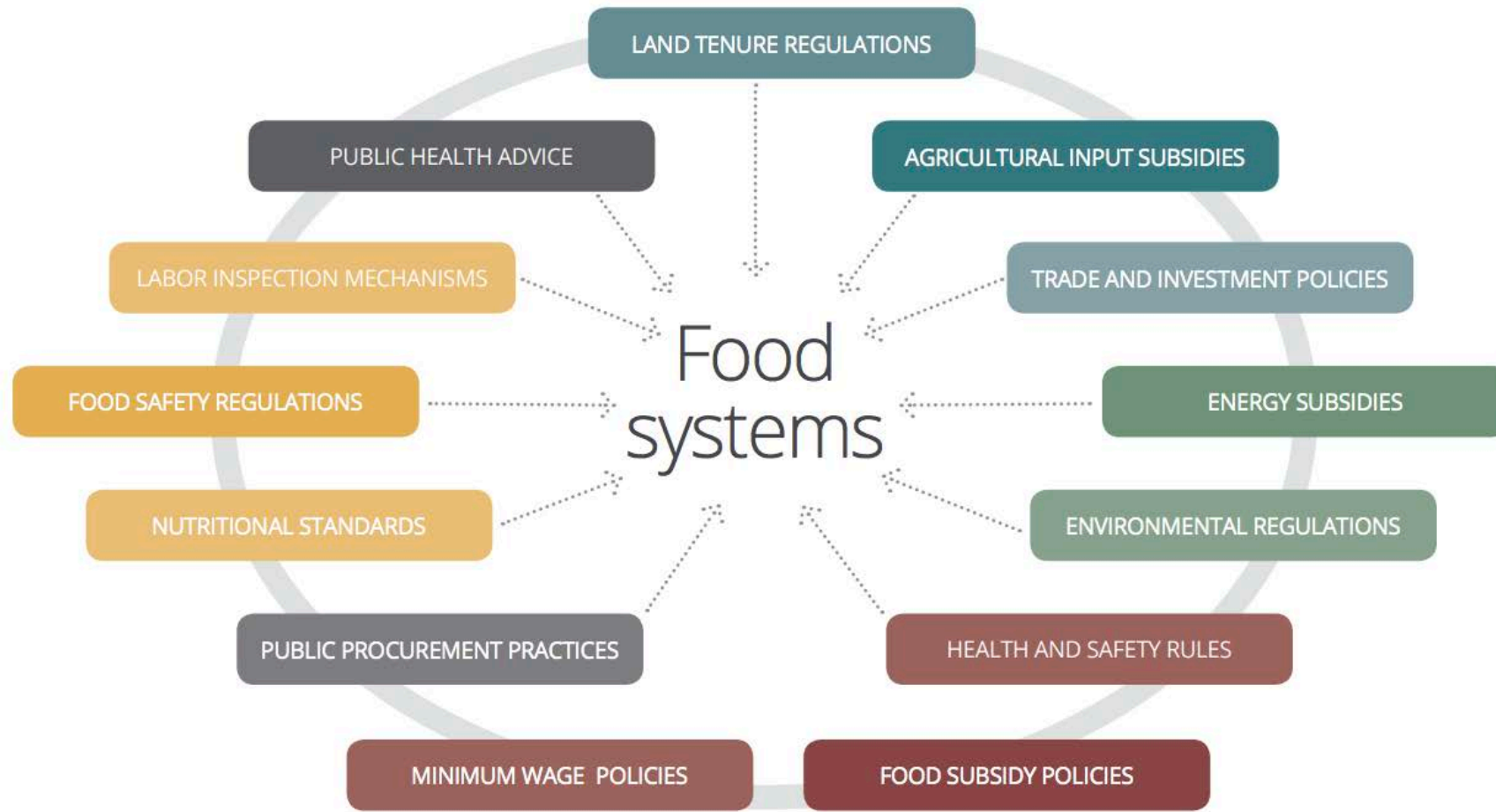
3. Policies, politics and political economies

- No technical recommendations to fix food systems will stand on two legs with the current fractured and sclerotic global political enabling environment.
- In order for food systems to function effectively, equitably and sufficiently during the pandemic and long after, the political environment must be one that embraces global cooperation and inclusion and minimizes political polarization and geopolitical competition.

