Sustainability and the Future of Food
Fall 2021
ANST-GA 2500-004
Prof. Matthew Hayek
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Class Schedule
Wednesday 2 - 4:30 PM

Office Hours:
Monday and Thursday 2 – 4 PM by appointment
link to appointment calendar

Sustainability Science and the Future of Food offers an overview of global food systems and their impacts on the environment and animals, followed by a deep dive into thinking creatively about their potential solutions.

**Sustainability** pertains to the pursuit of better lives while maintaining a habitable planet. This class will be guided by a concept from sustainability and social justice called **informed agitation**: to tackle solutions, we first need to describe the problems carefully and correctly. We will draw from science, economics, and social theory to understand impacts more deeply.

Readings and classroom discussions guide students to identify leverage points for change. We will discuss how government, non-profits, and markets can help scale solutions. We will also draw from scientific fields to estimate the potential consequences of large-scale changes to the global food and environmental system. Guest speakers will also visit us to share their unique approaches to tackling our food system’s impacts on the environment and animals.

**Grading rubric:**
10% class participation
10% reading responses online
20% midterm papers
15% student presentations
45% final papers

Students will engage with weekly readings on NYU Brightspace forums. Each week, students will respond to at least one reading (selecting from those marked with an asterisk*) in 5 to 10 sentences describe what the author is arguing, how they’re defending their position, and why they seem to be pursuing their respective topic or question. Additional, more specific questions may also be posted, by Friday at the latest, with responses due the following Tuesday night before class on Wednesday.

Much of the grade for this course is based around research projects, with a single topic that spans two papers and a presentation. Students will be expected to decide on a research topic, in the form of a regional or global food system problem, by **October 18**.

The midterm paper will explore a potential solution to their problem in 2,500-3,000 words. Right after the break, students will sign up to briefly present on their papers in weeks 10-13. Presentations will give students the chance to solicit feedback on the food system solution they
proposed in their midterms and prompt discussion between classmates. Feedback from the classroom presentations will help students deepen their understanding and refine their ideas for a more nuanced solution to the same problem their final papers (4,000 words).

This class will also give students an opportunity to engage with guest speakers, namely practitioners who are developing and executing novel solutions to problems in food and sustainability. Students are expected to engage both critically and graciously. Remember that our guests are taking time out of their busy schedules to share their accumulated wisdom with the class. This means being our most polite and grateful selves, but also being bold enough to ask for clarity when we’re uncertain about something, and trusting that they benefit from thoughtful challenges. This can be a hard balance to strike, so don’t let perfection paralyze you. If you are uncertain if a question is rude or goes “too far”, for instance by invalidating a deeply held assumption or foundation upon which they rest their career, hold off. We will have a debrief period after they leave or first thing the following class to engage more deeply and critically with one another over what the presenter offered.

**Week 1** - September 8
Introductions and course overview

**Week 2** - September 15
**Population growth** – Major issue or a major distraction?
- Joel K. Bourne “The End of Plenty”—Introduction, chapters 1, 3, 5
- David Roberts “I never write about population” on Vox.com

**Week 3** - September 22
**Climate change** – the carbon cycle and food systems
- Damien Carrington. “Avoiding meat and dairy is ‘single biggest way’ to reduce your impact on Earth” The Guardian.
- West et al., 2010. Trading carbon for food. PNAS
- FAO Global Livestock Environmental Assessment Model (GLEAM) - Results http://www.fao.org/gleam/results/en/
- Video from Vox.com: “How humans disrupted a cycle essential to all life”

**Week 4** - September 29
**Changing food production 1** – Alternatives to conventional crop production
- Joel K. Bourne The End of Plenty. Chapters 4, 12—14
- Philip Rothco “Land Sparing vs. Land Sharing” Mongabay.com
- Jon Foley “No, Vertical Farms Won't Feed the World” Globalecoguy.com
- Michael Hamm “The buzz around indoor farms and artificial lighting makes no sense” The Guardian
- “A reality check on regenerative agriculture” The Undark Podcast.

**Week 5** – October 6 (Deadline to choose paper topics)
**Changing food production 2** – Animal lives and environmental impacts
Guest speaker: Professor Jennifer Jacquet
- Schiller et al., 2018. High seas fisheries play a negligible role in addressing global food security. Science Advances.
- Fry et al., 2018. Feed conversion efficiency in aquaculture. Environmental Research Letters
• Jonathan Carey. “There’s Only One Way for Grass-Fed Cattle To Be A Sustainable Farming Practice”. Huffington Post

**Week 6 - October 13**

**Changing food consumption** – Animals and the role of future dietary demand

• Hayek and Miller, 2021. “Underestimates of methane from intensively raised animals” Environmental Research Letters
• Searchinger et al., 2018 “Creating a Sustainable Food Future - Synthesis Report” World Resources Institute
• Leah Garces “Replacing beef with chicken isn’t as good for the planet as you think” Vox
• Matteen Mokalla and Matt Ball "Want to save animal lives without going veg? Eat beef, not chicken” Vox

