

Catalyst Grant Final Project Report

Understanding Strategies to Influence Environmentally Effective Dietary Shifts: Development of a Research Agenda

Project team

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Summary

Diet composition is a major determinant of the greenhouse gas emissions and other environmental impacts associated with agriculture and food systems, and appropriate shifts in the diets of Americans present substantial opportunity for climate action planning while simultaneously improving nutritional health. Yet, very little understanding exists as to what might motivate individuals to change dietary behaviors and what might make for effective strategies to influence widespread, environmentally motivated dietary shifts. Through a review of existing literature and convening a workshop of interdisciplinary thought leaders, this project aimed to identify gaps in current understanding and outline paths forward in both research and intervention. The 1½ day workshop took place in October, 2018 and included academic participants from UM and beyond with backgrounds in public health, nutrition, psychology, food policy, and industrial ecology; representatives from national and local non-profits; and representatives from UM's dining services. The World Resources Institute (WRI) is active in promoting diet shifts and participated as a partner both in planning the workshop and in the event itself.

The literature review helped build the case for the potential to reduce environmental impacts by shifting from current Western diets to "more sustainable" dietary patterns – characterized most lucidly as shifts from animal-based to plant-based foods. Existing studies also indicate that such a shift would have associated health benefits. Further review of the limited existing literature identified a range of factors associated with attitudes and behaviors toward meat consumption and the willingness to shift to plant-rich diets as well as a range of potential interventions to promote this shift. These findings served as the backdrop for the workshop.

The workshop of twenty carefully selected participants consisted of series of presentations from diverse disciplinary backgrounds aimed primarily at catalyzing discussion, and then a facilitated process of divergent thinking to uncover ideas across the breadth of the topic, followed by a process of honing emergent ideas to the most interesting, pressing or effective. In addition to an internal report summarizing the workshop, immediate outcomes catalyzed by the workshop include a number of budding research collaborations as well as a re-evaluation of UM Dining's approach to measuring and tracking sustainability. Planned next steps include outreach opportunities through major paper Op-eds and online news services as well as an academic journal article aimed at setting the research agenda needed to inform effective intervention strategies.

Project background and approach

The environmental and health benefits of population-level shifts in diets to reduced meat consumption and a more plant-rich diet are well researched and reasonably well understood. What remains uncertain, and thus a major barrier to diet shift becoming a realizable climate action strategy, is what might motivate individuals and populations to make a shift to a plant-rich diet and what types of interventions might be successful in encouraging that shift. Evidence continues to build that widespread shifts in diet will be necessary in order to realize greenhouse gas emission reduction targets that hold warming below a 1.5C increase (see recent WRI synthesis report: <https://www.wri.org/publication/creating-sustainable-food-future>). The recognition of the need to include food / diet solutions in climate action is mounting at events such as the Global Climate Action

Summit and COP 24. However, research and understanding of potential interventions, and the underlying taste preferences and behaviors at play, are greatly needed in order to inform effective policy and implementation strategies.

Clearly, this problem is deeply interdisciplinary as it requires an understanding of: food systems and the associated environmental impacts; public health, nutrition, and an appreciation of the lessons learned in efforts to encourage healthy diets; food policy, including knowledge of the myriad of stakeholders involved in food systems; behavioral psychology and the complex world of tastes, preferences, and both conscious and sub-conscious choice; as well as the realities of food service and the practice of food businesses. The approach taken in this project was to organize a workshop where these diverse voices could learn from one another and explore the intricacies and identify the research and implementation needs of concerted efforts to shift toward plant-rich diets. World Resources Institute (WRI), an established global research organization, is actively researching, supporting and campaigning approaches to changing diets. Their Better Buying Lab initiative works to research and scale strategies that enable consumers to choose more sustainable foods. WRI's Cool Food Pledge is a campaign to support institutional food buyers in reducing food-related greenhouse gas emissions. WRI was very keen to partner in our workshop, through preparation, participation and dissemination of findings. We also engaged with local a local non-profit, SEEDS of Traverse City, MI, which has experience working with smaller municipalities on climate action strategies.

