Reflection, Empowerment, and Co-constructed Research: Leadership Lessons from an Initiative to Transform Iowa Agriculture

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Summary

Lisa Schulte Moore and the STRIPS team have built long-term, trusting relationships with farmers, farmland owners, agribusinesses, government agencies, and NGOs to test new methods for conserving soil and reducing agricultural runoff into streams and rivers flowing from Iowa into the Mississippi Basin. Having proven their methods and gained local and regional support for them, she is now working with agribusinesses to scale them throughout the Midwest.

Cite as

Schulte-Moore, L. (2018). Reflection, Empowerment, and Co-constructed Research: Leadership Lessons from an Initiative to Transform Iowa Agriculture. Leopold Leadership Program. Retrieved from https://leopoldleadership.stanford.edu

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The narrative project, an initiative of the Leopold Leadership Program in 2017-2018, enabled 10 Leopold Leadership Fellows to share their "knowledge to action" stories. You may find them useful in courses or workshops to describe how researchers engage outside of their academic institutions. The teaching notes are meant to inspire, to provide one approach of using the narrative as a way of teaching leadership.
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Preface

I know what the future of agriculture should look like. This is not a vision that I created. Rather, it is the collective result of in-depth interviews and surveys with farmers and rural landowners; surveys and focus groups with state-level leaders in agricultural and environmental policy; discussions with graduate students and colleagues; and data from interdisciplinary research projects. This vision is both grand and practical, global in scope, and grounded on individual farms. In this narrative, I describe why it is important and how it is having impact. I also share what I learned about leadership that helped me move it forward, as captured in an interview with the Leopold Leadership Program in April 2017. My hope is that in using my case study, you can learn from the process I have used as you encourage positive change in your own communities.

– Lisa Schulte Moore

Overview of film: *Restoring the Balance: Prairie Conservation Strips*

Agriculture is responsible for more habitat conversion, water pollution, and global warming worldwide than any other sector of the economy. Although it produces more calories more efficiently than at any other time in human history, our food production system fails to provide adequate nourishment for one-seventh of Earth's human inhabitants. These failures loom large and threaten the future of agriculture itself through unsustainable soil loss and changes in climate that threaten yields.

How do you change something as big as global agriculture? In this short film called *Restoring the Balance: Prairie Conservation Strips*, you will see the stakeholders of the STRIPS project (Science-based Trials of Rowcrops Integrated with Prairie Strips) describe how they are showing the way forward in Iowa. As the leading producer of corn, soy, pork, eggs, ethanol, and biochemical and agricultural technology in the U.S., the state is also a driver of global agricultural policy. The film shows how the STRIPS team and their partners are transforming Iowa agriculture and shaping the path for making world food production sustainable.

Environmental Leadership Lessons

Interview with Pam Sturner, former director of Leopold Leadership Program 4/20/17

Pam: ***You have a strong commitment to co-construction in your science. How did you get to a point where you didn't believe in extractive science?***

Lisa: You have to look back at where I come from. My family is just one generation removed from people who were butchers, loggers, and farmers; I'm a first-generation college grad. I have insight into the struggles of both the wonderful thing it is to be connected to place and the struggles of people to maintain those connections in our modern society.

I'm fortunate to be the part-owner of a farmstead in Wisconsin that a portion of my family has owned since 1869. My family lost that farm in the 1980s in a struggle like the one so many farms across the country experienced. Due to the convergence of regulation and economic factors, there was a mass exodus of people who lost their land and livelihoods and had to migrate to cities during those years. In the early 2000s my immediate family was able to buy back a portion of the farm. We worked very hard to restore the buildings and the land and make it productive again, not only in terms of traditional agricultural production – it produces berries, vegetables, beef, eggs, and Christmas trees, and someday will produce timber – but we also produce clean water and we're sequestering a lot of carbon. We try to be good stewards of the land.

I've seen how much the farm has meant to me and my family. When we're on the farm, everybody feels a deep sense of peace and connection. I think that people who aren't connected to place have no clue. They sometimes think, "Just pick up and move." Well, we can, but then we're broken; we're not whole when we do that. I feel that I understand those connections in ways that others just cannot.

Pam: ***How did your sense of connection to the land influence you in shaping your research program at Iowa State? What other factors were important?***

Lisa: I came to Iowa State as an ecologist, all set to study ecological types of things. I had two Ph.D. students in my lab, Tricia Knoot and Ryan Atwell. They're both absolutely brilliant, fun people, and we connected right away.

