

Gender, Geography, and IPM: VA Tech's Kaitlyn Spangler continues her Journey as a "Lifelong Student"



When we imagine geography, we might think *land*.

We might think *hills, terrain, or every dot on the map of the entire world*.

Perhaps instinctively, we think less about how geography is not only place, but also people, and the special relationship between the two.

Kaitlyn Spangler is a recent Virginia Tech graduate with a Master's degree in Geography who studies the distinct connection between people, place, and change. Fittingly, her Master's thesis took her around the world—she travelled to Nepal to study the gendered implications of Integrated Pest Management (IPM) amongst farmers in the Surkhet District of the country.

"I'm sure I could have pursued several different directions after my Bachelor's education," Spangler said, "but looking back now, I can't imagine passing up this amazing opportunity to work with the IPM Innovation Lab and learn such applied, tangible skills as a Master's student."



The IPM Innovation Lab has been implementing Integrated Pest Management technologies in Nepal for over a decade, including projects to increase vegetable yield using compost, assessing the impacts of climate change on biodiversity, and the modeling of the spread of invasive pests, to name a few. Spangler was a Graduate Research Assistant for Women and Gender in International Development (WGD), directed by Dr. Maria Elisa Christie, which is a major collaborator on the Innovation Lab's eight projects in seven different countries. The WGD program works toward promoting and generating gender equality in development projects.

In 2017, Spangler traveled to the Surkhet District of Nepal and conducted 57 household interviews,



11 key informant interviews, 7 focus group discussions, and participant observation over the course of a two-month-long stay. She looked specifically at the ways in which male out-migration, an increasingly common trend where (mostly) men leave their rural spaces for work in urban areas, influences vegetable production and IPM practices, and further, how those variations might affect gender roles, expectations, and standards at household and community levels.

Spangler found that in some cases, when men are gone for several years at a time, women primarily attend IPM trainings and practice IPM on their farms, and in other cases, when men are only gone for a short period, the person primarily responsible for IPM practices depends on complex household negotiations and social trust networks. Spangler's research led her to look beyond the household to farmer groups and cooperatives through relationships that are reinforcing IPM practices in nuanced ways and may help transform traditional gender roles and expectations.

"Participation in the IPM farmer groups and other cooperatives creates windows of opportunity to contest gender norms as men and women engage in collective learning and decision-making practices that did not exist 10 to 15 years ago," Spangler said. "The ability for farmers to gather together and bring women in contact with other women and men allows solidarity to foster and transform over time, which is a benefit beyond learning and practicing IPM."

By the spring of 2018, Spangler had presented her research at two academic conferences and had made several other presentations at Virginia Tech, including the Women and Gender in International Development Discussion Series. She said that generating development projects aimed at fostering community spaces and that consider the subtle but valuable power dynamics of relationships, could help encourage and embolden agricultural technologies and other rural changes to be more sustainable.

"To be a researcher and a lifelong student, I think humility is key," Spangler said. "I try to constantly remind myself how awesome it is to have a job and a purpose that values and relies on genuine curiosity; research is about fostering skills to use curiosity in productive, meaningful, and creative ways. I feel lucky and honored to be part of that."

In September, Spangler will begin a PhD program at Utah State as a University Presidential Doctoral Research Fellow and a Climate Adaption Science Scholar. Her research will focus on understanding how land use diversity amongst U.S farmers influences yield and resilience of major crops such as corn, soy, and wheat.