What constrains higher prioritization of food systems in politics?

- **The context** – weak institutional incentives, “institutional orphan”
- **The message** – lack of a simple story, no silver bullets, difficulty of attribution so there is no action
- **Their functionality** – hard to measure and take a temperature check
- **The balance of power and trust** – in who shapes and “governs” food systems

The context – weak institutional incentives, “institutional orphan”



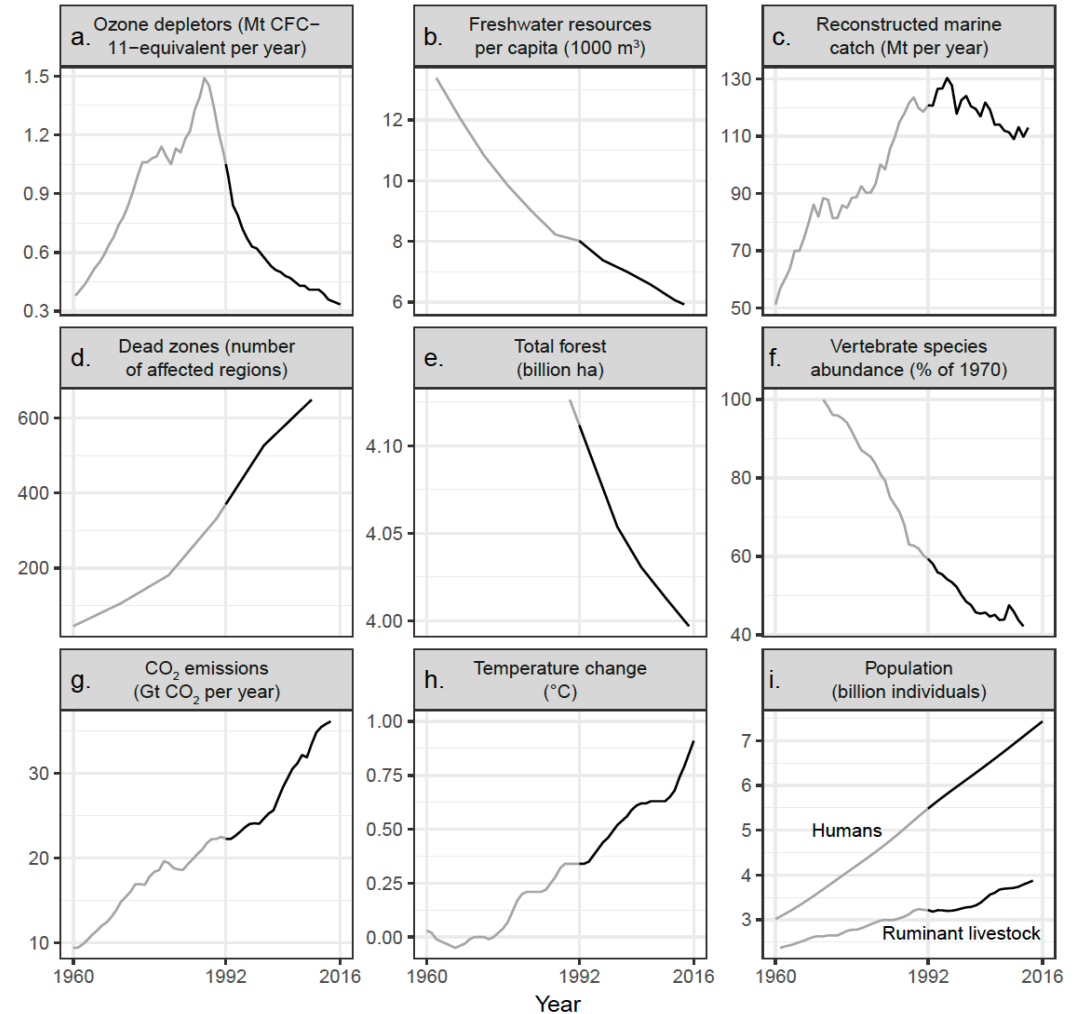
The message - consequences of perpetuate inaction

Losing Earth: The Decade We Almost Stopped Climate Change

By Nathaniel Rich
Photographs and Videos by George Steinmetz
AUG. 1, 2018

“The risks of making well intentioned but inappropriate policy choices are much smaller than the risks of using a lack of evidence as an argument for inaction.”