With the interdisciplinary workshop as the focal output of this project, the approach taken was to make the workshop as productive as possible in identifying key gaps in knowledge and understanding as well as in building collegial relationships that may results in research collaborations. Participants for the workshop were hand selected by a small organizing team based on their expertise and to provide a broad interdisciplinary perspective. A discussion paper was developed out of a review of the related literature to provide a starting point for discussion at the workshop. A known and respected facilitator was engaged to support the workshop process. In early October, 2018, twenty attendees, including eight out-of town guests and three UM PhD students, gathered at the Graham Sustainability Institute North Meeting Space in Ann Arbor, MI for a 1 ½ day workshop.

Findings

The literature review highlighted key insights on barriers to reducing meat consumption and shifting to a plant-rich diet, and provided an overview of the potential behavior change strategies to encourage a shift to a plant-rich diet. Examples of insights from the limited existing literature include:

- Cost and health motivations were the most commonly reported reasons for meat reduction in a U.S. survey.
- Higher meat consumption frequency and positive attitudes towards meat were associated with lower willingness to reduce meat consumption.
- Women are less likely to consume meat than men, and more likely to reduce consumption.
- a USDA-ERS analysis found that millennials and Gen-Xers spend about half as much of their household budget on red meat as do their parents' generations.

The range of potential interventions include: fiscal policies such as food taxes, government and institutional procurement policies, voluntary industry agreements, information provision policies, and changes in food choice and consumption contexts such as changes in environmental defaults, changes in social norms, and the power of associations (branding).

The main clusters to emerge from the workshop as priority research/practice directions were:

- Change agents: identifying, informing, supporting those that are in the position to influence change
- Tastes/likes: research to better understand development and adaptation of taste preferences, especially regarding meat.
- Impact: where/how to realize the greatest impact from diet shifts?
- Behavior change: what are determinants, motivations, barriers of changing dietary behaviors? What interventions are effective?

- Policy: what policy interventions are effective? How can policy measures support in other ways?

Another important acknowledgment to emerge from the workshop was the great potential for large-scale benefits to occur via targeted shifts by institutional food buyers – large catering/food service companies, hospitals, universities, public facilities. Institutional food providers have the opportunity to develop consumer-friendly menu shifts and choice edits that may not require eaters to make concerted behavior changes but nonetheless lead to notable reductions in diet-related impacts.

Outputs

The primary output from the project was the workshop itself, with twenty interdisciplinary thought leaders. Outputs supporting the workshop included a discussion paper/literature review and a workshop summary report. While these resources are currently internal to the workshop participants, they will serve as the basis for expected outcomes, described below.

The ideas that came out of the workshop have been compiled in spreadsheet format such that they can be coded and further evaluated at a later date. This review of ideas has led to follow-on discussions reflecting on how best to analyze and present this collection of ideas.

An email group list has also been created and is being actively used to share new findings, relative papers and reports, etc. among workshop attendees. It is anticipated that this will aid in maintain collegial connection and promote collaborative efforts.

Outcomes

The following immediate outcomes and collaborations were catalyzed by the workshop event:

1. Steve Mangan, UM Dining Director, was quite receptive to WRI's Cool Food Pledge and expressed interest in taking the idea to other Big Ten dining service directors.
2. The workshop has also catalyzed a re-evaluation of tracking and calculating 'sustainable/local' for UM Dining. It is anticipated that greenhouse gas emissions will be used as a metric, possibly with an eye to working toward carbon neutral.
3. Andy Jones has spoken with Steve Mangan about potential research into exploring the links between food environments and dietary change by examining how freshman students' diets change when they arrive to campus.
4. Roni Neff, Julia Wolfson and Christina Roberto have had a follow-up discussion about the possibility of conducting messaging research related to meat consumption.
5. Based on conversations at the workshop, Diego Rose has met with the Sodexo Dining Service dietician at Tulane University, introducing the Cool Food Pledge and establishing a student practicum experience on promoting vegan/vegetarian options in the university dining facilities.
6. Diego Rose also engaged with other researchers at the workshop about follow-up research further investigating additional ways of using the NHANES dietary recall survey data to more deeply explore trends or differences in environmental impact of diets.

In addition, planned next steps from the group include:

1. Op-ed in NY Times to communicate opportunities to a broader audience. Anticipated timeline: before the new year, 2019
2. Article for *The Conversation*; similar goal, different audience. Anticipated timeline: winter term 2019
3. Academic journal article to 'set the research agenda'; building on workshop findings: anticipated timeline: winter or spring term 2019