A component of my students' work was doing in-depth interviews with people who had really close and direct connections to the land. As their advisor, I was listening to the interviews so I could understand deeply what patterns were emerging. I came to realize that the environmental struggles unfolding in these landscapes were not occurring for the reasons usually assumed by traditional ecologists. I would hear scientists say, "People just don't know how to manage the land right," or "They're trying to manage it to maximize economic gain." As I listened to the interviews, what I heard instead was that these people were just trying to keep their farm and their connections to the land. When I talk with farmers, it's the first thing they say: "*You've got to keep the farm*." You've got to keep it for your own livelihood, because the skills you have don't translate very well to other jobs. You've got to keep it because your family is depending on you to maintain their deep connections to the land. And you've got to keep it because you've grown up in this community, and you're connected to all these other people who form a cultural group with you.

Pam: ***What themes emerged for you from the interviews with farmers and other stakeholders?***

Lisa: As we talked with farmers, we found a huge openness to thinking about other things they could do on their farms to conserve the soil or improve water quality. However, their willingness to consider different approaches was thwarted by factors that undercut the long-term goal of allowing people to maintain their connection to the land – everything from economies of scale to USDA regulations and incentives. The farmers would recognize, "Yeah, I'm doing things that aren't good for my soil, but I've got to keep the farm, and keeping the

farm means getting bigger, and getting bigger means bigger equipment. I can't farm the way I would like to, because I'm forced by the construction of the system to make these choices that are not in my long-term best interest but are in my short-term interest of trying to keep the farm."

At the same time, we were working with people from the Natural Resources Conservation Service (NRCS), commodity organizations like the Iowa Soybean Association, and environmental organizations like The Nature Conservancy. They were saying, "We know exactly how to change the size of the box; we know exactly what the policy levers are." But they all had such different views of what it meant to sustain farms and farm livelihoods that they couldn't get on the same page about changing policy to help farmers. I saw that in many ways they were looking out for their own best interests more than for the farmers' best interests. But they were all talking the talk of "We're doing this to help feed the world, and we're doing this to help keep farmers on the land."

Pam: ***It almost sounds as if coming into the Corn Belt system as an outsider made your research possible. What are your thoughts about this?***

Lisa: Because I was new to working in the Corn Belt agricultural system, I didn't have the blinders of the past on. I understood what it meant to be deeply connected to the land, like the farmers we were interviewing. In listening to regional power brokers, I could see how their language didn't translate to the benefits that they were aspiring to for the farmers.

Pam: ***You have a clear vision for the future of agriculture in Iowa that was a product of many conversations with different stakeholders. How did you create a vision that is big enough to allow for co-construction when you have potential partners with such divergent needs and interests?***

Lisa: One thing that I've picked out from all these conversations is that the core values of Corn Belt culture are consistent across the groups. Everybody wants to sustain people on the land in perpetuity through agriculture.

Maybe because my students and I were new and open, and we weren't power brokers in the state, people were willing to let down their guard a little bit and have conversations they might not have been able or willing to have otherwise. The way we started conversations was, " Teach us what's going on here." They didn't have to posture with us. I think the attitude of the interviewer or the focus group moderator matters a lot in being able to pull out these commonalities and have an open discussion. We were able to do that.

It's also been an iterative process. I've continued on this research pathway for 14 years now. If you embed yourself in a community and you stay there for 14 years, you have a deeper level of knowledge and trust that gets built than if you're constantly picking up and working with other communities. You see the same people at meeting after meeting after meeting. Once they start seeing you as a part of the community and they've had good experiences with you, they're willing to lend more trust and offer more of themselves in terms of contributing information, opening doors, or helping to secure resources. It becomes about improving our community rather than helping me get my next grant, for example.

Pam: ***How did you decide where to keep showing up? How did you pick your areas and communities to stick with?***

Lisa: You start with the people who are most open to engagement. Not everybody is. From those individuals you get connected to others over time. One example is Doug Davenport, an NRCS district conservationist from southwest Iowa (Taylor and Adams counties).

At one point my lab and I wanted to go on a field trip away from campus. I said, "Let's go visit Doug Davenport." We hopped in the car and drove to southwest Iowa. Doug took us all over Taylor and Adams counties and showed us the problems he was talking about, as well as neat things, like oak savannas and a wind energy development. He also introduced us to one of the key conservation farmers down there. When we got back to Iowa State, we continued the conversation. He said, "You know, thanks for coming down here that day. That really meant a lot." I said, "Oh really?" For me, it had just been something nice to share with my students, and it had felt good to get out of Ames for a day. He was said, "No, that really meant a lot. We kind of figured our state's land-grant university had forgotten about us down here, and you showed us that you didn't."

Pam: ***How did you connect with the first farmer who volunteered to try prairie strips?***

Lisa: As we continued the conversation about how to fix our agriculture, Doug kept saying "biomass," and I said, "How about prairie strips?" Prairie strips are a farmland conservation practice composed of reconstructed prairie interlaced within row-crop fields. Prairie strips achieve many of the goals Iowans have for agriculture – slowing soil erosion, improving water quality, providing wildlife habitat – but they are a lot less of a lift. You don't have to create new markets for them, for example. Finally, he said, "You know, maybe you're right, and I think I might have a farmer down here who would consider doing something like that." I said, "Great! I want to meet him."

