My research answers urgent questions of food availability in the Anthropocene. Global change profoundly shifts access to and control of resources, worsening existing inequalities that can lead to water and food shortages. I use a feminist political ecology framework to explore the production and governance of food in the United States and Southeast Asia. I study questions such as "how do food producers and consumers of different identities respond to global change, and how can policy better serve vulnerable populations in the context of climate change?" My five-year plan includes publishing ongoing food systems research in the Northeast United States and Southeast Asia; as well as funding and publishing new research exploring gender-sensitive water policy.

Ongoing Research: My research stems from a desire to understand how global change influences socio-ecological systems. The process of globalization invigorates my curiosity, especially as it pertains to uneven development and vulnerable groups of people. I can trace this passion for equality to my time at Tulane, studying environmental racism just before Hurricane Katrina. Locally, I investigate sustainable farming in the Hudson Valley, engaging with questions of food security, race, and class. Internationally, I analyze the sustainability of water and agricultural policy. This mixture of domestic and international work provides a variety of topics and locations for student participation. The following three projects illustrate my methodological and empirical contributions to field of environmental studies.

"From Farmers to Foodies: Healing the Metabolic Rift Between Hudson Valley Farms and New York City." There are a wide variety of food system experiences in the Hudson Valley and New York City, from increasingly expensive boutique farm-to-table dining, catering to affluent urbanites, to the deeply committed non-profit educational farms that explicitly reach out to inner city youth. This research program builds on my previous work exploring how sustainable farming is identity-driven, and articulating sustainable farming practices beyond Certified Organic, published in the *Annual Review of the Environment and Resources* in 2017. The program has several branches of inquiry, and continues to grow with student interest. First, the work investigates how farmers' identities are tied to (or divorced from) sustainable production in the Hudson Valley of New York, especially in the context of COVID-19. Second, it chronicles visitor's experiences at places like apple-picking orchards and farmer's markets to elucidate the connection between rural and urban identities along axes of race, class, education, and nationality. Finally, the research scrutinizes city policy efforts, such as FRESH NYC, to overcome the entrenched food insecurity in non-white neighborhoods. This work is unique, building an empirical understanding of how both farmers' and consumers' choices (re)produce their identities, how those choices have shifted since the pandemic, and the implications for vulnerable populations in NYC's food system.

"Understanding Gendered Adaptations Using Agent-Based Modeling." Climate change will disproportionately affect rural women in developing countries, creating a heightened urgency to include gender-sensitive adaptation measures in development policies. Further, gender is a social construct with varying "female" and "male" practices in various cultural contexts, making it difficult to define quantifiable and actionable gendered adaptations to climate change. Based on our preliminary piece on gender and ecosystem services, published in *Ecosystem Services* in 2018, I am working with a colleague at Lehigh University to incorporate a gendered utility value into an agent-based model that predicts resource use by different groups. The methodological goal and distinctive impact of this research is to define "gendered agents." In other words, we aim to isolate the effect that gender has on resource access, use, and willingness to pay; and improve data-driven policy recommendations.

"Advancing Gender-Sensitive Policy Responses to Integrated Water Resources Management." Access to and control of water are gendered and hydrologic changes are expected to exacerbate existing gender inequalities in the realms of livelihoods, education, health, and decision-making. Despite at least three decades of scholarship and development work illuminating the multi-level connections between gender, social relations of power, and freshwater, gender equity in water policies is still woefully ineffective. In short, there is a failure to "mainstream" gender by integrating it into all water management plans to improve the lives of women and girls, and comply with Sustainable Development Goals. The goal of this work is to systematically examine the effectiveness and degree to which national water management laws, policies, plans, and strategies integrate (or fail to include) gender. It will contribute an urgently needed account of how to better mainstream gender at the national level using case studies of underachieving and overachieving countries.

