Journal of Agriculture, Food Systems, and Community Development

Volume 8, Supplement 1
July 2018

Food Dignity

Special issue sponsored by:

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JAFSCD
www.FoodSystemsJournal.org
ISSN 2152-0801 (online only)

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Journal of Agriculture, Food Systems, and Community Development

Published by the Thomas A. Lyson Center for Civic Agriculture and Food Systems, a project of the Center for Transformative Action, and with the support of our institutional sponsors:

The *Journal of Agriculture, Food Systems, and Community Development,* ISSN 2152-0801 (online only), is published quarterly (Summer, Fall, Winter, Spring) with occasional supplements by the Thomas A. Lyson Center for Civic Agriculture and Food Systems, a project of the Center for Transformative Action (an affiliate of Cornell University). Journal office: 295 Hook Place, Ithaca, NY 14850 USA.

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Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
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On our cover: With a minigrant from Blue Mountain Associates, Tim and Kathleen Thomas have worked to restore Indian corn varieties to Wind River Indian Reservation. Accompanied by Dr. Virginia Sutter, Mr. Thomas is showing a sample of the kinds of seeds he has shared with gardeners across the reservation, with other Food Dignity partners, and even with a gardener who took some back to try in India.

Photo credit: Christine M. Porter; used with permission; taken in 2012.

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Introductions

Collaborative Action Research

The Thomas A. Lyson Center for Civic Agriculture and Food Systems, a project of the Center for Transformative Action (an affiliate of Cornell University), is grateful for the support of **JAFSCD's partners:**

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Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Introduction—and invitation—to the Food Dignity special issue

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Submitted June 27, 2018 / Published online July 18, 2018

Citation: Porter, C. M., Woodsum, G. M., & Hargraves, M. (2018). Introduction—and invitation—to the Food Dignity special issue. *Journal of Agriculture, Food Systems, and Community Development, 8*(Suppl. 1), 1–4. https://doi.org/10.5304/jafscd.2018.08A.025

Over the course of five funded years and with five million dollars, three dozen community food justice leaders and academics across three U.S. states and nine organizations collaborated on action and research about community food justice, security, leadership, sustainability, and sovereignty. We called this collaboration *Food Dignity*. If you read this special issue, you will hear 20 voices (and about a dozen more, indirectly) presenting some of what we have learned since first proposing the Food Dignity collaboration in 2010 and also striving to make useful sense of it, for ourselves and for you.

In this opening set of essays, leaders of the five community organizations partnering in Food Dignity each describe how and why they chose to collaborate in this project and reflect on their experiences with it (Daftary-Steel, 2018; Neideffer, 2018; Sequeira, 2018; Sutter, 2018; Woodsum, 2018a). Then we discuss how the three of us—the project PI, a community leader with decades of experience in community activism, and a non–

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Funding Disclosure
Food Dignity (http://www.fooddignity.org) was funded by USDA National Institute of Food and Agriculture's Agriculture and Food Research Initiative Competitive Grant no. 2011-68004-30074.

Contributors and Supporting Agencies
Blue Mountain Associates; Feeding Laramie Valley; Whole Community Project; East New York Farms!; Dig Deep Farms; University of Wyoming; and the U.S. Department of Agriculture National Institute of Food and Agriculture.

tenure track academic team member who joined the project a little late—ended up being the ones leading this project to its close, including guest editing this journal issue (Hargraves, Porter, & Woodsum, 2018).

Our guiding research question in Food Dignity was about how U.S. community-based organizations—such as the five that collaborated in the Food Dignity project—do, can, and should promote food security, community leadership, and equity. However, in addition, our struggles in the project to form a collaborative team surfaced another crucial question: how can community and university co-investigators and organizations form a productive, rigorous, ethical, and equitable action-research partnership? This question compelled us for three reasons. First, our participation in the Food Dignity project necessitated that we try to answer it for our own work together. Second, in nearly every one of the dozens of conference presentations we made, a version of this question was the most common one audiences asked us, no matter what the ostensible topic was. Third, and most importantly, we believe this question must be answered in order to produce the most relevant and rigorous answers to the primary research question about how community organizations can and do contribute to healthy, equitable, and sustainable food systems that can feed us all now and still provide for our grandchildren in the future. The *Collaborative Action Research* section of this issue shares a collection of papers about how we worked together and what we learned. They describe the values we outlined for accountability and aspiration (Hargraves, 2018a), how we spent our grant money (Porter & Wechsler, 2018), and how we developed and implemented our case study and collaborative pathway model research methods (Hargraves & Denning, 2018; Porter, 2018a). Finally, Woodsum examines the costs to community organizations of doing community-based action research (2018b). Mundane as some of those papers might sound, we think each offers something that is breakthrough. This includes breaking through the "fourth wall" that can prevent our professional selves from showing up as humans in our work, including acknowledging human struggles and our reproductions of systemic inequities.

The *Community-led Food Justice Work* section shares some of what we learned about how and why U.S. community-based organizations work for food justice. "Learning from Community-designed Minigrant Programs in the Food Dignity Project" examines how the five community organizations designed and managed a US$30,000 minigrant program in their communities (Hargraves, 2018b). "'Ultimately about Dignity': Social Movement Frames Used by Collaborators in the Food Dignity Action-Research Project" empirically identifies the social movement frames food justice leaders are using publicly, and within the more private confines of our collaboration, to diagnose the problems, identify solutions, and motivate people to get involved (Gaechter & Porter, 2018). Two papers assess community-based food production. "Growing Our Own: Characterizing Food Production Strategies with Five U.S. Community-based Food Justice Organizations" focuses on programs and strategy (Porter, 2018b). The next paper, "What Gardens Grow: Outcomes from Home and Community Gardens Supported by Community-based Food Justice Organizations," examines multiple forms of positive outcomes (Porter, 2018b). The commentary closing that section, "Going Public with Notes on Close Cousins, Food Sovereignty, and Dignity," situates the work of these five communities and of our collaboration in the context of international movements for food sovereignty (McMichael with Porter, 2018).

The final section, *Further Reflections*, offers more perspectives on community-university partnering: from graduate students in Food Dignity, steeped in the academic norms of research but situated in between academic and community sides of the project (Bradley et al., 2018); from a researcher on cover crops conducting participatory action research with urban gardeners (Gregory & Peters, 2018); and from faculty members at a teaching-focused college working to develop meaningful and equitable community-campus engagement opportunities as part of their curriculum (Swords, Frith, & Lapp, 2018). The essay that opens that section summarizes the formal education work we did in Food Dignity (Porter, 2018d).

Although the papers in this special issue are

written to stand alone, we have also designed this volume with an eye toward a collective wholeness if it is read like a book. We invite readers to notice at least three things if reading this issue as a whole. One, the mix of voices and styles across these papers range from first-person reflections by community leaders working on the front lines of change to formal, heavily referenced reports by university-based researchers. Two, we share a diversity of processes and methods for inquiry into remaking community food systems, with personal and organizational journeys as important to answering our research questions as examinations of outcomes. Three, this collection of papers about our collaborative research on sustainable community food systems goes beyond issues of food production, distribution, and access. This triad reflects that tackling a problem as wicked as food security and sustainability entails both an ethical mandate and an epistemological need for diverse and inclusive ways of knowing and working. The tensions and strains we have wrestled with are inherent in this project's attempt to reach for equity, and will be inherent in any effort that seriously addresses the structural and historical challenges facing many communities. We are fiercely proud of our collective accomplishments and also humbled by our feelings of frustration and shortfallings relative to the standards we set for our work.

Finally, we invite you to notice what is not here. For all the diversity we have strived for, a formal, scholarly style of analysis and presentation still leaves out important ways of knowing. This collection of articles is only one way that we are communicating our discoveries and perspectives. The Food Dignity website includes digital stories, learning guides, collaborative pathway models, and more exploration of the themes in this special issue and beyond. We invite you to join us at http://www.fooddignity.org and in this special issue, hoping that what we have learned will help everyone working for a just food system to inform and expand our work toward equity and dignity. 

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Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Entering into a community-university collaboration: Reflections from East New York Farms!

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Submitted April 11, 2018 / Published online July 18, 2018

Citation: Daftary-Steel, S. (2018). Entering into a community-university collaboration: Reflections from East New York Farms! *Journal of Agriculture, Food Systems, and Community Development, 8*(Suppl. 1), 5–7.
https://doi.org/10.5304/jafscd.2018.08A.013

I worked as the director of the East New York Farms! (ENYF) Project for seven years, from 2006 to 2013. As media interest and general excitement about sustainable food grew during that time, assessing potential opportunities for "partnership" and participation in the broader world of sustainable food work (that is, outside East New York) became an increasingly important part of my role and an increasingly significant way in which we defined what we were, and were not, about.

The route to participation by ENYF in Food Dignity started with Megan Gregory, a Ph.D. student at Cornell, inviting our then farm manager, David Vigil, and some of our youth leaders to speak at a conference in Ithaca, New York. I remember David coming back and telling me that "they treated us like royalty," as he described being picked up in Ithaca, taken out to dinner at the world-famous Moosewood Restaurant, and generally welcomed and appreciated by Megan and the other hosts at Cornell. We accepted the invitation to this conference largely because of the leadership-development opportunity it afforded to our youth members to share their experiences in food justice work and hear from others. Had it been an invitation for just our staff to speak, we may not have felt that we could justify committing the time to this; invitations to food-related conferences were frequent, but we always prioritized our work on the ground.

In May 2010, Megan reached out to David to assess our interest in joining as a partner in the Food Dignity project (not yet so named) and made an introduction to Christine Porter, who was finishing her Ph.D. at Cornell. Looking back at that email, which David forwarded on to me, I think a few things made it an appealing invitation. First and foremost, the intention of the proposal was aligned with our goals and the work we were already doing (more on that below). That was, of course, the key component. But other, smaller elements probably helped too. At a simple level,

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the description of our participation included a budget (then described as about US$50,000 per year for each partner). So it was clear from the beginning that this was not a situation in which we'd be asked to contribute many hours in exchange for a US$500 honorarium or something like that. The fact that it was a five-year project was also important in making us feel that our investment of time and learning would be worthwhile. In addition, the other project partners were already identified at that point, and it seemed that our work could be strengthened by joining a long-term learning community with those peer organizations doing similar work in different locations and contexts all over the country. Lastly, the initial offer came from someone we'd worked with, had a good experience with, and had reason to trust (Megan).

In terms of the direct relevance to our work, there was a clear connection in the intention to provide microgrants—something ENYF had already been working toward for some years. In 2004, when we were a grantee of Heifer International, it helped us to develop a revolving loan fund, which we named the Backyard Exchange Fund. This fund was managed by a committee of gardeners and helped us to directly support projects that our members wanted to initiate. This model of responding to and supporting community leadership was always important to ENYF. But the fact that the Backyard Exchange Fund provided *loans* was challenging. Not because people took out loans and didn't pay them back—they did, in fact—but because it seemed that taking on a loan was a deterrent. Understandibly, we didn't receive many applications. None of our gardeners was pursuing a project that would be so profitable for them as to think that taking out a loan would be wise or safe, especially because selling products within our community at affordable prices has always been a focus of ENYF and our market vendors. To encourage more applications, we tried at one point providing a combination of loans matched by grants, which seemed to encourage a few more applications. We had long felt that if we could provide grants rather than loans, we would be better able to support community members to increase access to fresh food in East New York.

While I don't think we, or perhaps I, fully grasped the scope and benefits of the research component of Food Dignity at first, I believe we still saw value in getting support to capture and share our stories—with assurance that researchers would help us to answer the questions that mattered to us. We imagined these stories could help us in demonstrating the true value of our work to funders and potential funders, and in better understanding and articulating the impact of that work ourselves.

Those combined factors made it feel worth it for me to set up a conversation with Christine, made me walk away from that conversation feeling like it was a viable opportunity to discuss with the rest of our staff, and made us ultimately feel that it was a good opportunity to pursue. And the next steps—writing a letter of support, reviewing budgets and the scope of work documents—were not too onerous and were spread out over a couple of weeks. Throughout that process, it felt clear to me that Christine was making a real effort to communicate with all of us, incorporate our input, and respond to our concerns.

I think it's relevant also to note that ENYF may have had the lowest barriers to overcome in considering a partnership with an academic institution. Through the course of the Food Dignity project, I learned much more about the historical and current tensions between universities and communities, and even between individual academics and their institutions. But for me certainly, and I think for most of us at ENYF, universities and academics had just never been much of a reference point for our work—either because New York City is such a huge city that no university seems to cast a significant shadow (and certainly not in East NY), or maybe because ENYF had on average the youngest staff among the community partners. We had neither strong positive nor negative associations. To even say that academic and research institutions felt far removed from our work might overstate the degree to which we were thinking about them. They just felt like a nonfactor.

I think that there were many reasons for ENYF, and me as the project director, to have a healthy sense of caution around developing new partnerships. After all, the world of sustainable food work is vast and only a small portion is

rooted in community leadership in the same way that we strive to be; the work of small neighborhood-based organizations is often not truly valued in the design or implementation of partnership projects; and East New York and East New Yorkers have been on the losing end of many plans and promises. I'm grateful that, in this case, we were able to run this invitation through all of our filters and find an opportunity to work in genuine partnership. 

Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Entering into a community-university collaboration: Reflections from the Whole Community Project

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Submitted May 19, 2018 / Published online July 18, 2018

Citation: Sequeira, E. J. (2018). Entering into a community-university collaboration: Reflections from the Whole Community Project. *Journal of Agriculture, Food Systems, and Community Development, 8*(Suppl. 1), 9–11. https://doi.org/10.5304/jafscd.2018.08A.014

When asked to tell the story of how and why I was invited and decided to join the Food Dignity research project, I found myself traveling back over a long road full of unexpected turns, bumps, discoveries, and delights. And as I began to reflect over the five years spent implementing that project in Tompkins County, New York, I was once more awed by the countless stories to be told and knew that, at best, I could offer merely a glimpse of the wonderful and challenging experiences that were ultimately instrumental in learning valuable lessons for cultivating sustainable food systems. In sharing the process and results of being part of such a unique opportunity, I hope to both inspire and challenge readers to explore the possibilities that can exist when the sustainability of our food systems places a high value on everyone experiencing "dignity" in their relationship to food—whether as a consumer, entrepreneur, farmer, composter, or activist.

The name for this project, Food Dignity, came about during one of the many conversations I had with Dr. Christine Porter in the early days of the project's development work. We often went back and forth sharing ideas about just about everything concerning food. While our conversations were frequently intermingled with heroic ambitions, unbridled venting, fear-based doubts, and recycled analysis, something was different about this conversation. When Christine asked, "what does it take to make the food system work for everyone?", the first thing that came to my mind was dignity—isn't this all about dignity? Within the context of the Food Dignity project I use dignity to describe what I believe should be an intrinsic right of all humans. I believe food dignity is reflected in one's ability to experience respect and equal access to means of knowledge, resources, authority, and power in order to influence and make informed decisions on all food-related issues—including the foods available for us to put on our own plates, what's served in schools, or how zoning affects small-

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scale farm development.

It was exciting and terrifying to have years of frontline work on community food issues rolled into a formal community-university collaborative research project. I was excited because I saw possibilities. I was terrified of having to navigate through a federal U.S. Department of Agriculture (USDA) grant and having to work within a powerfully academic environment. It was terrifying because I didn't know what the rules were. I certainly had a lot to learn. But, I was excited because I was beginning to see that various parts of my life were coming together to fulfill an unusual role that had great meaning not just for me, but for the people on whose behalf I'd been working for so long, and for a transformative vision of the food system that could pave the way toward achieving a vital part of social justice.

Two events will always be memorable for me along this five-year journey: the first time I met Christine Porter in 2007, when she asked to interview me for her Cornell graduate research on the relationship between health disparities and food justice; and when I learned the Food Dignity research proposal was awarded.

Talking with Christine during that first interview is when I learned about the emerging food activist movement. The interview questions and information resonated with my work at a small nonprofit where I served as the director of outreach to the medically underserved community. It was quite a surprise when only a year later I would be employed at Cornell Cooperative Extension of Tompkins County (CCETC) and find myself working with Christine, who was doing her PhD at Cornell University at that time and was working closely with CCETC. When the Food Dignity project came along three years later, I saw it as an excellent framework to deepen our earlier conversation, work, and research.

By the time the Food Dignity project was underway, I'd spent decades in a variety of frontline roles as a service provider and activist on behalf of people living with poverty, health challenges, and a plethora of consequences bearing down on them as the result of the vast spectrum of socially sanctioned oppressions rendering them marginalized and disenfranchised. Taking on a leading role in one of the project's five community partner sites, I faced a huge learning curve as I delved into research about food systems, including its relationship with and responsibility to address food insecurity. As the academy released a plethora of scientific research on obesity, diabetes, and other chronic health conditions, the research data on demographics revealed disturbing and compelling evidence highlighting the relationship between people with chronic health conditions and their relative inaccessibility to fresh, healthy, and affordable food in their communities.

While I was informed and motivated by this sudden flood of formally gathered and disbursed information, I wasn't entirely comfortable with its format. The science and analysis behind my life's work on behalf of individual and community health seemed to stand apart from the reality of people's lives as I had come to understand them, and had in many ways lived them myself. Even now, as I think about everything I learned as the result of becoming part of the Food Dignity research project, it's the life stories that continue to carry the most important lessons.

It was humbling to watch at a distance as people arrived to stand in line waiting for the food pantry to open the door; many would arrive an hour early to make sure they could get the best selections of donated foods. Many frequented the pantries as "regulars" and were dependent upon food pantries to feed themselves or their family. Emergency pantries are an absolute necessity in crisis situations, but regular dependence on emergency pantries doesn't provide healthy sustainability for anyone.

I'll never forget the stories I heard from people while they waited in line at the pantries and the local soup kitchen. I felt deep respect when I listened to seniors talk about not having enough money for food, medicine, and living expenses, or a couple with two young children who lost their incomes in one devastating month. They admitted how they never thought they would have to depend on a pantry to feed their family and that they didn't want people to see them getting food, but couldn't allow their pride stop them from feeding their children. Being immersed in the Food Dignity project work was a unique chance to give

honor to the heartbreaking realities of food insecurity experienced by people in my own community and across the country.

From that first exhilarating day of finding out the Food Dignity research project had been funded, I felt as though I was racing through one of the most powerful educational experiences of my life. Great lessons came to me because I said "yes" to being part of this project. When a community's residents do not have access to affordable, healthy food, it should unapologetically *demand* our attention. We must send a clear message that our food systems are failing to meet a basic human right—that is, the access to healthy affordable food. The collateral damage resulting from the absence of this right can be seen in poor health, suffering, and growing health costs. I was resolved that the problems of food insecurity were rooted in the economic realities of poverty, including under- and unemployment. More importantly, I was resolved that solutions exist within the local food system.

At a regional conference in Binghamton, New York, I learned how agriculture was a significant economic driver for the region. This led me to see the need for more local food production and the means to transport that food to food-insecure communities. This combination of increasing food availability and access along with business development and job creation within the food system became the clear path in my mind to how local community food systems can be fully sustainable. And if done well, true community access to institutions like Cornell University, Ithaca College, and Tompkins Cortland Community College could be an asset for supporting the local community efforts in business development, nutrition education, farming, food sciences, and more.

Throughout my tenure as a community organizer with the Food Dignity project, I envisioned ways to not only improve access to healthy foods, but to create opportunities for economic development in the food system. I saw no reason why people had to depend on food pantries for fresh food in such a lush agricultural landscape as what's all around us in Tompkins County.

I leveraged the Food Dignity resource package to offer minigrant, educational, and training opportunities, including paid research contracts with farmers, gardeners, and nonprofit agency leaders in Tompkins County. My efforts were driven by an important goal: to help develop their capacity for leadership to foster innovative solutions for areas of concern within the Tompkins County food system.

For me, emerging support for food system leadership development within the project was focused on people who represented low-income households and people of color. This approach was deliberate and intentional to address the common challenges I experienced and heard expressed by White liberal grassroots food activists at meetings. I felt constantly pummeled when attending public interest meetings, wondering where were the people of color and the low-income folks? In my experiences attending any kind of event with local food activists and organizers, I was usually one of few—if not the only—person of color present. Because the demographic makeup of the people organizing for food activism often didn't match the makeup of the people who were actually living with the challenges we were trying to address, I knew firsthand the valuable input that individuals actually living with the problems we were discussing could contribute to creating a culturally rich food system that values food dignity as the soil for a sustainable future.

As the Food Dignity project came to a close, all five community partners came together in celebration of the wealth of knowledge, wisdom, creativity, and profound experiences we shared throughout the five years. In that short span of time, the Food Dignity work represented the courage, critical thinking, compassionate understanding, and difficult interpersonal communication among people with different educational, socio-economic, cultural, and racial identities. The impact of this work cannot be captured in a short narrative; I invite you to explore how the Food Dignity project cultivated efforts to identify the value of dignity in the sustainability of our food system. Peace.

Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Entering into a community-university collaboration: Reflections from Blue Mountain Associates

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Submitted April 11, 2018 / Published online July 18, 2018

Citation: Sutter, V. J. (2018). Entering into a community-university collaboration: Reflections from Blue Mountain Associates. *Journal of Agriculture, Food Systems, and Community Development, 8*(Suppl. 1), 13–15. https://doi.org/10.5304/jafscd.2018.08A.012

If I can do something to help my people, and to help other people understand Indian people better and to appreciate our culture, then I have done what my father asked me to do in 1969 when he asked me to come home to the reservation and help my people in whatever way I could. In the last 50 or 60 years of my life, with the assistance of other people, I have been able to make some changes.

When my son, Jim Sutter, and I came back home to Wind River Indian Reservation, we knew our people needed health and human services, not just more clinical services. We thought we especially needed to help people with food and nutrition. More generally, I thought that other people—researchers, academics, historians—need a better picture of what we Indians are all about in ways that neither glorify us nor demean us. Too often we are portrayed only on one side or the other.

So, when Dr. Christine Porter called me in 2010 to ask if Blue Mountain Associates (BMA) would like to collaborate with the University of Wyoming regarding a grant called Food Dignity, it seemed to fit exactly what we were looking for. We thought we should collaborate with Christine because she has the academic background, while we know the people. We know their abilities. We know their culture and history. Between the two organizations, we could correct a lot of the wrongs done to this reservation.

However, Jim and I needed to think about what would be the best way to do that. We were concerned that we had only worked with Indian programs, and this would be our first experience working with a university that was not an Indian group. Over the years, so many researchers have come from the outside to study Indian people, and we have had to overcome a lot of inadequate and inaccurate studies about our people. We don't forget those things, just like we don't forget genocide attempts against our people. It's not written, but it comes down through our history. We have storytellers and historians who keep accurate records of what happens in our tribe.

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With the knowledge we had of this, we knew it was going to take a very special program to reach our people and have them to trust us to do it the Indian way while still satisfying our funders. Many academic people are kind of pushy, and that was a hurdle that we thought we would have to get over. A lot of people had tried and given up. A lot of people in Indian country had gotten discouraged and just didn't feel like they were getting to have any say in partnerships like this. It often turned into a bunch of white people bossing them around, when what we wanted was to be included in the planning and to be in charge of implementation, to become the ones actually doing the program.

I remember how uneasy I was when I brought Christine to present the Food Dignity program to the Joint Council of the Eastern Shoshone and Northern Arapaho tribes. I thought there was a chance they would throw us out, but they were very polite. Christine made her presentation in a respectful and dignified way, with no "you have to" or "you need to," and it turned out they were our best allies. Christine was the kind of person that blended in well with the Indian culture. She didn't push and yell, but instead was soft-spoken and asked us how we would like to do things.

That really impressed me when we started with Food Dignity. There was no rush, no pushing or shoving. It was more like joining hands with all the Food Dignity partners and saying "let's do this together," with the University of Wyoming, Cornell University, and four other community partners—Whole Community Project, East New York Farms!, Feeding Laramie Valley, and Dig Deep Farms. The project respected that each community would have its own culture, environment, growing season, and community input. Yet we all had to address the same problem of trying to ensure everyone has access to abundant and nourishing food, both now and in future generations. We said: you show us what works for you and we'll show you what works for us, and then we'll work together to blend those in a way so that the people giving us the grant will be satisfied, and on the reservation we'll find some information about what really works best for our health.

We needed that information from the community. The best thing we could do was gather the leaders and talk to them directly. So when we got the community group together, we chose leaders from each tribe. We invited people who were well thought of, people who had been leaders all their lives, to whom other people listen, whose relatives in the tribe had respect. They were very willing to work with us. One of our best collaborators was a close relative of Chief Washakie among the Shoshones. We also had my ties to the Northern Arapaho Chief Sharpnose, who was my great-grandfather.

Each day BMA became closer to the community, and the university became more comfortable working with BMA in learning about Indian culture. And what impressed me the most in the first year was that both tribes sat down together and worked together in a program with no dissention. Historically those two groups did not get along together, and then to work with white people, too, involved three cultures. It was a real hurdle to get those three cultures on the same page. And in the very first year of Food Dignity, we were able to do this.

And then we invested in the community directly. Many people had never had enough money to buy seeds and other supplies they needed to grow food commercially. With support from BMA, in the Food Dignity program, with the money people could buy and plant seeds. For example, one family started with just US$2,000 to help them get started with raising chickens to share and to sell eggs in our community. They grew that into a chicken business and then started two more businesses. A member of their family has published a book for children with stories from our culture. Another community member used to have just two horses on her land. Now she has developed a big garden, is a growing lot of potatoes, and has shown our community how to build a root cellar like our ancestors did. She keeps her potatoes, her cabbages, and her canned fruits there. Her brother cut the wood for the cellar from the mountain, and with all the food she was growing for her family and selling at the farmers market, she was able to help buy her brother some breeding horses. Consider these little bits of money and look what they did with it. With little starts like that people can go out and do a lot of things.

When we look back, we are really proud that people accepted the money not as a token gift, but as an investment in their lives to be something, to do something. They didn't think it was welfare, and they made good use of it. They showed us what they had done with their money to the dime. A lot of people in a situation like that would take the money and forget about it, but every one of the people we worked with was part of the community, and our community leaders were behind them and were watching them. I think that is why we had such good luck. Together we made a world of difference in the approach to promote better health and food sustainability among our tribal people on the Wind River Reservation.

Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Entering into a community-university collaboration: Reflections from Feeding Laramie Valley

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Submitted July 9, 2018 / Published online July 18, 2018

Citation: Woodsum, G. M. (2018). Entering into a community-university collaboration: Reflections from Feeding Laramie Valley. *Journal of Agriculture, Food Systems, and Community Development*, *8*(Suppl. 1), 17–22. https://doi.org/10.5304/jafscd.2018.08A.017

Having Feeding Laramie Valley become part of the Food Dignity research project was a unique opportunity to contribute to a new body of knowledge associated with food systems work—to have the voices of the people of our community and our organization be heard. Not just heard, but taken seriously and emulated. And, because we would be part of a national collective of other communities, with the added benefit of being partnered with several highly regarded universities, our voices would take on a new identity—one of expertise in helping to define best practices for addressing local food insecurity.

That sounds good. Solid, confident, visionary. Small-town nonprofit does good, benefits from networking and collaboration. It's even kind of true.

But as is typical for a fledgling grassroots organization bent on accomplishing frontline social reform, the way we might publicly characterize our efforts doesn't always fall in line with the full reality of how we actually experience them. In the course of scrambling for support and recognition, community-based organizations learn what language to use, what partnerships to foster, and most importantly what narratives to put forth in representing our missions. It's how we crack open doors to institutions and power brokers capable of backing us—and legitimizing our work. It's how we manage to gradually then steadily tap into streams of funding that will not only grow, but become consistent and sustainable. Refining the presentation of our activism is how we survive.

How we learn to survive, however, can also be the means through which we sometimes lose our way. This is especially true when the paths we take involve building purported partnerships with entities that possess greater financial backing, more persuasive power, and more of a standard default position of universally recognized expertise than

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Funding Disclosure
Food Dignity (http://www.fooddignity.org) was funded by U.S. Department of Agriculture–National Institute of Food and Agriculture's Agriculture and Food Research Initiative Competitive Grant no. 2011-68004-30074.

what we have. This kind of inherently inequitable stance in the world means that attaining true partnership is going to be at the very least a formidable challenge, and quite realistically may be impossible to achieve.

In the spring of 2010, a project promising multiple community-university partnerships and involvement in community-based participatory research (CBPR) was what landed at my feet through the proposed Food Dignity research project. I heard myself saying "yes" before I really understood what I was agreeing to. I stand by the words I used to open this essay. But they're the words of a community organizer who understands the value in presenting oneself like a team player—an amiable and eager-to-please team player, if at all possible. Offering up more of the truth, or a slightly different angle on the truth, has the potential to put all the players at risk. It also has the potential to upgrade the level of rigor attached to CBPR and the level of importance to be derived from its findings.

Therefore, I'm going to begin the story of Feeding Laramie Valley signing on as part of the Food Dignity project again.

Christine Porter made a cold call to me in the late winter of 2010. Or maybe it was lukewarm in the sense that, the way I heard her tell it, she'd made other calls to people in Laramie, Wyoming, who were said to be involved in community food systems work, and when she told them what she was looking for, they told her she needed to call me.

The first time Christine spoke to me about the Food Dignity research project, it was just an idea, an application in process. Community food systems research composed of five communities across the country, for five years, with five million dollars in funding. Laramie wasn't a random choice for Christine. She was finishing up her doctoral work at Cornell University, had accepted a position at the University of Wyoming, and figured it made sense to include Laramie as one of the proposed communities for the project she envisioned. I remember feeling pleased to be called that first time, and polite about the enthusiasm I heard in this young stranger's voice who dared to believe she could make a successful bid for the first major grant she would ever write, with just six awards being offered across the nation.

Beyond that, I didn't think much about it all. I was an absolute neophyte in the budding world of community food systems work. To me, food systems work meant organizing a day-long workshop on gardening here in Laramie, in a high-elevation, 56-day growing season; helping to organize and build a community garden in one of Laramie's lovely parks; bringing in a greenhouse and producing fresh vegetables to serve at the local senior center I was directing; and mostly finding other people in Laramie for whom the concept of local food was a high passion, and who could teach me about what that meant in larger, yet practical, everyday terms.

The next time I heard from Christine, a few weeks had passed and my world had flipped. I was unemployed, newly single, and perched in temporary housing. Christine Porter was deep into the massive pile of requirements that accompany a federal grant application, so I quickly jumped into "things are kind of different from the last time we spoke, but everything's great" mode. I figured if she was confident about her ideas for tracking community-based efforts to reduce food insecurity, I could be happy to do my part. I may have been cut loose from life as I'd known it, but I was able to reassure Christine about the viability of the food systems work I'd started: I was working with a coalition of people installing a garden in a city park, and three of us were getting ready to launch a food rescue and distribution project at Laramie's farmers market.

And, by the way, my long-time nonprofit organization, Action Resources International, had 501(c)(3) status and a DUNS number in good standing. Which meant, in what I believed to be the unlikely event this research grant was awarded, the Feeding Laramie Valley project I was trying to hang onto would be legally capable of subcontracting as one of the Food Dignity project community sites. Seeing how I was kind of desperately in need of paid work at that point in time, was committed to not letting Feeding Laramie Valley (FLV) die young, and learned that Christine's proposal included a little bit of funding for staff and project support at community sites, I agreed to review

drafts of the overall grant as well as draft a scope of work for FLV.

While the formal concept of community food systems work was new to me, community organizing for social justice was not. I'd been fostering constituent-led activism for a variety of causes since the early 1980s, always from a grassroots platform and always from scratch. I'd never gotten over the notion that leaping into thin air on behalf of lost causes and unheard voices was well worth doing, mostly because my own adult life seemed to have been launched from such a wellspring. After living and working from this perspective for nearly 30 years, I'd managed to add some skills to the mix—as well as a heavy dose of the reality involved in making a lifetime commitment to social activism.

So when Christine Porter called, in the fall of 2010, to say that she and the University of Wyoming, in fact, had been awarded one of the few U.S. Department of Agriculture–National Institute of Food and Agriculture (USDA–NIFA) research grants, I received the news with a mixed reaction of emotion and strategic planning. For the most part, the money (in the form of the community support package provided to each community site) would be Feeding Laramie Valley's first award of funds that would cover a five-year span of time, and included money for personnel. This isn't the kind of thing that typically happens in a grassroots startup. The vast majority of nonprofit funding sources prefer to support well-established programs with fully backed infrastructure already in place. When they do provide program funding, salaries are rarely included as allowable expenses.

Like me, Feeding Laramie Valley was bursting with activity and vision but hanging on by a financial thread. Suddenly (if the project, its community volunteers, and I could survive another six months or so) I was facing the promise of five years of a basic funding stream that would help support projects underway, a small part-time salary for me, plus part-time wage support and minigrant support for community members. Feeding Laramie Valley was also about to claim a place as part of a national, community-led food systems movement. This constituted a windfall, for which gratitude bubbled in my veins.

But even as I absorbed the hopes being raised for FLV, and while I was deeply sincere in offering well-deserved congratulations to Christine Porter for landing the grant, my decades of experience with the reality of change-the-world efforts created more of a quiet but definite grating sensation at the back of my brain. We hadn't won the lottery. We'd signed on for a research project that carried with it a long list of requirements (or, as we would come to know them, deliverables), all associated with research under the auspices of several universities and their academic cohorts. In spite of the grant application's liberal use of verbiage referencing social justice tenets of various sorts, the bottom line was that I was signing Feeding Laramie Valley, myself, and a bunch of other community folk into an alliance not of our making, and one harboring a history not known for its respect of community-based knowledge as being equal to what's generated in the academy.

My education in social activism came from the streets of desperate need to see fundamental change happen in the world. My teachers were childhood oppression and violence, followed by the formidable mentoring of women who created the first organized network of safe houses for victims of domestic violence, launched the Take Back the Night movement, offered up lesbian separatism as a fountain of respite care, and pummeled hard against the ignorance of my white-skinned, hetero-passing, class-privileged packaging.

By the time the Food Dignity project invited me to be part of its enterprise, I was chock-full of what my friend Lina Dunning says is being a woman who knows too much. Which is why, when I began to sign on the contractual dotted lines in so-called partnership with the University of Wyoming and a web of extraordinarily diverse people and agendas in the name of food justice, there was an internal voice nagging at me. The voice would say, "You know better than to do this."

It seemed like a reasonable assumption that a study on the growing and distributing of healthy food across five disparate communities would be relatively angst-free. I also clung to the hope that something we'd had only a small part in creating was going to provide opportunities that enhanced rather than burdened our young organization. I

signed that first contract, quickly began to fashion the kind of public statement about the decision, which ended up sounding much like my opening paragraph for this essay, and dove in head first.

Seven years later, it's not possible to overstate the impact the Food Dignity research project had on Feeding Laramie Valley, the communities of Laramie and Albany County in Wyoming, and on me—both personally and professionally. The best of what I'd hoped for and the worst of what I'd feared rolled out in a demanding stretch of time that challenged everyone involved. Much of it sorted itself into predictable categories.

The fact that this was a research project provided a context for FLV that was unusual for an organization just beginning to define and claim space for itself. The mandate to record and reflect on every aspect of our work—in far more depth and with greater discipline than classic grant reporting—helped staff and volunteers take a more serious look at what was being accomplished, while paying greater attention to the details of every element in each project. Community gardening wasn't just about the number of plots, the signed agreements, and whether or not the rules were being followed. Being part of the Food Dignity project created added layers of looking at the details behind what gardeners were choosing to plant and why; how soil health, watering practices, and companion planting increased yield; and how plot stewards came to learn about them. Beyond that, the design of the Food Dignity research component encouraged FLV to capture photographs and interviews with community and backyard gardeners as well as small local farmers. These explored community-based perspectives, experiences, and vision for how growing one's own food influences food access, food security, and a personal sense of food sovereignty. Because staff, community advisory board members, and participants connected to Feeding Laramie Valley were motivated and encouraged by its community-driven mission, and because FLV as an operating unit took the Food Dignity project's grant narrative to mean that community language, knowledge, and experience was highly respected and valued, this ongoing baseline for the project was a positive one.

As the Food Dignity project came to life, however, the potential pitfalls I'd feared at the start began to emerge as actual bumps in the road; although it would, perhaps, be more accurate to call them bone-jarring potholes. A major cause was the scope and sheer magnitude of cross-country involvement between deeply passionate community organizers and intensely committed academics. The harsh reality of this vulnerability in the plan was first revealed during the first of six national all-team meetings built into the project. It was there, and at every subsequent meeting, that both language and voice rose to the surface and emphasized the chasm between the Food Dignity community leaders and its academic team members (as well as among them). The diversity in geographic location, race, ethnicity, gender, lifestyle, and experience among the community-based social activists stood in stark contrast to the all-white group of researchers with academic standing and leadership roles in defining and delivering supremely rigorous research results.

Putting face and voice to the extraordinarily disparate group Christine had assembled threw an instantaneous spotlight on contradictions intrinsic to how the Food Dignity project was likely to play out. With an emphasis on gathering community knowledge and narratives related to multiple project interests (food production, minigrant programs, photo essays), the project proposal itself suggested a unique approach to standardized research practices and goals, even for the less structured approach of community-based participatory action research.

The level of experience and expertise in the fields of community organizing, sustainable food security, and social justice among the community leaders stood toe-to-toe with the level of expertise held by members of the academic team in their own specialty fields. But there was nothing in place from an original design standpoint that sought to bridge the gap between the accustomed standards and procedures of academic-led research and the realities of community-led, frontline activism dedicated to social change. By partnering highly regarded, cutting-edge fields of study, organizations, and individuals without a strategic plan for analyzing and then bridging the fundamental differences between them, it was predictable that

each would be inclined to cleave to its own familiar process for managing perceived and real power differentials. This made for rough going when communication inevitably slid into separate camps of perspectives between the studier and the studied, management and the managed.

Nevertheless, the same intensity of position and perspective that caused internal conflict throughout the span and work of the Food Dignity research project also created some truly unusual and meaningful outcomes that really *could* be described as collaborative and in the spirit of partnership.

Feeding Laramie Valley, based in the same community that housed the university that received the Food Dignity project grant and employed its director, was given the opportunity to serve in a lead role on projects that included:

- distribution and support of US$30,000 in minigrants to community food projects over several years;
- production, publication, and two public receptions for displays of a series of photos, narratives, and videos capturing historic and innovative community food systems accomplishments;
- a four-year study on backyard and community garden yields in a high elevation, Zone 3–4 region;
- development and implementation of a paid summer educational internship program in food systems work, including food production and distribution based on a local food sovereignty model; and
- convening and facilitation of a joint community-academic advisory group for the development of a food systems track for a sustainability minor at the University of Wyoming.

Dozens of people in Albany County became involved with community food systems work through projects that were funded at least in part by the Food Dignity project. Although much of the work was piecemeal and temporary, FLV would ultimately be able to leverage those start-up opportunities into what has become a robust and growing employment base. Two of FLV's team members on the Food Dignity project now have full-time, management-level staff positions with the organization.

Feeding Laramie Valley's value and recognition in the community were definitely enhanced by being involved with the Food Dignity project. It was also challenged by its association with the university's connection to the project, which sometimes led to the university being credited with the existence and accomplishments of the community organization.

There's no doubt that what the Food Dignity project brought to Feeding Laramie Valley in national and even international exposure to opportunities for learning and presenting would not have occurred as quickly nor to such an extent without that connection. The personal and professional relationships developed between FLV and the project's four other community sites were, and continue to be, extraordinarily meaningful.