--UN HLPE report on food systems and nutrition (2017)



Their functionality – hard to measure and take a temperature check



The Food Systems Dashboard is a new tool to inform better food policy

The Food Systems Dashboard brings together extant data from public and private sources to help decision makers understand their food systems, identify their levers of change and decide which ones need to be pulled.

Jessica Fanzo, Lawrence Haddad, Rebecca McLaren, Quinn Marshall, Claire Davis, Anna Herforth, Andrew Jones, Ty Beal, David Tschirley, Alexandra Bellows, Lais Miachon, Yuxuan Gu, Martin Bloem and Arun Kapuria

The Global Burden of Disease study showed that unhealthy diets contribute to 11 million deaths per year¹. The double burden of malnutrition — the coexistence of overweight, obesity and non-communicable diseases with underweight, micronutrient deficiencies, wasting and stunting — is being driven by changes in food systems and in some cases increased availability of cheap, highly processed, nutrient-poor foods, impacting the lowest-income countries in sub-Saharan Africa, South and East Asia, and the Pacific the hardest².

Diets are shaped by food systems. Food systems are made up of all the people,

institutions, environments, infrastructure and activities that relate to the production, processing, distribution, marketing, sale, preparation and consumption of food³. Food systems are intrinsically related to health, environment, culture, politics and economy. The food systems framework depicts these outcomes as well as characteristics such as food availability and affordability and personal knowledge, preferences, resources and behaviours (Fig. 1). Policy interventions that address one part of the system will impact many outcomes that food systems contribute to⁴. Importantly, actions can have both unintended consequences and multiple benefits due to this interconnectivity⁵.

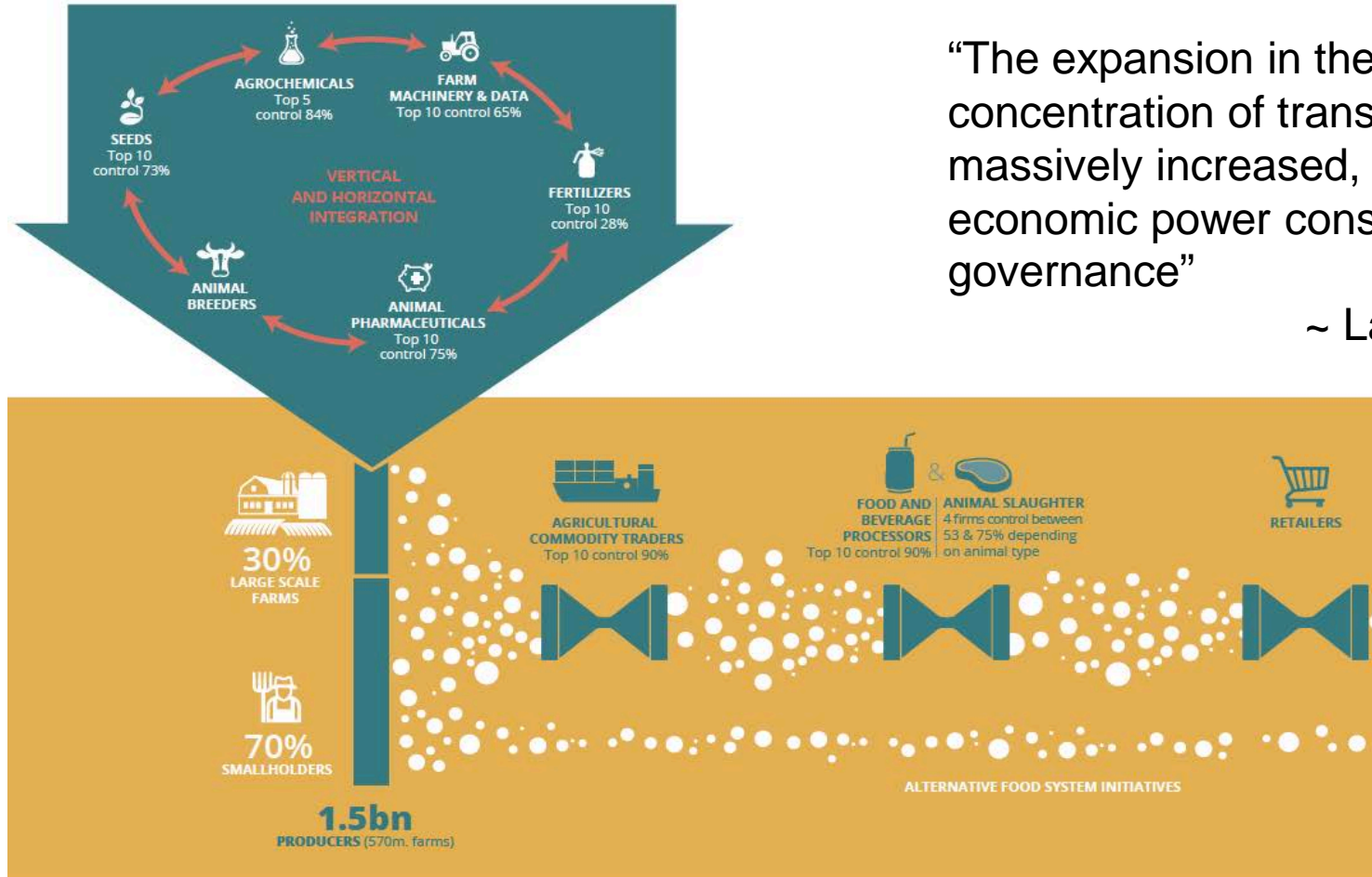
Though there is widespread agreement that our food systems are unsustainable⁶, identifying ways to change and improve them is difficult. Food systems are complex and offer many entry points for change⁷. Additionally, even when actions have been identified, they often lack public acceptance and may not be politically feasible. However, it has been found that policies can be modified or combined in ways that increase their acceptance and, therefore, policy packaging is an important strategy to make policies both effective and politically feasible⁸. Policymakers, non-governmental organizations, civil society leaders and other actors do not currently have a holistic