In June 2012 about eight or nine members of the STRIPS team went down to southwest Iowa to meet this farmer, Seth Watkins, who would consider integrating prairie into his crop field. It was just an amazing day. We met Seth Watkins. He is about my age and incredibly articulate and outgoing. He took us out to the field where he was thinking about prairie strips. He showed us his erosion problem, and we talked about different designs. Then he prepared this amazing lunch for us, but we had to take a hayrack ride through his pasture for about a mile to get to the shaded spot near a farm pond where he had hauled out his barbecue grill. While he was making lunch, we took a walk on the beautiful remnant prairie, listening to the birds sing and the frogs peep. Our connection to Seth not only formed but also grew that day, because we had this experience of being connected to his farm and hearing about his vision for it and also for his community in this place where his family has been for generations.

Then at another point we were driving through pasture and there were some native prairie species in it, and he said, "What's that?" The botanists in the group said, "Well, that's purple prairie clover, and that one is ox-eye sunflower, and there you've got --" and Seth was listening, clearly wanting to tell a story but so excited to learn more about his farm as a

result of interacting with these university scientists. It was an amazing, fascinating, sobering day all rolled up into one: seeing this solid-gold person, and the struggles that he was experiencing trying to retain his farm for his family, as he was watching the decline of his rural community.

Pam: ***How did the prairie STRIPS program become known and supported within the Iowa Corn Belt agricultural community?***

Lisa: In June, the same month we met Seth, we invited Doug Davenport back to speak as a district conservationist about his experience at our annual STRIPS stakeholder meeting. He was able to give voice to what he saw as the struggles in southwest Iowa to a broader group of people who are much more powerful in the state than he was.

In December the STRIPS team went back out to Seth's farm and helped him lay out the prairie strips on his farm. That next summer, he seeded the strips, and both he and Doug spoke at the STRIPS stakeholder meeting. It was another opportunity to give them an audience with much more powerful people in the state and voice their concerns as rural community members and a farmer in southwest Iowa. The STRIPS team's perspective was, "Wow! We have our first actual farmer who wants to try prairie strips on his farm. It's not just a ridiculous academic concept. Somebody actually wants to do this!"

It was fortuitous that Seth is an excellent spokesperson. The farm media started contacting Seth about why he was trying prairie strips. He also got invited to a big conservation agriculture meeting in Manitoba. I was helping to connect him to these broader, more powerful interest groups. Mark Bittman, the famous food journalist, invited him to be the farmer representative at an alternative food systems conference in New York. Then Seth got invited by a group underwritten by Prince Charles to be the farmer representative at a big conference in San Francisco and to represent Corn Belt agriculture at an international soil carbon conference in France. When I saw him in February, I joked, "So, I'm the person that's doing all the research but you're the person who gets to go on all these cushy trips!" He had this big grin on his face.

That's the perfect way. He's a way better ambassador that I would be.

Pam: ***Why is that? Why is he the better ambassador?***

Lisa: Because as a land-grant university scientist, I'm supported by hardline state funding. My livelihood is not dependent on an idea working or not. Seth's livelihood is. He's the person who's really taking the risk in this situation. For anybody who's working in agriculture, the farmer has the credibility to speak about whether something actually works to sustain farms and rural communities.

Pam: ***That is an incredible responsibility for you as a scientist: the de-risking of ideas so that farmers feel they can take the risk of trying them. How do navigate that responsibility?***

Lisa: That's the space I want to work in. I would say that the kind of work I do is not for everybody, but it's the perfect work for me. I have this deep connection to the land, and I

connect very easily to other people who do, too. I see myself as being in a place of extreme privilege. I've had to work really hard to get to where I am, but now that I'm here, it's a privilege to be at a land-grant university and serve the state of Iowa, serve the farmers I'm working with, and help them to sustain their land and their families for as long as they possibly can.

I thank the Leopold program for helping me be comfortable with the place that I'm in now as a university scientist. It wasn't easy. Iowa is not unique in trying to make sure scientists publish, bring in as much grant funding as possible, and create an international reputation. Those incentives are here, and that's not who I am. But it took me a long time to push back on those expectations of my fellow scientists and have the confidence to say, "No, I don't need to travel to conferences all over the globe," or "I don't need to be successful in securing NSF funding; USDA funding is just fine."