I'm always entertained by how we can look back over any stretch of time in life and think, "Wow, look how young we were!", even when we weren't young at all when standing at that particular starting gate. I was 55 years old when the Food Dignity research grant began in 2011. I stepped into the embrace of that one-of-a-kind, complicated project with my own complex mix of skepticism and hope, dragging an entire organization and a big chunk of a community along with me. There was nothing clean or straightforward about my choice to take the step, and the seven years following that decision went in directions I never anticipated.

Ultimately, the framework envisioned by Christine Porter held true. It enabled a breadth of learning and accomplishment to take place that could not possibly have been imagined at the start, nor within the pages of the formal proposal. The strictures and ignorance unavoidably embedded within the list of grant deliverables were countered by the unparalleled mix of brilliance, courage, creativity, and stubborn belief in the ability to make substantial change in the world that came with the people who made up the Food Dignity project team over the years. It was almost as if whatever trials and tribulations came to life as a result of the

flawed aspects of the project were precisely what shed light on a better, alternate path. There was enough flexibility built into the project that some of those alternate paths could be successfully undertaken and added to the body of work.

As for the alternatives that were needed but would never be served by the project's scope or goals, time is already seeing some of them emerge in subsequent community-based efforts. For example, Action Resources International has taken the seed of collaborative pathway modeling planted within the Food Dignity project and has begun to utilize it as a unique tool for community-based and -led collaboration research, development, implementation, and evaluation. Feeding Laramie Valley is serving as a statewide AmeriCorps VISTA program through which VISTA members work full time to assist with sustainable capacity-building for emerging grassroots social change efforts. The organization has joined forces with groups across Wyoming to begin development on multiple food hub sites.

If the Food Dignity research project ended up accomplishing anything at all, it succeeded in providing a five-year opportunity for a diverse array of activists, scholars, and students to dig at, uncover, and radically challenge both the notion and reality of truth-saying on topics that extend beyond its surface mainstay of community-generated responses to food insecurity.

I made the decision to have Feeding Laramie Valley join the Food Dignity research project because we needed the money, and in the back of my mind I thought it might provide a helpful boost to our understanding of what community food security, sovereignty, and sustainability could mean. As a result, I was catapulted into an entire world of people investing the very best of who they are, in service to understanding the truth of the way in which equity, justice, and access are kept out of reach, and to help create the means to not only remove barriers but to change the landscape on which lives are built. I may not have known this was the gathering that Feeding Laramie Valley was being invited to, but I'll never lose sight of the honor it ended up bestowing on all of us as a result of being part of it.

Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Entering into a community-university collaboration: Reflections from Dig Deep Farms

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Submitted April 11, 2018 / Published online July 18, 2018

Citation: Neideffer, M. (2018). Entering into a community-university collaboration: Reflections from Dig Deep Farms. *Journal of Agriculture, Food Systems, and Community Development*, *8*(Suppl. 1), 23–25.
https://doi.org/10.5304/jafscd.2018.08A.011

We found a way to grow carrots, to look people straight in the eye and say, "*That's* good community policing."

It was an unusual process that ultimately led the Alameda County Sheriff's Office in San Leandro, California to become one of the five community sites across the country participating in the Food Dignity Research project. Signing on to that project opened a new door for us to execute the vision we had for our work in community food production as part of community policing. The most beneficial aspect of it was to be with people who were like-minded and didn't think we were crazy.

In 2009, elements of the Alameda County Sheriff's Office and the leadership of the Alameda County Deputy Sheriffs' Activities League, Inc., (a nonprofit corporation established to leverage crime prevention efforts of the sheriff's office), came to a conclusion: poverty, in all its various aspects, is a root driver of crime. Therefore, to credibly address crime in the poor, underserved communities of Ashland and Cherryland, we had to first address the issue of poverty.

It's important to note that, at this point, "elements" of the sheriff's office and "the leadership" of the Deputy Sheriffs' Activities League (DSAL) amounted primarily to two people—myself and a young, dynamic community organizer named Hilary Bass.

I started the DSAL in 2004 when, as a deputy working as a school resource officer, I recognized the need for low-cost recreational and enrichment activities for local low-income kids. I began working with Hilary soon thereafter. She began her career in Ashland as the resident services coordinator for Mercy Housing and later served as the youth leadership coordinator for the Alameda County Community Action Program (ACAP). Through the DSAL, I developed funding for youth activities that connected kids with sheriff's deputies. Hilary stretched those dollars as far as they would go, creating a Youth Leadership Council and an assortment of other youth programs. We

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officially joined forces in 2008, when Hilary took a job with the sheriff's office as the program specialist and program director of the DSAL.

On April 17, 2010, we decided to take on poverty directly by starting Dig Deep Farms, a community-based social enterprise that would provide local residents with healthy food products at low cost; it would also provide living wage jobs to people coming out of our jails. We were wildly ambitious. We developed a business plan that had us moving into the black within a year. We designed an egalitarian business model inside and out, one that managed the project with an Urban Agriculture Committee made up of local residents, sheriff's office employees, and Dig Deep Farms personnel. We hired 10 people from the neighborhood to become our first team of urban farmers, none of whom had farmed before. We were a little freaking crazy, but we were off and running.

We believed Dig Deep Farms to be a foundational element of our emerging prototype for 21st century police reform. The success of Dig Deep Farms as a social enterprise was going to be important, but so also would the pain and struggle of a tumultuous start-up process that bound the sheriff's office and the community to a project intended to change systems and improve lives. Our theory of change as it relates to police reform is simple: if you work with people on what's important to their lives, and you stay committed to their goals with them over time, the people will come to trust you…they may even come to love you.

Dig Deep Farms broke ground with the aid of a US$15,000 grant from Kaiser Permanente and a US$50,000 grant from the Koshland Fellows of the San Francisco Foundation. We leveraged the funding from Kaiser Permanente up against US$80,000 from the federal government by way of the American Reinvestment and Recovery Act, and used the US$95,000 to hire those 10 community members, most of whom had been involved in the justice system before. We paid them US$20 an hour.

We used the Koshland money to hire local food activists Hank Herrera as the general manager of Dig Deep Farms and Grey Koleveson as the farm manager. As it would turn out, Hank's genius rested more in his ability to envision a future where local people built a food enterprise that could grab market share and create jobs than in his managerial ability to create it. We never came close to achieving the revenue goals of our business plan. Before long, our money began to run out. We had to cut our urban farmers' pay by half, our community-led steering committee began to fall apart, and our ambitions of turning a profit were downsized to prayers for survival.

This was the point at which we became a community partner in the five-year Food Dignity research project, which would ultimately help lead us to national recognition as a community effort involved in developing a locally sourced and led food system. As an action research project infused with language about systems change and social integrity, what was included in the Food Dignity project seemed like the ideal grant process—one that would allow us to build a system like the one we wanted to build and had envisioned all along.

The community support package that came with the Food Dignity project grant turned out to be a crucial element for the survival of Dig Deep Farms. Those grant funds (which averaged US$65,000 per year) kicked in as other funding sources ran dry, essentially keeping the project afloat financially and promising some baseline stability for the next five years—a much longer period of time than had been afforded by the grants we'd been pulling in up to that point.

Maybe even more importantly, by agreeing to become part of the Food Dignity research project, a new door swung open for us to enter the world of social activism through community food systems work. Overnight, we became partners with a couple of dozen food systems activists across the nation—each site unique geographically and demographically, each focused on a slightly different core mission and approach, yet all of them committed to community-led change that would increase equitable access to healthy food. It was incredibly valuable to have the Food Dignity partners show solid faith in our project and our people and to experience the partners' willingness to see through the storm to the sincerity of our vision. It gave us a sense of legitimacy and the confidence to push forward.

But being part of the Food Dignity project had its challenges, too. There were several elements of

the support package part of the grant that didn't entirely square with what we were trying to do.

It took all our energy and resources to build the vision we'd created; to divert any of it out of that process and into someone else's idea of what constituted community support was a hardship for our project. Yet, that was part of our learning experience, too—how to use funds that required us to do a number of different things while we were also developing a business with a social mission. The sum total was that it was still about the best kind of grant we'd ever gotten. Being part of the Food Dignity project made all the difference at a crucial time in our development.

Since the darkest days of our sometimes chaotic start, Dig Deep Farms has replaced its general manager four times, and several supervisors have come and gone. More than 70 individuals have held full- or part-time positions or internships with Dig Deep Farms. Most of those folks came to us after doing time in jail. Many employees and interns went on to find other, better paying jobs. Some were terminated because of poor attendance, work performance, or other issues. Some were terminated because of our inability to understand and manage through their unique circumstances. We've tried to learn from our mistakes.

In 2011, Dig Deep Farms gained access to 5 acres (2 hectares) of county-owned hillside land where we planted a 500-tree orchard. In March 2018, we received funding from Alameda County to dig a well and run irrigation on 10 acres (4 ha) of land owned by the Masonic Homes of Union City. Construction on Dig Deep Farms Food Hub and Commissary Kitchen is due to be completed in July 2018.

The sheriff's office, the DSAL, and Dig Deep Farms are pioneering local efforts on a "Food is Medicine" model, whereby physicians from Children's Hospital in Oakland are prescribing fresh produce to prediabetic children and their families, and Dig Deep Farms is providing produce deliveries.

Dig Deep Farms is under its most stable management to date, and its nine full-time employees are laying a foundation that will include the creation of more jobs in our emerging local food system.

One final thing: In 2014, Dig Deep Farms—this urban agriculture social enterprise started by the sheriff's office and joined by a sprawling, sometimes anarchic, network of the formerly incarcerated, hipsters, foodies, doctors, funders, cops, political leaders, county agencies, nonprofits, local residents, and others—was named by the California State Association of Counties as the Golden State's most innovative program. The award offered some official validation that efforts to build a local food system constitute innovative community policing.

I am now a captain, having been promoted twice since we started Dig Deep Farms. I currently oversee the sheriff's office Youth and Family Services Bureau, which includes a sworn and professional staff of 44 devoted individuals, all of whom are dedicated to neighborhood-building and innovative community policing.

We are changing the way people view policing and the way they view food systems. We're making people understand that these are intrinsically connected. Dig Deep Farms and the Food Dignity research project have been key components in our efforts. We will keep putting one foot in front of the other, with the understanding that the journey is the destination.

Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Leading Food Dignity: Why us?

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Submitted July 10, 2018 / Published online July 18, 2018

Citation: Hargraves, M., Porter, C. M., & Woodsum, G. M. (2018). Leading Food Dignity: Why us? *Journal of Agriculture, Food Systems, and Community Development, 8*(Suppl. 1), 27–31. https://doi.org/10.5304/jafscd.2018.08A.026

Introduction

Together, Christine Porter, Gayle Woodsum, and Monica Hargraves led the action and research project called *Food Dignity* to its close, seven years after it began in 2011. Though playing this role could not be a surprise for Christine, who was principal investigator, the three of us doing it together was not part of the original leadership plan. In this three-voiced essay, we aim to answer the question, "Why us?"

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Monica

For me, the answer to that question is rooted in how the project opened my eyes, challenged my professional identity, and is still rewriting my sense of self. No other work project has ever made me as distressed, inspired, infuriated, and ultimately (reluctantly, sometimes) grateful as the Food Dignity project has. For all the moments that almost drove me away, the promise of the project and the integrity and determination of the people involved—most often the community leaders—

Funding Disclosure

Food Dignity (http://www.fooddignity.org) was funded by USDA National Institute of Food and Agriculture's Agriculture and Food Research Initiative Competitive Grant no. 2011-68004-30074.

Contributors and Supporting Agencies

Blue Mountain Associates; Feeding Laramie Valley; Whole Community Project; East New York Farms!; Dig Deep Farms; University of Wyoming; and the U.S. Department of Agriculture National Institute of Food and Agriculture.

were things I could not walk away from.

I came to the project a little late, invited in because I was a former economist and a current evaluator. (The person who had been slated to evaluate the economic impact of the minigrant programs—a key part of the grant support to partnering community organizations—had had to withdraw.) An initial meeting with Christine and a few others involved with the grant introduced the project's questions about how communities create equitable and sustainable food systems. I was drawn to the idea of learning from community organizers on the front lines of social justice work and I thought that the approach to evaluation that I had been trained in might be particularly useful for the minigrant programs that community organizations were going to design. So I signed on.

I had missed the first national project meeting, but learned it had been very contentious, with clashes—both overt and hidden—between academics and community leaders that had rattled the project's launch. That was the first hint that I might be in way over my head, as I'm uncomfortable with conflict and unfamiliar with the age-old inequities that were being named and battled within this research collaboration. When it came time for me to facilitate a session about the minigrants at the next national meeting six months later, I was nervous. Evaluation is not most people's favorite topic at the best of times, and my distance from the realities of the on-the-ground work of these diverse community organizations could well have raised opposition. Somehow I got through my self-introduction and discussion session, and despite revealing some of my naiveté and ignorance over the course of the day, I was treated graciously by this group I was so nervous about. I learned a lot over the subsequent years from the meetings, site visits, anti-racism workshops, project presentations, and especially one-on-one conversations with community organizers willing to teach me things I needed to learn about the reality and consequences of systemic oppression. I gained a deep appreciation for the challenges and goals of community-based food justice and social justice work, the tenacity and insight of community leaders committed to this work, and a sensitivity to what I could never fully know because of my privileged position in this world thanks to skin color, socio-economic status, formal education, and numerous other sources of privilege.

