Food & Landscape Diversity

Award Year:
2017
Principal Investigator:
Sarah E. Gergel, University of British Columbia
Terry C.H. Sunderland, Center for International Forestry Research
Associated Program:
Pursuit Program [1]

Landscape configuration impacts ecosystem services, yet direct links to human well-being remain elusive. Particularly little is known about landscape diversity (and configuration) feedbacks to nutrition, despite the multiple pathways through which interactions might occur. This project examines the direct and indirect roles forests play in human nutrition and dietary diversity and quality. We will assemble and integrate multi-scale datasets and inter-disciplinary analytical approaches and forge a conceptual framework to move beyond dichotomous perspectives on land use (e.g., beyond food vs. forests, land-sharing-sparing).

Forests and scattered remnant trees provide many unique dietary and medicinal benefits - often not accessible from agriculture or markets - directly to vulnerable human populations, yet are largely absent from global food security discussions. Furthermore, forests' indirect role in food production is increasingly apparent. In addition to supporting ecosystem services (e.g., water purification, pollinators), forests sustain agricultural productivity by providing nutritional subsidies to grazing animals, which in turn replenish nutrients to farms and nutritionally-diverse homegardens.

Locating where negative health outcomes are likely to occur (based on land cover change) could be a powerful tool for prioritizing conservation, restoration, and nutrition-based interventions. Thus, monitoring landscape simplification - loss of small forests and agro-forestry features - has implications for human health outcomes as well as biodiversity.

To further explore these interactions, our Pursuit research agenda aims to identify landscape mosaic configurations likely to enhance dietary diversity via the following objectives:

- Synthesize primary and secondary data useful in characterizing dietary diversity at multiple spatial scales;
- Create a rigorous and transportable spatial analysis approach, founded on multi-temporal and high spatial resolution imagery, to support this research agenda.
- Develop a strong conceptual and statistical framework for linking dietary diversity attributes to forest cover, accounting for dynamic feedbacks and long-term interactions

Participants:
Laura Rasmussen , UBC
Jeanine Rhemtulla, University of British Columbia
Bronwen Powell, Penn State University

Erica Smithwick, Penn State University
Sylvia Wood, Université de Quebec en Outaouais
Frédéric Baudron, CIMMYT
Gina Kennedy, Biodiversity International
Amy Ickowitz, CIFOR
Kevin Yang, University of British Columbia
Christopher Golden, Harvard University
Jessica Evelyn Raneri, Bioversity International
Jeroen Groot, Wageningen University
Matthew Fagan, University of Maryland - Baltimore County
Stephanie Tomscha, Victoria University of Wellington

Source URL: https://www.sesync.org/project/propose-a-pursuit/food-landscape-diversity-0

Links
[1] https://www.sesync.org/opportunities/research-thematic-pursuits/pursuit-program