I remember one year having an annual review with my department chair. One of my graduate students had been interviewed by an Iowa-based agricultural magazine called *The Spokesman*. It's a magazine that's put out weekly by the Iowa Farm Bureau. Many farmers across the state get it. It has a circulation of 159,000. There was an article about my student working on prairie strips in one of the issues, and I brought it to my department chair and said, "This article carries more weight than a research article in *Science* in terms of giving me credibility with the kinds of people I want to work with and having the kind of impact with people connected to the land that I seek to have in my career."

Pam: ***Can I ask you what the response was? How did that conversation go?***

Lisa: She got it. She's somebody who's come from agricultural extension, so she understood that. Since then, my work has been covered twice by *The Spokesman*. So that's like three *Science* articles, according to my accounting.

Pam: ***A theme emerging from this conversation is the importance of reflection. It's something that you've taken seriously and that you do regularly and rigorously. Can you talk a little bit about why it's been so important to journal, to reflect, to look at different conceptual models?***

Lisa: I feel that reflection is just such a part of who I am that it's second nature. I think that by nature, I'm a strategic thinker. If you walk into my office right now, I've got a quote pasted on top of my computer screen that says, "What is the action of greatest impact?" I'm very cognizant of not doing busy work. I tend to be the kind of person who says, "I'm going to think deeply about what I'm doing and then figure out what the key actions of greatest impact are." I will then completely realign my goals, my schedule, and my to-do list to concentrate my time on those actions of greatest impact.

Pam: ***You've mentioned the book*** **Getting to Maybe** ***and how important it was for you. What was it was about the book that resonated so strongly with you, and how have you used it?***

Lisa: One message in the book that particularly resonated for me: You can't change the system, but you can work within systems to allow conditions to align such that change can

happen. It helped me better understand my role as a university scientist. What assets do I have? What contributions can I make within this system to help align conditions such that you could actually see change happen? The book provided a pathway to help align things to achieve not only my goals but also the goals that I was hearing all these people articulate for Corn Belt agriculture.

Pam: ***How have your graduate students influenced your current research pathway? Tell us especially about how the interplay of your different perspectives gave rise to the collective vision for the work you would be doing. Are there other ways in which teaching has been important as you moved the prairie strips project forward, and the vision overall?***

Lisa: I always tell students that they have a key asset when working in systems change: Their minds are unfettered and they're usually the most creative people in a group because of it. As the youngest faculty member in the room and a female faculty member in the male-dominated field of forestry at Iowa State, I asked my department chair whether I should just sit on my hands during faculty meetings. He said, "Lisa, if you keep your mouth shut, we all lose." I shared that story yesterday with my students and said to them, "You have a lot to offer, and if you don't share your creativity, your ideas, the openings you see for change, the opportunities to grow, then we all lose." Then I said, "*But,* how you confer that matters." Depending on how you share your message with a group, you'll either be shunned or welcomed. Instead of phrasing things as a statement, I always encourage them to think about formulating a question. "Why do you do things like that? Have you ever thought about this? Would that work? How could that work?"

Pam: ***You've been working in Iowa for 14 years and developed deep relationships. During that time, have you developed a perspective? If so, how do you maintain openness over time? How do you stay curious?***

Lisa: After my Leopold training, I took a strengths-finder test to learn more about who I am and what I have to offer. My top strength is "learner." I am a person who loves to soak up the world. Just by nature, I want to learn, and when I figure something out, that's when I go look for something else to learn. I think that's why I've been so successful working in this interdisciplinary arena: because I so desire to learn. Whereas somebody who's trained as an ecologist would say, "Well, I could never write a paper on economics, I'm like, "Well, why not? Economics is fascinating," or "I could never write a paper about pesticide transport and neonicotinoid uptake by prairie plants," and I say, "Well, why not? This is important." I think it's just one of those things that's a part of who I am. You just need to find the right disciplinary experts to work with. When I think about the farmers with whom we're working on prairie strips, I would say a shared characteristic is that most of them also have growth mind-sets. They are curious about the world. They're not thinking that they've figured everything out about their operations and they'll continue to do the exact same thing for the next two decades.

Pam: ***Is there any other aspect of leadership that we haven't touched on, or that we haven't covered adequately, that you think students who will use this case study need to know?***

Lisa: If you are going to engage with a community on a change effort, you have to be open to changing yourself. I'll make no bones about it: I'm still in this work because of my exceptionally strong environmental ethic. But my goals are bigger now. There's probably a place for working as if you're on a one-way street and you are just asserting your attitudes and values, but not in working with rural or impoverished communities. To work there, you also have care about the people. You have to want to protect and enhance the social fabric as much as the land. You have to be there when they ask for help. You have to work to empower them. I wouldn't say I've gotten this perfect, but I'm trying. If you aren't open to changing yourself, I just don't think you are predisposed to truly understand how a system is put together – what the potential levers for change are and how to use them so that they're actually going to benefit people in that community, rather than continue to restrict their options, erode the community fabric, and impair the land they depend on.