Several experiences over the course of the project, both negative and positive, anchored my respect for the work of community leaders and expanded my commitment to the project. One arose from having given an extensive in-person interview to academic colleagues. They conducted an appropriate, respectful, sensitive interview exploring my history leading up the Food Dignity work and my experiences in the project so far. Mine was the first of several interviews they were planning to do. I was engaged by their thoughtful questions and attentive listening and felt comfortable talking to them, so I was shocked by an intense after-effect of painful vulnerability and distress. It took me some time to recognize that part of it was because it was so lopsided: the interview had all the attributes of a personal, intimate conversation, but ended up feeling extractive because I was the only one sharing interior truths about myself and my journey. I felt exposed and raw, and suddenly glimpsed what community members meant when referencing a pattern of researchers coming to town, extracting ideas, insights, and inspirations from a community, and then leaving to analyze it all and package it up for external purposes. I had never felt like a research subject before and suddenly I did. My discomfort was all the more unexpected because I was in an incredibly safe position, being interviewed not just by colleagues but by friends who I trusted fully.[1] Amazingly (to me), my feelings of violation and appropriation were then redoubled when, in a later national project meeting, a facilitator referenced the distress I had experienced and had shared in private conversation, and used it to make a point

[1] I remain good friends with these colleagues, in part because they listened carefully when I shared with them what this experience had been like for me. They wanted to understand why, since they were consciously doing the work with all the sensitivity and delicacy that the protocol for that kind of narrative inquiry calls for. My reactions were eye-opening for all of us.

about…well, I can't even remember the point. I was stripped bare again, and felt compelled in that group setting to stand up and protest the new violation of having someone else using and putting words to my experience. It was a powerful awakening. If this small episode for me revealed a piece of the reality of what communities face or risk in working with researchers, what else was also true?

Other galvanizing moments came in internal academic team meetings, where individuals expressed frustration with how hard it was to work with community members—time intensive, complicated, full of communication delays, and ultimately not "productive" at all in terms of the usual academic markers of publications or new grants. One academic colleague even observed that we already knew all this stuff, books had been written about the issues being discussed in national project team meetings, and there was nothing to learn. The basic premise of the Food Dignity project—that community members and leaders have unique and valuable expertise and that the goal was to learn from and with them—made sense and had captivated me. Clearly some academics felt very differently or found the realities too burdensome. This challenged my sense of belonging; these were my colleagues, academia was my workplace, and its language and culture were familiar. I came away from these meetings angry and frustrated, and increasingly unsure of where I belonged.

One of the deeply rewarding parts of my work in the project—one that gave a positive anchor for my commitment to it—came from the expansion of my role beyond its focus on minigrants to include working deeply with each community organization to develop what we came to call Collaborative Pathway Models. This methodological innovation (described elsewhere in this issue, Hargraves & Denning, 2018) is values-driven work that requires a foundation of trust and close listening. Our conversations in the process of developing those models were intense, detailed, and full of things that mattered. That work gave me an extraordinary opportunity to learn, form relationships, and feel connected across the entire project and with all the community partners. The desire to try to do justice to their work is a strong motivation for me.

My growing understanding and sensitivity to the nature of community-based work made the more recent writing of journal articles much more difficult, raising new rounds of professional self-questioning. Everything I had learned in my collaboration with community partners included an alive wholeness and complexity that made academic, dispassionate language and styles of analysis feel painfully inappropriate and reductionist. I struggled to write papers that felt accurate and true, did justice to their subjects, and also met styles of exposition and analysis that academic papers require. Peer reviewers have responded to my first drafts of manuscripts for this journal as, variously, too academic or too informal and lacking in analysis. Getting to that Goldilocks '"just right"' balance has forced me to question my work and myself more deeply—ultimately leading to better papers I believe, but it is challenging nonetheless. At the same time, given all the ways that community-led work is underfunded, under-recognized, and discounted, the stakes felt very high; we have an opportunity from the Food Dignity project to bring important community-led and collaborative breakthroughs to light, and that is both a responsibility and a privilege.

There were many moments in the course of the project where I found myself immobilized by frustration or seeming impasses, and each time I re-engaged by returning, eventually, to an understanding that these struggles and messes are the *real* work of projects like Food Dignity, and are a measure of its accomplishment. There is no way to undo the kinds of systemic problems the world faces without encountering and persisting despite these kinds of individual and shared challenges, setbacks, and restructurings. I have found the community leaders in Food Dignity to be gritty and determined in their battles against the forces that oppress and challenge them. This has inspired me to keep trying.

That inspiration, together with all that I have learned, are why I am still engaged, still wrestling, still pained by my shortcomings, but persevering in the work of the Food Dignity project.

Christine

I did not set out to be this project's principal investigator (PI) and project director. When I saw the

call for proposals, I hadn't yet finished my doctorate. I first tried talking more senior people at Cornell University into being the PI, as I was still living in Cornell's home of Ithaca, New York. I also asked another applying team elsewhere if I could join them. Neither attempt worked. However, once I decided to apply myself, based on the faculty position I had accepted at University of Wyoming, in Laramie, I was clearly going to be *a* project leader if it were funded. When it was funded, I started out as *the* project leader.

Gayle became involved in the project as the founder of one of the five community-based organizations that partnered in the project, Feeding Laramie Valley. Almost as soon as I moved to Laramie in July 2010, she began offering me leadership coaching and support—from the most experienced community organizer on our team to the least experienced academic.

Monica joined us after I (very) actively recruited her a few months after the project started in spring 2011. We had lost our project's economist to a "sister" project that was funded at the same time as Food Dignity. When Monica described herself as a "recovering economist," I knew she'd be perfect.

In October 2013, Gayle and I were on a city train bound for Brooklyn to visit East New York Farms! It was my first project travel since finishing treatment for stage-3 cancer that August. Everyone in the project supported me through that, personally. In addition, first Gayle and then Monica stepped up to help carry the weight of the project itself. Sitting on that train to Brooklyn, I did not feel sure I was going to make it, in several senses. Gayle, having gone down that cancer tunnel before me in 2012, knew that feeling. I asked her if she and Monica could lead the project to its end, if I could not. Among other things, Gayle said yes. That is why, and when, I knew: however much more power I would have and more credit I would get, it was the three of us, together, who would shepherd the project we called Food Dignity.

Gayle

There's nothing like asking three people to independently answer one question in their own words and from their own perspective to bring about an absolute rainbow of response. If those answers are then melded into one cohesive item, the process might be referred to as a collaboration. As Monica, Christine, and I finalized the content for the Food Dignity project's contribution to this journal, adding the essential bits that would serve as something of a tour guide to what readers will find here, it occurred to us that it might be helpful to share why, out of three dozen active participants in the many years the Food Dignity project operated, it's we three who remain as the team shepherding the final report-out. As we discussed who might draft the answer to that question and what form it should take, another need presented itself: the need to have a place to address some of the personal aspects of taking part in leadership roles for this project. This *Why Us?* essay gives a nod to both those needs, letting go for the moment of any attempt to merge our very different voices and experiences.

In my mind, still working on behalf of the Food Dignity action research project long after the subawards and expectations of doing so had run out, has a taste in it of "the last women standing." In other words, someone had to do it and we three were the ones who kept showing up. Formal commitment and responsibility also had something to do with it; Christine was the PI and project director, Monica had added projectwide collaborative pathway modeling (in addition to minigrant program evaluation) to her job description, and I've been serving as the project's community liaison since late 2013.

Like Monica and Christine, however, the fact that my name is one of three attributed to having a leadership role in the Food Dignity project is not just a formal designation. Within months of becoming a participant in this project, I could feel the experience identifying with and attaching itself to the 35-year journey I've been on as a social-justice activist. Which is to say, it's never been simply a job or an assignment to me.

I've been enriched in more ways than I could have imagined possible as a result of having the Food Dignity action research project and all of its players being spotlit for me every day since the spring of 2011. I've seen food growing in challenging and beautiful places: on a hillside

overlooking two unincorporated cities in California, with a view of San Francisco Bay; in the long shadows of the Wind River mountain range, the home of the Northern Arapaho and Eastern Shoshone people in north-central Wyoming; in the burning, high-elevation sun and punishing winds of the Laramie Valley in southeast Wyoming; beneath the rusting, rattling elevated train tracks that traverse the neighborhoods of East New York; and across the backyards and rolling fields of Ithaca's breathtaking dance between urban and rural identities.

I've always been a countrywoman with wanderlust, and my love of the land serves as the backdrop to every memory I hold. My Food Dignity project memories are draped with the lovely ruggedness of the communities and their people who offered up, with great generosity, the wisdom and struggles that live there. For a while, I got to witness what and how these communities successfully fight for their right to access to healthy food. One does not take that kind of privilege lightly. That's why I've stayed on to be part of passing along the stories they tell, the truths they embrace, the vision they are bringing to life. That's why I'm honored to have been given this opportunity to work and be counted alongside the loving, fighting spirits of Monica Hargraves and Christine Porter.

Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Introduction to the Food Dignity Values Statement

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Submitted June 26, 2018 / Published online July 18, 2018

Citation: Hargraves, M. (2018). Introduction to the Food Dignity Values Statement. *Journal of Agriculture, Food Systems, and Community Development*, *8*(Suppl. 1), 33–35. https://doi.org/10.5304/jafscd.2018.08A.018

The Food Dignity Values Statement was drafted at a national project meeting in May 2014, three years into the community-university collaboration that was the Food Dignity action research project. The project brought together academics from four universities and community leaders from five community-based organizations working to strengthen their local food systems. The goal was an action-research collaboration to support and learn from and with these community organizations about how to build equitable, sustainable, and just local food systems: "Food dignity as a premise and Food Dignity as a research project are both steeped in recognizing that community people hold the knowledge and ability to ask the right questions and find the right answers to their own needs" (Porter, Herrera, Marshall, & Woodsum, 2014, p. 124).

An ethical sensibility was part of the project from the beginning. The grant proposal narrative itself had declared that "Our project title, 'Food Dignity,' signals both our ethical stance that human and community agency in food systems is an end in itself and our scientific hypothesis that building civic and institutional capacity to engage in [sustainable community food systems] for [food security] action will improve the sustainability and equity of our local food systems and economies" (Food Dignity, 2010). But as we learned in the

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Author Disclosure
Hargraves serves on the board of directors and consults for Action Resources International, the sponsoring organization for Feeding Laramie Valley, one of the community organizations partnering in the Food Dignity project.

Funding Disclosure
Food Dignity (http://www.fooddignity.org) was funded by USDA National Institute of Food and Agriculture's Agriculture and Food Research Initiative Competitive Grant no. 2011-68004-30074.

Contributors and Supporting Agencies
Blue Mountain Associates; Feeding Laramie Valley; Whole Community Project; East New York Farms!; Dig Deep Farms; University of Wyoming; and the U.S. Department of Agriculture National Institute of Food and Agriculture.

course of the project's internal struggles over voice, research design, ways of working, and knowledge hierarchies, it is a long journey from ethical goals to operationalized, lived, and shared values (for example, in this issue see Hargraves, Porter, & Woodsum, 2018; Porter, 2018; Porter & Wechsler, 2018; Woodsum, 2018).

The declared commitment in the Food Dignity project to seeking, welcoming, respecting, and making place for diverse ways of knowing and sharing information was both personally and professionally challenging for many in the project. Tense national project meetings and side conversations in which the gulf between academic and community experiences and approaches played out led us to incorporate workshops on structural racism and systemic oppression, and to hire a facilitator to assist us during our national project meeting in Detroit in 2012. Those efforts—as well as growing mutual understanding from site visits to all the partnering community organizations, informal interactions, and growing relationships across all the divides—made the work intense, but slowly strengthened our ability to collaborate.

Progress remained uneven, however. As our May 2014 national meeting approached, several people in the project (myself among them) felt a need for an articulated set of values that could be used to improve clarity, shared commitment, and accountability. A "Food Dignity Values" option was added to the concurrent discussion sessions at that national meeting. A small group of participants developed a draft statement during that session. The full group at the meeting reviewed, amended, and later approved the statement of values below.

The statement is not a description of what we succeeded in doing in the Food Dignity project. True collaboration across divides of power, culture, and purpose is difficult—perhaps impossible if the structures that sustain and perpetuate those divides

Food Dignity Values Statement

Adopted May 2014

We value the fundamental dignity, worth, sovereignty, self-determination and the inherent power of all people. As members of the Food Dignity project, we are committed to principles and ways of working within our own work and in the changes we wish to inform and inspire in the world, by:

- combating all forms of racism, oppression and implicit bias;
- respecting and valuing the individual and shared journeys of the people, the project and the histories of our communities, including historical trauma;
- valuing authentic first-person voice and first-person knowledge;
- valuing the different ways that people live, work and relate to each other;
- valuing the act of listening and specifically listening long enough to achieve shared meaning;
- valuing seeing and being seen, listening and being heard, becoming real to each other, recognizing that an important kind of knowing is experiential and lived;
- valuing accountability to one another and to the work for both the intention and impact of our words and actions;
- and persevering through the challenges that come with our inclusion and engagement of differences

as we strive to achieve equity for every human being and personal, institutional, structural and systemic transformations.

are not dismantled. We learned a great deal, but we fell short in many ways. Nevertheless, the guidance in the values statement reflected hard-won insights and captured our aspirations for how collaborations ought to work.