www.foodsystemsdashboard.org

The balance of power and trust – in who shapes and "governs" food systems

CONCENTRATION IN THE AGRI-FOOD SUPPLY CHAIN



“The expansion in the concentration of transnationally economic power constantly undermines governance”

~ La

FOOD SYSTEM PPPs: CAN THEY ADVANCE PUBLIC HEALTH AND BUSINESS GOALS AT THE SAME TIME?

ANALYSIS AND IDEAS FOR MOVING FORWARD



GAIN Discussion Paper n°6

May, 2020

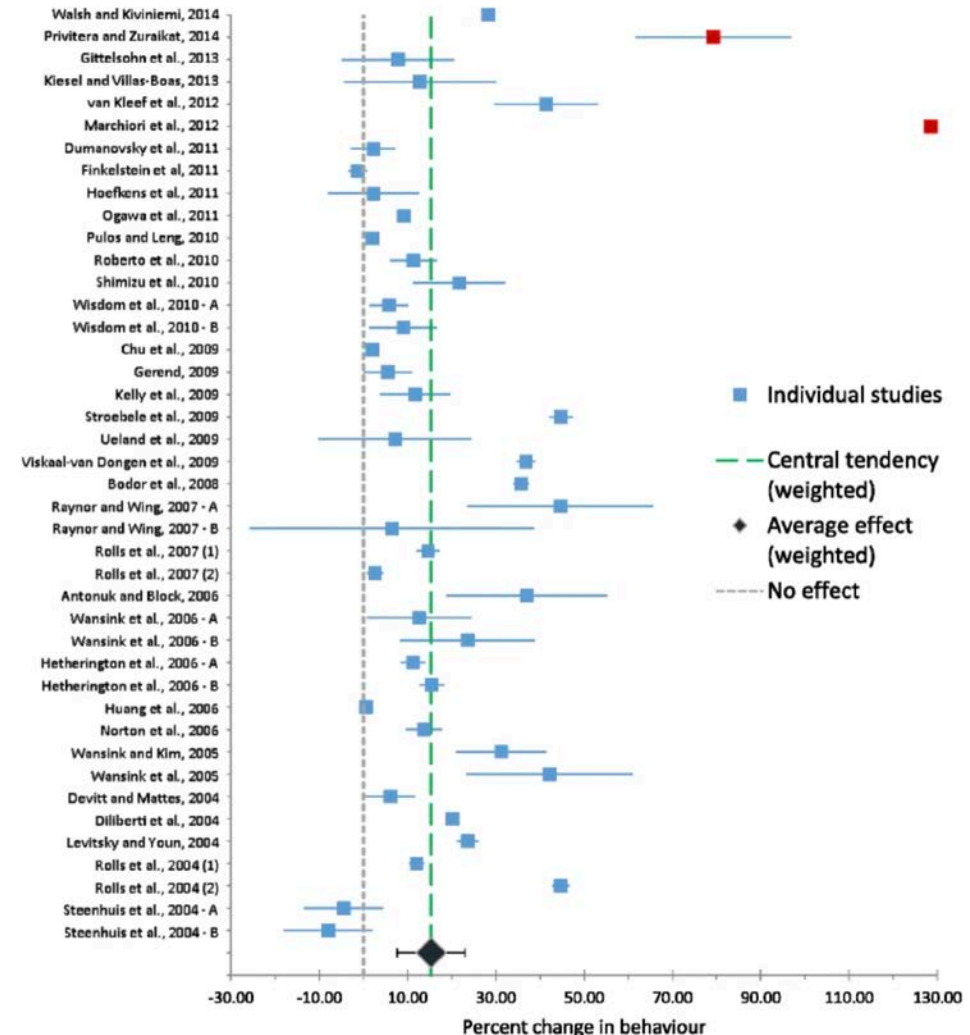