Past Research: My historical work examines agrarian change in the Vietnamese Mekong River Delta at the individual, household, and deltaic scales. I used rigorous mixed methods to produce qualitative, quantitative, and spatial analyses that interlace social and biophysical data.

"As husband and wife: tradition and modernity in the Vietnamese Portable Family." Vietnam emerged as a rice production giant in the 1990s due to the Doi Moi policies of the late 1980s that encouraged rural-to-urban migration. My exploration of individual experiences of migration probes how men and women are disrupting conventional identities and gender performativity in an increasingly mobile family unit. The study finds that migrant women and the men they leave behind negotiate what the article calls a "Portable Family" identity, based on actions rather than interactions, and oscillating between the urban-productive home and the rural-reproductive home. In essence, rather than disintegrating the family unit, Vietnamese Portable Families are evolving and growing stronger. Unlike other studies of migration and identity in Vietnam, this work gathered data from male and female subjects, and was based in Southern Vietnam where there is a dearth of such investigation. This article is currently under review at *Geoforum*.

"Sustainable and conventional intensification: how gendered livelihoods influence farming practice adoption in the Vietnamese Mekong River Delta." Vietnam's Doi Moi policies privatized land rights in favor of male ownership and promoted adoption of Green Revolution intensive farming practices. The government is currently promoting a sustainable intensification (SI) to reduce environmental impacts resulting from the annual triple rice crop regime. My household-level research, published in *Environment, Development, and Sustainability* in 2020, surveys gendered adoption of the policy. The research finds that female farm plots have significantly lower SI practice adoption, and that there is an indirect gendered impact due to unequal access to natural and human capital that help increase SI adoption. The article concludes with a push for gender-sensitive policy, demonstrating that improved women-only trainings would increase the efficacy of the Vietnamese sustainable farm policy. This article contributes empirical evidence toward understanding the tension between SI and Green Revolution practice adoption, and uniquely explores the gendered implications of the recent SI policy in Vietnamese agriculture.

"Identifying Alternative Wetting and Drying (AWD) Adoption in the Vietnamese Mekong River Delta: A Change Detection Approach." As part of their SI policy, Vietnam promotes AWD, a water-saving rice farming practice. Unfortunately, it is very difficult to determine AWD adoption without deploying thousands of costly household surveys, making it difficult to assess the effectiveness of sustainable water policy across the delta. My geospatial research uses remote sensing to determine whether rice producers are adopting AWD. Using European Space Agency Sentinel-1a and 1b radar data, combined with in-situ moisture readings, I work with ArcGIS and Python to determine AWD adoption through change detection of a time series wetness index. The analysis illustrates an AWD adoption likelihood scale across the delta, showing potential for estimating adoption rates by season and across large areas. The results of this study, a methodological innovation, were published in *ISPRS International Journal of Geo-Informatics* in 2019. I am currently working with the Vietnamese Ministry of Agriculture and Rural Development, along with the International Rice Research Institute, to further develop the approach to estimate the carbon sequestration potential of AWD.

Funding: Throughout my academic career I have consistently secured extramural funding, setting me apart from other early career academics. I successfully financed my dissertation as the Principle Investigator on over $130,000 of funding through a series of large and small grants, including donors such as the Consortium of International Agricultural Research Centers (CGIAR) and Australia AID. I strategically plan out my research and programmatic goals, applying to a mix of private and public funding sources. Since beginning my position at Manhattan College, I have built a record of success as well, procuring over $17,000 of grant funding for direct costs and interns. At the time of writing this statement, I have secured interviews for two additional grants totaling $120,000 should I be successful. My continued pursuit of grant funding will fortify my research program as a stable, thriving environmental governance laboratory.

In sum, my research program uses interdisciplinary methods to understand issues of critical importance in agroecological systems, draws out issues of injustice in environmental policy, and explores new quantitative methodological approaches. I have a solid record planning, funding, and publishing highly relevant research, and a vision for an outstanding career in the environmental field.