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Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Triple-rigorous storytelling: A PI's reflections on devising case study methods with five community-based food justice organizations

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Submitted February 25, 2018 / Revised May 10 and June 5, 2018 / Accepted June 5, 2018 / Published online July 18, 2018

Citation: Porter, C. M. (2018). Triple-rigorous storytelling: A PI's reflections on devising case study methods with five community-based food justice organizations. *Journal of Agriculture, Food Systems, and Community Development*, *8*(Suppl. 1), 37–61. https://doi.org/10.5304/jafscd.2018.08A.008

Abstract

Case study research provides scholarly paths for storytelling, with systematic methodological guides for achieving epistemological rigor in telling true stories and deriving lessons from them. For documenting and better understanding work as complex as community organizing for food justice, rigorous storytelling may proffer one of the most suitable research methods. In a five-year action-research project called Food Dignity, leaders of five food justice community-based organizations (CBOs) and academics at four universities collaborated to develop case studies about the work of the five CBOs. In this reflective essay, the project's principal investigator reviews methods used in other food justice case studies and outlines the case study methods used in Food Dignity. She also recounts lessons learned while developing these methods with collaborators. The community co-investigators show her that telling true stories with morals relating to justice work requires three kinds of methodological rigor: ethical, emotional, and epistemological.

> *Want a different ethic? Tell a different story.*
>
> – Thomas King, *The Truth About Stories* (2005)

Keywords

Case Studies; Food Dignity; Research Methods

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Funding Disclosure

Food Dignity (http://www.fooddignity.org) was supported by Agriculture and Food Research Initiative Competitive Grant no. 2011-68004-30074 from the U.S. Department of Agriculture's National Institute of Food and Agriculture.

Contributors and Supporting Agencies

Blue Mountain Associates; Feeding Laramie Valley; Whole Community Project; East New York Farms!; Dig Deep Farms; University of Wyoming; Cornell University; and the U.S. Department of Agriculture National Institute of Food and Agriculture.

Introduction

Some of the social theories and research methods I studied as a Ph.D. student seemed so intuitively obvious that academics claiming them, and often disguising them with unintuitive monikers, annoyed me. I would joke that I was using "the walking method of pedestrian theory." I would employ that simple phrase for complex reasons. I felt it mocked academic exclusion via discursive obfuscation or co-optation of common wisdom (such as knowing how to walk). Yet I hoped it still honored the nearly infinite complexity of understanding and changing human society (which is at least as complex as understanding how those with able bodies walk, and how that ability can sometimes be recovered when it is lost). It is this scale of complexity that social science research aims to help understand and improve, including tackling the most wicked of social problems. For example, how do, can, and should U.S. communities build community-led food systems that generate sustainable food security for all? These are the questions we[1] posed in a community-university action, research, and education project that we called *Food Dignity*, for which I served as the project director and principal investigator (PI).

The opening paragraphs of our project application to USDA National Institute of Food and Agriculture (USDA NIFA) invoked the journeys taken by the five community-based organizations (CBOs) who had agreed to partner in Food Dignity. It also outlined the journey we proposed to take together over the next five years:

> Community and social movements for food justice and sustainability suggest paths to an alternative, much brighter future, and they are making these paths by walking. In this integrated research, extension, and education project, we propose to trace the paths taken by five US communities and to collaborate in mapping and traveling the most appropriate and effective roads forward for creating sustainable community food systems (SCFS) for food security (FS).
>
> Our project title, "Food Dignity," signals both our ethical stance that human and community agency in food systems is an end in itself and our scientific hypothesis that building civic and institutional capacity to engage in SCFS for FS action will improve the sustainability and equity of our local food systems and economies. (Porter, Food Dignity proposal narrative, 2010)

Starting in April 2011, we were awarded US$5 million for five years (which we extended to seven) to complete our proposed work. Using case study methods with the five CBOs was our primary approach to answering our triad of do, can, and should questions mentioned above.

In this essay, I share and reflect on my journey of developing and implementing these case methods with the Food Dignity team. This is partly a traditional methods paper, which summarizes our data gathering and analysis approaches. I embed that within an autoethnographic meta-methods paper, addressing the process of devising these methods while striving to meet ethical, epistemological, and emotional standards of rigor in our case study research. This "triple-e" rigor is what I mean by *rigorous storytelling*. Mentors, friends, students, and partners in Food Dignity generously tried to teach me how to do it and to do it with me. Here, I trace my journey of learning to try to collaboratively tell true and important stories about community-led work for food justice.

Case Study Research Methods

As an academic trained in western forms of science, I think of research as using systematic methods to generate new knowledge or understanding. According to indigenous research methods scholar Shawn Wilson, "Research is a ceremony… The purpose of any ceremony is to build stronger relationships or bridge the distance between our cosmos and us" (Wilson, 2008, p. 137). I have strived to bridge the distance between these research paradigms via rigorous, participatory, and ethically driven storytelling methods.

[1] I use "our" and "we" in this paper to denote the dozens of community- and university-based co-investigators in the Food Dignity collaboration.

Postmodern philosopher Lyotard (1979/1984) calls narrative "the quintessential form of customary knowledge" (p. 19), an idea which contrasts with western notions of scientific knowledge. However, by using systematic methods to document and develop true stories, researchers claim the scientific research mantle for case study narratives.

That said, as one scholar laments, "Regretfully, the term 'case study' is a definitional morass." He offers the following definition of 'case study': "an intensive study of a single unit for the purpose of understanding a larger class of (similar) units" (Gerring, 2004, p. 341-342). One aspect that he and three oft-cited case study methodologists (Merriam, 1998; Stake, 1995; Yin, 2009) agree on is that case studies are "bounded." For example, in Food Dignity, our primary case studies are bounded by the work of the five food justice CBOs.

As part of my dissertation work at Cornell University, I developed case studies with three community-based childhood obesity prevention projects in the U.S. northeast (Porter, 2013). I employed common sense, I thought, my "walking method of pedestrian theory," in immersing myself in each case using multiple approaches. I was inspired by social science method guides (Flyvbjerg, 2001; Maxwell, 2005), worked under broader philosophical influences (including Foucault, 1972/1980, 1981; Habermas, 1981/1984; Lyotard, 1979/1984; McDonald, 2004; Sandoval, 2000; L. T. Smith, 1999), and consulted academic guides on several forms of qualitative data gathering and analysis. However, when it came time to write the case study chapter of my dissertation, this all seemed unconvincing to cite as a case study method since none of these were specifically case method references. In a semipanic, I read Stake's *The Art of Case Study Research* (1995), Merriam's 1998 guide, and Yin's 4th edition of *Case Study Research: Design and Methods* (2009). In a technical sense, Yin's guide closely mirrored the approach I had been taking. I claimed, almost entirely post-hoc, that I had employed his case study methods.

Though his approach has been critiqued for being too reductive and positivist (Bartlett & Vavrus, 2017; Yazan, 2015), Yin provides a highly practical and granular guide to case methods. He defines and describes case studies as follows:

1. A case study is an empirical inquiry that
   - investigates a contemporary phenomenon in depth and within its real-life context, especially when
   - the boundaries between phenomenon and context are not clearly evident.
2. The case study inquiry
   - copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result
   - relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result
   - benefits from the prior development of theoretical propositions to guide data collection and analysis (Yin, 2009, p. 18).

Yin also outlines why case study methods are well suited to answering "how" and "why" questions and for understanding complex and current events (Yin, 2009, pp. 8–9). He suggests that these methods offer the most promising research approach when investigator "control of behavioral events" is not possible and when the "goal will be to expand and generalize theories (analytic generalization) and not to enumerate frequencies (statistical generalization)" (Yin, 2009, p. 15).

These parameters and Yin's definition apply to community-based food system and food justice work. Therefore, like many other researchers doing work about community food system and food justice projects, activities, and organizations, I proposed to use case study methods in Food Dignity. Continuing the mostly traditional methods part of this paper, next I review previous relevant case study research and share the case methods we used in Food Dignity.

Case Study Methods Used with Food Justice CBOs in the Anglophone Global North

NIFA issued the call for proposals that ultimately funded the Food Dignity project because so little about the extensive work of U.S. CBOs dedicated to creating food security and sustainability had been codified in writing, particularly in academic

literature (USDA NIFA, 2010). Since then, the body of empirical literature about community-led food security or justice work has been growing; though, it is arguably still short of being proportional to the problems that the work is tackling.

Much of this research has been bounded by a focus on one activity, campaign, or project, as opposed to on the work of a community organization (which would be doing multiple such activities, campaigns, and/or projects over time and with paid organizing staff). In the global North, this includes case studies of community gardens (e.g., Hallsworth & Wong, 2015; Hou, Johnson, & Lawson, 2009; Thrasher, 2016), mobile food markets (e.g, Robinson, Weissman, Adair, Potteiger, & Villanueva, 2016), community-supported agriculture (CSA) schemes (e.g., Cox, Kneafsey, Holloway, Dowler, & Venn, 2014; Hinrichs & Kremer, 2002; Kato, 2013), activist campaigns (e.g., Alkon & Guthman, 2017; Ballamingie & Walker, 2013), and farmers markets (e.g., Alkon, 2007; Lawson, Drake, & Fitzgerald, 2016). All of these studies provide descriptive cases and most present at least partial answers to questions about who does the activity, how and why, to what ends, and/or who benefits from it.

A few studies have taken on much wider boundaries to examine local food movements within geographical borders as cases. Wekerle (2004) examines the movement in Toronto, Canada, to identify social movement strategies and lessons for food justice more generally. His methods are not specified. At another extreme for both specificity of method and breadth of scope is a book by Alan Hunt (2015), which compares and contrasts cases of British and U.S. food movements to answer questions about governance, civic engagement, and policy change in each. Epistemologically, Hunt's study offers a high standard for rigor and transparency in case study methods about food movements. He takes full advantage of the book-length format to do so, including sharing lists of his interviews (26) and field participation and observations (56). Hunt also characterizes the circa 1100 documents he analyzed and how he analyzed them. In the conclusion, he advocates for "scrutiny of whether the academic publications [about food movement work] are rooted in primary evidence or formed from academic discourse" (Hunt 2015, p. 217). Another geographic example is Meenar and Hoover's (2012) case study analyzing how much community gardens and urban farms in Philadelphia offer viable solutions for food insecurity. In addition to traditional interview and observation case study methods, they use surveys and geographic information system (GIS) mapping tools.

A 2006 review of alternative food network (AFN) case study research in Europe (they identify eight studies, all of which are about producers or producer cooperatives) notes that "whilst individually these papers provide interesting accounts of specific AFNs," the work as a whole "tells us little about the population of AFS or the transferability of the conclusions from these often highly localized case studies" (Venn et al., 2006, p. 253). Methodologically, the authors also complain that the methods and reasons behind case selection are often not specified and that reflection on their wider relevance is missing. The methods used in a recent study addressing the role of food banks in U.S. community food systems illustrate a systematic approach to case selection designed to generate transferable results. The authors began their research with a national survey of food banks, drawing primarily from Feeding America's supply network, and then selected 15 operations for deeper case studies (Vitiello, Grisso, Whiteside, & Fischman, 2015).

Case study research where the boundary (or unit of analysis) is a community-based food justice organization is very limited. This was our unit of analysis for the Food Dignity project: "Community" conscribed by hyperlocal geographic boundaries (at most a county or reservation) and "based" meaning the organization heavily includes leadership and other key stakeholders from within those boundaries. To date, I have identified 11 peer-reviewed publications (see Table 1) that substantially share both case study methods and empirical results about food justice CBOs.[2] The

[2] This excludes Food Dignity-related publications and many food-justice-movement-related case studies that are not here for one of two reasons. One, I am sure that there are some that I simply did not find in my review; this paper provides

authors of these publications applied standard case study methods: collecting documents, interviews, and first-person observation data from and about the "case" CBO; analyzing these data inductively for emergent themes; analyzing these data deductively with their research questions and/or theoretical framework in mind; providing at least a few paragraphs that tell the story of the case; and then concluding with a summary of themes and at least provisional answers to their research questions. Some also specify member checking.

In addition, a project called Community and Regional Food Systems (http://www.community-food.org) released an edited book about their work in 2017. That project had the same timeline and USDA NIFA funding stream as Food Dignity and their team had also proposed to do case study research about community-based food justice work and organizations. However, in the preface, the editors describe their proposed plans for case study research as a "nonstarter." They write, "Although our proposal was based on participatory research methods, it was apparent before we officially began that our community partners did not want to be studied" (Ventura & Bailey, 2017, p. 3). Perhaps as a result, most chapters do not describe the data or methods used.