Jessica Fanzo, Yusra Ribhi Shawar, Tara Shyam, Shreya Das, and Jeremy Shiffman



4. Changing behaviors, of everyone

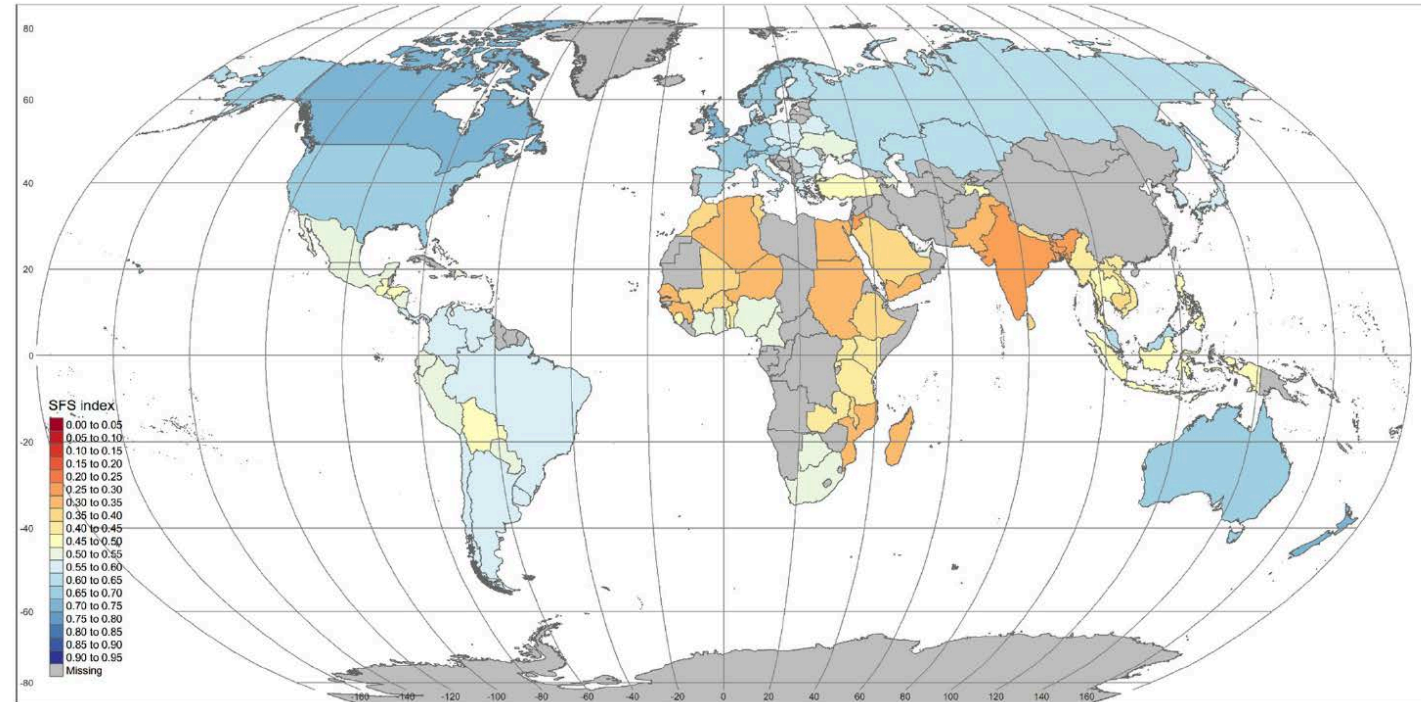
- Behavior change incentives and nudges of various food system actors and consumers must complement the research, technology and politics.
- Behavior is malleable, but also, ephemeral...
- Nudging is gaining traction because of its less forbidding and paternalistic nature.