**Midterm papers due – Monday October 18**

**Week 7 - October 20**

**The role of local government**

Guest Speaker: Rachel Atcheson (Brooklyn Bureau President’s office)

• Eric Adams and Costa Constantinides “New York must divest from climate disaster” Queens Daily Eagle.
• Eric Adams and Fernando Cabrera “Why ‘Ban the Baloney’ is a Good Idea” Norwood News.
• Eric Adams and Justin Brannan “How NYC can take a bite out of climate change” City & State New York.
• A Livable Climate” OneNYC 2050 (New York’s ‘Green New Deal’ strategic proposal). City of New York, 2019
• “Bellevue and Brooklyn Borough President Eric L. Adams Announce January Launch of Plant-Based Diet Program” NYC Health + Hospitals.

**Week 8 - October 27**

**Pressuring corporations for better environmental governance**

Potential Speaker: Lucia Von Reusner (Mighty Earth)

• Allison Aubrey, 2014 “How Tracing The Oil In Your Pop-Tarts May Help Save Rain Forests” NPR
• Glenn Hurowitz et al., 2019 "The Companies Behind the Burning of the Amazon" Mighty Earth
• Von Reusner et al., 2018 "Mystery Meat II: The Industry Behind the Quiet Destruction of the American Heartland” Mighty Earth.

**Week 9 – November 3**

**Whole plant foods for the whole world?** – Changing the social fabric around food

Potential Speaker: Dan Buettner (Blue Zones)

• Dan Buettner “Foods to Live By” National Geographic
• Dan Buettner "The Finnish Town That Went on a Diet" The Atlantic
• Dan Buettner "The Island Where People Forget to Die" The New York Times Magazine
• Dan Buettner “The World's Happiest Places” National Geographic
• Weiss, 2018 "Decreasing the cost of care by avoiding Illness" New England Journal of Medicine Catalyst

**Week 10 - November 10**

**Class presentations 1**

**Disrupting meat** – using markets to scale interventions rapidly.

• “Friedrich, 2018 “Plant-based meat and clean meat are crucial for a sustainable food system” Good Food Institute Blog
• *Friedrich, 2019 “The next global agricultural revolution” TED video presentation
• Gibbs et al., 2010 [abstract only] “Tropical forests were the primary sources of new agricultural land in the 1980s and 1990s” PNAS
• Alexandratos and Bruinsma, 2012 “World agriculture toward 2030/2050” UN FAO - Skim chapter 1 overview; Read Chapter 3 in full
• “Plant-Based Market Overview” Good Food Institute
• Harwatt, 2019 “Including animal to plant protein shifts in climate change mitigation policy” Climatic Change

Week 11 - November 17
Class presentations 2
Zoonotic Disease and the food system – Sustainability in the era of COVID-19
• Hannah Ritchie, 2017 “How do we reduce antibiotic resistance from livestock?” Our World in Data
• Lyce, 2019 “A brief history of bird flu” Philosophical Transactions of the Royal Society B.
• “The trouble with antibiotics” PBS Frontline Video Documentary
• Rohr et al., 2019 “Emerging human infectious diseases and the links to global food production” Nature Sustainability
• When We Talk About Animals Podcast “Sonia Shah on how animal microbes become human pandemics” Yale LEAP

Week 12 - November 24
Class presentations 3
Legislation week
• “California to Only Sell Cage-Free Eggs by 2022” Hunter College NYC Food Policy Center, nycfoodpolicy.org
• “With FDR’s New Deal as Blueprint, Booker Introduces Climate Change Bill” booker.senate.gov
• Beaver & Sylvester, 2019 “What’s in a Name? The Plant-Based Foods Labeling Debate” Foley and Lardner, LLP.
• Dylan Matthews, 2019 “Factory farms abuse workers, animals, and the environment. Cory Booker has a plan to stop them” Vox

Week 13 – December 1
Class presentations 4
Litigation week
Potential Speaker: Jon Lovvorn (HSUS head of litigation and Yale LEAP)
• “CAFE Law and Policy Lab” Yale Law School
• “Humane Society Says USDA Poultry Regs Risk Pandemics” Law 360
• “Farm Forward’s Ben Goldsmith Discusses Corporate Campaign Strategies” Yale Law School
• “John Hughes Discusses North Carolina Hog Nuisance Lawsuits” Yale Law School
• “Lisa Zucker Speaks on Campaigning for Equal Treatment on NY Farmworkers” Yale Law School
• HSUS v. Purdue - Complaint for Declaratory and Injunctive Relief
• HSUS v. USDA - Complaint

Week 14 - December 8
Shaping the Future of Food Wrap up

Final papers due: Thursday, December 16