Literature Lessons for Our Case Study Development

Almost every example of food justice-related case study research reviewed here has been published after we began our work in Food Dignity. However, that body of work has influenced my thinking and feeling about our own rigorous storytelling approaches in several ways that I summarize here and elaborate upon in the rest of this essay. This includes:

- Committing even more deeply to our approach of collecting extensive data and using multiple inductive methods for analysis, per Hunt's warning about remaining rooted in primary evidence rather than abstract academic discourse. We remind ourselves to avoid what I call "hand-waving" (i.e., making knowledge claims without rigorous empirical substantiation).
- Feeling reassured about the rigor, relevance, and guiding ethics of our case study research methods and outcomes. We used the methods outlined in Table 1, and more, for all five cases over more than five years.
- Asking narrower research questions of our data, including potentially asking some of the same questions posed in previous studies to examine the transferability of their conclusions.
- Being more explicit about how and why we chose to do these case studies with these five CBOs, as well as how transferable our findings might be, if at all, per critiques in the Venn et al. paper (2006).
- Valuing having multiple authors from both community and university organizations to improve the utility, insight, accessibility, and accuracy of our project products.
- Naming that we are each a co-investigator and an actor in the work we are studying.
- Considering ethical and epistemological implications of how community leadership in Food Dignity has led us to prioritize telling important and true stories about their work, specifically, vs. an academic tendency to center "the purpose of understanding a larger class of (similar) units" (Gerring, 2004, p. 342). For example, the former demands more inductive listening and analysis, including in setting the boundaries of the case; the latter encourages more narrowly focused boundaries and analysis, potentially conscribed by *a priori* research questions, and presumes transferability.

foundations for a (needed!) systematic literature review in this arena but is not one on its own. Two, I excluded many potential candidates because methods were not described and/or the central case focus was not a food justice CBO. For example, some case studies focus on a singular program, collaboration or activity (e.g., a community garden, a food pantry, an advocacy campaign, a market); or on activities of an organization whose central activity is not food justice (e.g., a church). Other studies refer to or draw from case study research with CBOs, but the methods and findings are not centered on that organization.

I turn now to our case study methods and method development in Food Dignity. Also, though the methods of a larger project like ours are not entirely comparable to methods in an individual publication, I have summarized core aspects of our case study design in the last row of Table 1.

Table 1. Purposes and Case Study Methods Used with Food System CBOs in 11 Publications

Author(s), pub date; (Year(s) conducted); *Format;* Academic discipline(s)*	**Geography** and **organizations studied**	**Research question(s)**	**Methods** Case notes, data sources [documentation and archival records (*docs*), interviews (*int*), focus groups (*focus*), participation/ observation (*P and/or O*)], analysis
Sbicca & Meyers 2017 (2010-2015; 2011-2014) *Journal paper* Sociology	Oakland & Brooklyn, U.S. 2 *organizations* • Planting Justice (PJ) • East New York Farms! (ENYF!)	How have food justice racial projects opposed neoliberal racial projects that have stigmatized and criminalized communities of color?	Cases selected as representing the breadth of food justice movement struggles against neoliberal racial projects. Each author led one case, PJ and ENYF! respectively. *Docs*: extensive current and archival *Int*: 35; 10 *O*: board member and half-time volunteer work for months; seasonal work for 2 years plus many visits Analysis unspecified.
White & Bunn 2017 (2014) *Journal paper* Planning & Social and political sciences	Southside of Glasgow, UK *4 organizations* • Urban Roots • South Seeds • Locovore • Bellahouston Demonstration Garden	What have been the practices, purposes and histories of organizations doing urban agriculture (UA) work in this place? What are promising policy avenues for augmenting their voice and impact?	Cases selected for variation, methods provided per case. *Docs*: policy and media contexts *Int*: 9-11 in CBOs + 4 in context *O*: Visited each at least once, 3 formal O over several hours total. Authors collected and analyzed data. Transcripts coded, authors derived common framework, then "triangulated" with O data and docs.
Poulsen 2017 (Oct 2012-Oct 2013) *Journal paper* Public health	Baltimore, U.S. *2 organizations* • unnamed urban community farm • unnamed urban commercial farm	How do community vs. commercial farming models balance civic and economic exchange, prioritize food justice, and create socially inclusive spaces?	Cases selected from larger UA project for contrast. *Docs*: extensive in-case, e.g., meetings notes and emails *Int*: 21 *O*: 16 hours total on farm sites. Data collected with two masters students with analysis by author. Transcripts, O notes and docs coded. Developed summary report for each farm. Assessed data against 3 common critiques of neoliberalism in food justice work.
Reynolds & Cohen 2016 (2010-2012 & 2013-2014)* *Book* Geography & Planning and policy	New York City, U.S. *21 organizations* • See list pp. 149-153 • Includes East New York Farms!	How do UA groups in this place organize work for social justice, especially racial justice, through and beyond their food production work?	Revisited extensive study documenting UA action and benefits in NYC to examine how CBOs tackle and experience structural oppression and injustice in their UA work. *Docs*: policy docs and reports *Int*: 31 in first phase, unspecified additional for 2013 phase. *Focus*: 1 with interviewees + public forum with UA activists *P&O*: extensive & ongoing over 4 years Original study by a team of 7 including authors; authors did additional research for this study. Analyzed data for how disparities surface in UA in the city and UA strategies for tackling injustice.

Broad 2016 (2010-2013) * *Book* Communication & Journalism	Los Angeles, U.S. *1 organization plus* • Community Services Unlimited • Others in context	What does community-based food justice work yield, and what are CBO and policy approaches to increasing social justice impacts?	CBO chosen as "analytical entry point" to research questions; came to questions partly through personal involvement in food justice in LA. *Docs*: 100s of primary docs, websites *Int*: >30 *P&O*: extensive & ongoing, with field notes Author collected and analyzed data. Regularly shared and checked with stakeholders/participants. Analyzed data for practices and lessons on community-based social change and food justice in an age of neoliberalism with a "communication ecology" lens.
Warshawsky 2015 (2013-2014 + context since 2006) *Journal paper* Geography	Los Angeles, U.S. *1 organization* • Food Forward	What are challenges in food waste governance in this place and what role do CBOs play in food waste reduction?	Reason for CBO choice unspecified, though implied as it is major regional player in food recovery. *Docs*: institutional reports *Int*: 7 with CBO + 43 with people in context *O*: "when possible" Author collected and analyzed data. Transcripts classified "by quotation content" and analyzed with "triangulation."
Passidomo 2014 (2010-2012) *Journal paper* Geography	New Orleans, U.S. *3 organizations* • Hollygrove Market & Farm • Lower Ninth Ward Food Access Coalition • Latino Farmers' Cooperative of Louisiana	How do food sovereignty discourses and activism impact the material realities and equity in low-income communities of color in which food justice work is frequently situated?	CBOs for "vignettes" selected for variation in city neighborhood of origin. Different methods described for each. Conversation and *O* with first organization. *O* over several CBO meetings organized by second. *PO* (volunteering) and *int* with third. Author collected and analyzed data. Methods more implicit than explicit, but analyzed data inductively for themes and deductively through a "right to the city" framework.
Ramirez 2015 (2010-2013) *Journal paper* Geography	Seattle, U.S. *1 organization plus* • Clean Greens • Another with pseudonym for contrast	How black food geographies can enact a decolonial politics and provide transformative spaces, in contrast with white ones that may limit both?	Chose two organizations in one neighborhood predominately of color, one black-led and one white-led, to illuminate answers to research question. *Docs*: not specified, but results imply archival for neighborhood context *Int*: several, with leaders of each organization *P&O*: occasional volunteering and then active participation in Clean Greens; visited other a few times.
Sbicca 2012 (2009)* *Journal paper* Sociology	Oakland, U.S. *1 organization* • People's Grocery	How well and with whom do anti-oppression ideology underpinnings of CBO food justice work to mobilize action, especially by class?	Did a case study generally because of "paucity of studies" on CBOs, and with this one in particular because past research on them was not useful to the organization and the director was interested in research with their internship program. *Docs*: primary from CBO and any related to CBO online *Int*: 17 (7 with staff and 10 with interns.) *P&O*: interned for three months at 20 hours a week (~240 hours) Author collected and analyzed data. Coded for understandings of food justice and CBO's work for it, for understanding local context; analyzed for these themes and to compare intern vs. staff understandings.

White 2011 (2009) *Journal paper* Sociology	Detroit, U.S. *1 organization* • D-town Farm/Detroit Black Community Food Security Network	What are lessons for how to foster community building and political agency from this CBO's work?	Implied case study choice as this CBO explicitly strives for community and political agency building, explicitly chosen for author interest in Black farmers in UA. *Docs*: on CBO history and context *Int*: 10 *P&O*: not mentioned explicitly, but implied e.g., attending meetings. Author collected and analyzed data. Coded for understandings "community" and "resistance," themes of agency and responsibility, and farmer perspectives on land use in UA.
McCutcheon 2011 (2009-2010) *Book chapter* Geography	Calhoun Falls, S. Carolina, + national, U.S. *2 organizations* • Beulah Land Farms of Pan African Orthodox Church • Nation of Islam food work	How does race and/or racial identity drive ideology and food and health action? What are their concepts of community and self-reliance? How does this contribute to "just sustainability" for the organizations and for blacks in the U.S. generally?	Detailed explanation of why cases chosen, including to offer unique insights into race and alternative food movements, and almost no research done about their food work. *Docs*: deep and extensive archival research with both *P&O*: worked at the Beulah Land Farms as researcher Author collected and analyzed data using research questions as guide to provide detailed histories, motivations, strategies and actions of each and lessons.
Summary of overall Food Dignity project case study methods:			
Porter et. al. (2010-2017 + Whole Community Project since 2006) *Multiple formats* Community partners with a community-centered lens; academic partners in nutrition, education, geography, sociology, anthropology, economics, & agro/ecology.	Alameda County, California; Wind River Reservation & Laramie, Wyoming; Ithaca & Brooklyn, New York; U.S. *5 organizations* • Dig Deep Farms • Blue Mountain Associates • Feeding Laramie Valley • Whole Community Project • East New York Farms!	How do, can, and should U.S. communities build community-led food systems that generate sustainable food security for all?	Case collaborators invited for geographic and organizational diversity, combined with practical considerations of travel distance between academic and community partners and of pre-existing connections and relationships. *Docs*: >1000 of primary docs from CBO and any related to CBO online *Int*: 150 with 121 community stakeholders and co-investigators *P&O*: extensive & ongoing by multiple insider and outsider investigators, with field notes by academic investigators, over >5 years *Digital storytelling*: including 16 first-person videos *Collaborative pathway modelling*: 5 Multiple investigators collecting and analyzing, including team coding and narrative inquiry; later a much wider array of analysis methods, either narrowed and honed to answer more specific sub-research questions or broadened to capture larger truths than such technical methods could identify.

* Academic disciplines represent the PhDs earned by the authors as listed in their curricula vitae online. Other details marked with an asterisk are not explicit in the publications cited and were provided or confirmed via personal communication with the authors.

Methods Used for this Methods Paper

The next sections of this essay include a relatively technical report on our case study methods, including my report and reflections on how and why we came to use these methods. Data sources include original and annual renewal project proposals to USDA; memos and emails I wrote about methods to other team members; methods sections

of our codified work to date; and detailed emails and meeting notes from in-person and phone discussions among team members about our research approaches.

Then, the final section embeds the above within a larger question about how to conduct this Food Dignity case study research with about three dozen co-investigators in nine organizations fissured by and riddled with systemic inequities. Particularly prominent inequities included ones created by racism, classism, and, what I call "academic supremacy." Academic supremacy refers to systemic inequities between community-based and academic organizations (Porter & Wechsler, 2018). I offer reflections and lessons from our experience, rather than conclusions. To inform my analysis, I consulted the data above plus additional data sources, including internal national team meeting notes and audio recordings. I also reviewed the transcripts of six interviews that three project partners and one external interviewer conducted with me between 2011 and 2016. Having spent about half my working life on this project over the last seven years, I have also consulted my memory, which I corrected, corroborated, or supplemented by re-reading these data sets and other materials, as needed, while writing this paper.

This essay represents my own experience, analysis, reflections, and learning as project director, principal investigator, and co-investigator. Several Food Dignity co-investigators have reviewed this essay for factual accuracy. In addition, Monica Hargraves provided substantial and insightful commentary on an earlier version. I am grateful for the resulting corrections and improvements. Moreover, my "reflections and learning" described here derive largely from lessons, wisdom, and questions that my teachers, mentors, friends and co-investigators offered over the past decade, especially during these last seven years of Food Dignity. I am responsible for any errors, mischaracterizations, and blindness in this work; I am also responsible for the ways in which this essay is extractive (i.e., I took knowledge, mentorship, and wisdom, digested and integrated it with my own, and now share what I learned as sole author).

Food Dignity Case Study Methods and Method Development

Deciding to Design Food Dignity

In the 2009–10 academic year, I was finishing my Ph.D. The **Whole Community Project** (WCP) in Ithaca, New York was the subject of one of my dissertation case studies. The WCP project director, E. Jemila Sequeira, had been mentoring me in community organizing and anti-racism for two years. She had also become a close friend. I felt committed to securing more funds to help sustain and expand the deeply grassroots food justice work she was leading. I also wanted the world to learn from and about the extensive wisdom and knowledge of community food justice organizers, including Sequeira. The meager opportunities I could find for funding action (as opposed to research), combined with my wish to document and amplify activist expertise, moved me from claiming that I would never become an academic to applying for tenure-track professor jobs.

Then, in January 2010, I read the USDA NIFA Global Food Security call for developing "research, education, and extension sustainable programs on local and regional food systems that will increase food security in disadvantaged U.S. communities and create viability in local economies." It required that "active participation of disadvantaged communities should guide the project's assessment of best practices" and included "community organizing" as an example of extension activities (USDA, 2010). I would have felt that the call had been written specifically for me, had I not felt so daunted by its US$5 million scale. I tried and failed to convince any senior colleagues to let me help them apply. I accepted an assistant professor position at the University of Wyoming (UW). I considered the advice I generally proffered about small grants: if you have good people with a good plan, you can secure money for it. I decided to try assembling great people and a good plan to support, learn from, and learn with food justice CBOs in the U.S.