SR showing nudge interventions on average cause a 15.3% increase in healthier consumption decisions



Inevitably, there will be and will be trade-offs

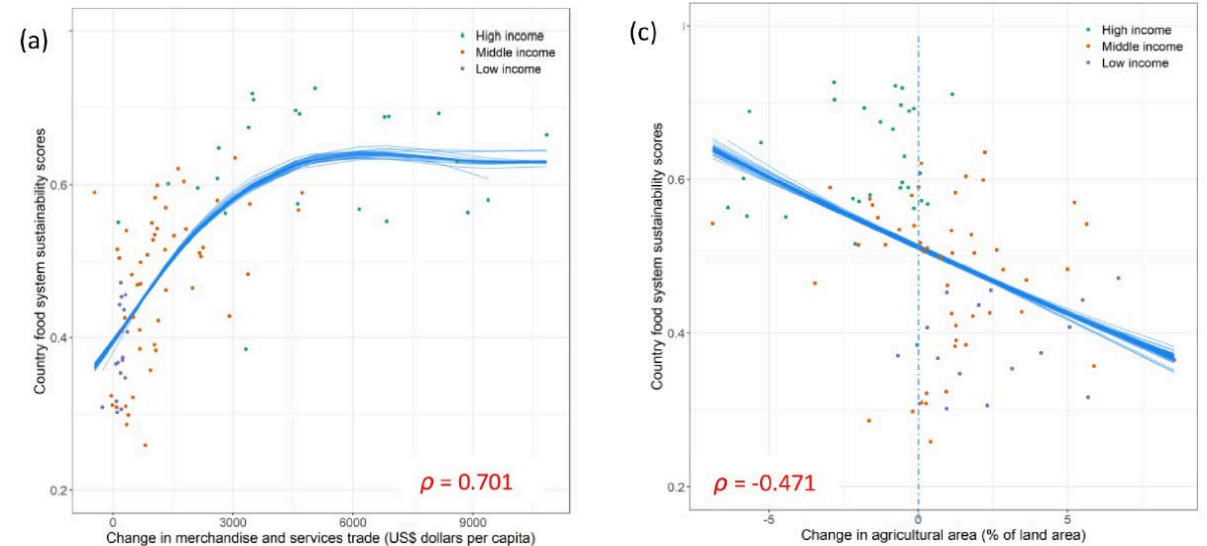
- There is great potential for food systems to promote resiliency, equity and sustainability for better diets, better human and planetary health, and a better world.
- Inevitably though, there will be trade-offs. The question is, how to deal with those trade-offs while doing the least amount of damage.



Food system sustainability score calculated for 97 countries and 20 indicators covering the four dimensions of food system: Environment, economic, social, and food security & nutrition

Inevitably, there will be and will be trade-offs

- There is great potential for food systems to promote resiliency, equity and sustainability for better diets, better human and planetary health, and a better world.
- So can we have it all? It depends.
- There will be trade-offs. The question is, how to deal with those trade-offs while doing the least amount of damage.



Relationship between country food system sustainability scores and key drivers



Thank you!

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