Inviting Partners

I started with WCP. Sequeira and I had been discussing the best ways to systematically support grassroots food justice work like that of WCP for

at least a year. I admired and wanted to learn more from her work. I had been involved in WCP since its inception in 2006 and had reams of case study data and analysis already in hand. Finally, housed within Cornell Cooperative Extension in Tompkins County, WCP offered a potentially transferable institutional context. Sequeira and her supervisor immediately agreed to collaborate.

In choosing which CBOs to invite as partners in addition to WCP from a research perspective, I wanted to maximize variation in the organizations and their contexts. From a feasibility perspective, I considered constraints of travel, including proximity between community-based and university-based partners to enable frequent documentation, participation, observation, and collaboration. (At the time, I did not even consider the possibility of having a CBO partner that was more than a few hours drive from an academic partner.) Also, I needed to assemble the team quickly to finalize a proposal before the June application deadline, and each CBO needed to have an umbrella organization with 501(c)(3) status so that the organization could accept and manage a subaward.

I asked leaders of **East New York Farms!** (ENYF) in Brooklyn, New York. ENYF was founded in 1998 and housed in a community center (United Community Centers) in a diverse and dense urban setting. WCP had once co-hosted a food justice event in Ithaca, New York with them. A non-incorporated local foods organization in Laramie pointed me to a person organizing food-sharing activities in what later became **Feeding Laramie Valley** (FLV) of Laramie, Wyoming, which is housed within a very experienced not-for-profit social change organization called Action Resources International. **Dig Deep Farms** (DDF), located in the Bay area of California, was founded at about the same time I was organizing the proposal. Under the auspices of a police activities league (Deputy Sheriff's Activities League), DDF was founded by an officer in the Alameda County Sherriff's Department. I only heard of it because the person who had agreed to be a liaison between universities and communities in the project had later agreed to become DDF's general manager with the other half of his time. I thought having a CBO associated with local government would add institutional diversity, and having someone who was "inside" one of the CBOs as part of the project-wide team would bring at least as many advantages as disadvantages. I also wanted to include a tribal-led CBO with ties to Wind River Indian Reservation (the only reservation in Wyoming). I believed that such an organization would offer different, possibly paradigmatically different, expertise and experience about food insecurity and sustainability compared to the other four partnering CBOs. After several months of my increasingly desperate search for such a partner, a Wyoming cooperative extension agent put me in touch with **Blue Mountain Associates** (BMA). For reasons the leaders of these organizations outline elsewhere in this issue, they each accepted my invitation to participate in Food Dignity and began contributing to the project design (Daftary-Steel, 2018; Neideffer, 2018; Sequeira, 2018; Sutter, 2018; Woodsum, 2018).

I also assembled a project-wide team including people from **UW**, **Cornell University**, **Ithaca College**, and from a "think-and-do" tank called Center for Popular Education, Research, and Policy (**C-PREP**; which is led by the person who also connected me with DDF). On that front, I began by inviting collaborators whom I knew and trusted and who had relevant academic expertise. However, at UW, I simply cold-contacted people who appeared to have relevant expertise. I did not yet know anyone there (we developed the proposal while I was still a Ph.D. candidate living in Ithaca, New York), but I thought reviewers would find an application without collaborators at my own institution implausible. Several people from each organization—community and academic—became project co-investigators.[3]

[3] In 2013, the C-PREP/Food Dignity relationship changed. Gayle Woodsum, founder of FLV and executive director of Actions Resources International, became the community-university liaison and re-shaped that role. In 2014, the C-PREP/Food Dignity relationship ended. A research staff member who had been working under the auspices of C-PREP, Katie Bradley, was also a graduate student at University of California, Davis (UC Davis). To retain her as part of the

Summary Elements of Our Research Design

Described according to the five components of case study design outlined by Yin (2009, p. 27), the key elements of the Food Dignity case study research design with the five partnering CBOs are:

- *The study's research questions*: How do, can, and should U.S. communities build community-led food systems that generate sustainable food security for all? More specifically, we examined how each of five CBOs catalyzes and supports that goal and, more provisionally, the outcomes of and lessons from its work.
- *Study propositions*: As we wrote in our proposal to USDA, we took the ethical stance that human and community agency in food systems is an end in itself, while hypothesizing that building civic and institutional capacity to engage in sustainable community food systems for food security action would improve the sustainability and equity of local food systems and economies.
- *Unit of analysis*: The five CBOs are our organizational unit of analysis. This "unit" includes as much current and historical context as each CBOs deems important for understanding their organization's work. The CBO leaders were better placed to know where to draw those boundaries than outsiders (see also Bartlett & Vavrus, 2017). Within the CBOs, we have also conducted some nested studies more narrowly documenting a sub-set of their work (e.g., a farmers market).
- *Logic linking data to propositions* and *criteria for interpreting the findings*: These components are described in the sections that follow. Key elements of this logic and criteria included:
  i. A "hyper" triangulation of data and analysis via multiple investigators collecting and analyzing multiple forms of data using multiple methods over at least five years.
  ii. Development of a collaborative pathway model with each CBO, linking activities with actual or anticipated outcomes.
  iii. Examination of how each CBO invested and leveraged a US$67,800-a-year "community organizing support package" as a partial indicator of what food system change strategies they found most successful, promising, and/or important.
  iv. Regularly checking analysis and interpretations with multiple community-based and university-based co-investigators and stakeholders.

Data Sources

We gathered multiple forms of case study data with, from, and about each CBO between 2010 and 2017. The four main types of CBO case study data we have collected over seven years are:

1. *Documentation and archival records*. We collected and read thousands of files, later filtered (per analysis section below) to 100-200 key documents per CBO for more detailed analysis. These included:
   a. CBO-provided files dating from before our collaboration began (e.g., grant applications, memos, fliers, reports, etc.).
   b. Public documentation and records such as news media, videos, and any previous research with the CBOs. Academic partners searched for these retrospectively and concurrently.
   c. CBO-based and project-wide teams gathering additional data files during the project.
2. *Interviews* (150 total, transcribed and analyzed):
   a. Of project co-investigators and other stakeholders playing central roles at partnering CBOs (n=71), conducted by co-investigators, often multiple times (n=100 total interviews).

team, I created a new subaward with UC Davis that supported her in finishing her PhD studies and then as a postdoctoral scholar. Technically, UC Davis became our fourth academic partner at that time.

   b. Of additional CBO stakeholders (e.g., minigrantees, gardeners, market vendors, interns) (*n*=50).
3. *Participation and observations* over five years:
   a. Ongoing, by full-time "insiders" who are CBO employees and Food Dignity co-investigators, recorded mainly via interviews, discussions with academic partners, meeting notes, and in annual reports; sometimes in private journals and/or field notes.
   b. In frequent visits to CBOs by local academic "outsiders" (graduate students, research staff, and/or faculty) who reside nearby, usually recorded in field notes.
   c. During visits to CBOs by projectwide team members who did not live locally and during informal community-academic meetings when co-presenting at conferences, recorded in field notes. For example, I made 31 total visits to the four CBOs (excluding FLV, which is located where I live and work) over five years.
   d. Documentation of our 7 national team meetings in detailed process notes made by project staff and graduate students.
4. *Products* by co-investigators:
   a. Food Dignity Collaborative Pathway Models (*n*=5, one with each CBO) (Hargraves et al., 2017).
   b. Digital stories, including 16 first-person ones (Food Dignity, 2015).
   c. Community minigrant programs developed by each CBO (*n*=4, US$30,000 awarded in each; DDF did not develop a minigrant program) and brief reports on each individual project funded (*n*=92) (Hargraves, 2018a).
   d. Our presentations.
   e. Our publications.
   f. Annual reports by CBO and academic partners to me and reports by me to the funders.

These data forms were part of the original planned research design, with the exception of digital stories and the collaborative pathways models as explained below.

Digital stories

The digital stories originated with a suggestion by Sarita Daftary-Steel, the program director of ENYF, during the proposal design phase. She suggested adding Photovoice based on a previous good experience ENYF had using that participatory method. After brief discussions, we added this method to the scope and budget of each CBO and to the overall project outlined in the proposal. We included a formal training in Photovoice methods as part of our first team meeting in May 2011. During and after that training, several co-investigators who were also experienced community organizers said they had been using similar, semistructured methods of photo narrative in their pursuit of social change for decades before academics codified it as a research method (Wang & Burris, 1997). We agreed to broaden the approach options beyond the formal Photovoice methods to include other means of photo and video narrative and storytelling.

By 2013, each CBO had adapted Photovoice methods or designed their own processes for creating a set of narrated photos to publicly share information about food justice, injustice, and systems work in their communities with community stakeholder groups of their choice (see http://www.fooddignity.org). CBO leaders have also produced multiple video stories about their work. For our sixth national team meeting in January 2015, co-investigators decided to commission a three-day digital storytelling workshop. This yielded 16 first-person digital stories and a minidocumentary (Food Dignity, 2015), plus several other video products. These first-person videos are key data sources for some papers in this issue (see, e.g., Gaechter & Porter, 2018; Porter, 2018a). More importantly, they are profound, published products in their own right.

Collaborative pathway models

The Cornell co-investigator who led the minigrant program evaluations with the CBOs in Food Dignity, Hargraves, also brought expertise in pathway modeling. That modeling method provides an

inductive means of producing visual theory-of-change models by linking program activities to (desired and actual) short, medium, and long-term outcomes with directional arrows. When Hargraves joined the project team in June 2011, she told me and several others about pathway modeling (Urban & Trochim, 2009), suggesting it might serve our project goals.

At first glance, the complexity and time demands of that modeling process, coupled with the spaghetti-looking mess of the resulting models, made me skeptical about the approach for our project. After our first Food Dignity team meeting in May 2011, tensions were already high between my demands for a high quality and quantity of data from CBO co-investigators vs. their priorities relating to community action. As I came to understand later, the insufficiency of the CBO subaward funding to cover direct and opportunity costs of investing in research tasks that did not immediately support their priority actions exacerbated this tension (see the discussion here and also Porter & Wechsler, 2018, this issue). But even then, I could not imagine proposing that CBOs do even more.

However, in 2014, Sequeira, the WCP director, was seeking ways to document and illustrate the complexity and outcomes of her food justice work. Pathway modeling seemed worth trying. As described elsewhere, ultimately each CBO helped to reshape the modeling approach to rest on a values foundation, and then seized on ways such co-developed models could serve their organizations. With an additional collaborator recruited to help with this major addition to our methods, Hargraves worked with co-investigators and other stakeholders at each CBO to develop a model (Hargraves & Denning, 2018).

The resulting set of five Food Dignity Collaborative Pathway Models articulate the activities, expertise, goals, and strategies of each of the five CBOs (Hargraves et al., 2017). If a case study with each CBO was analogous to a person's body, I have come to think of the models as illustrating the combined skeletal, circulatory, nervous, and muscular systems of each organization—including the (even) more metaphorical hearts and brains of the organizations and their work. They each stand on their own as a rich and rigorous form of non-narrative case study. The models also provide rich data sources for further analysis.

Data Analysis and Discussion

Here, I take an auto-ethnographic approach to describing and discussing how we analyzed our data, how we changed our analysis approaches, and why.

Asking three questions: Do, would, and should

Our leading research question—how do, can, and should U.S. communities build community-led food systems that generate sustainable food security for all?—is really made up of three questions.

Given the dearth of research on these questions with food justice CBOs back in 2010, when we proposed this project, the *do* question's descriptive focus was the primary one we proposed to answer. It was also the one we hoped to answer most completely, using all the case study methods outlined here with the five CBOs partnering in Food Dignity. In particular, the collaborative pathway models outline every core activity each CBO does and why. We are analyzing the rest of our data to illustrate and demonstrate how, and how much, the CBOs engage in these activities.

We have reframed the *can* question more narrowly as a *would* question: if CBOs had more resources, how would they spend it? In other words, we agreed that highlighting how the five CBOs spend their time and the additional resources provided by the Food Dignity subawards would help illuminate their priorities, needs, and strengths by representing their best bets for achieving their goals based on their expertise and experience. Therefore, our primary data for answering this question came from analyzing the annual narrative and financial reports written by each CBO describing how and why they invested their Food Dignity funding. Other key case study data informing our answers to that question are the long-term outcomes in the pathway models, mini-grant program designs and awards, grant applications for other funding, interviews with CBO leaders, and any products (beyond the annual reports) authored by CBO co-investigators.

We founded the project on the ethical meaning

of *should*: in a democratic society, we have an ethical imperative to invest in civic capacity and control, including in building sustainable community food systems for food security. Empirically, we aimed to document and provisionally assess diverse ways in which CBOs can make such investments (e.g., minigrants for action, support for professional development travel, mentorship). We also sought to determine how much these investments contribute to community food systems and the local leadership within them. For documenting these actions, with process and early outcomes, we combined case study methods with other research methods. The other methods have included quantifying garden harvests (Conk & Porter, 2016), conducting a small randomized controlled trial on the impact of minigrants (Porter, McCrackin, & Naschold, 2016), and assessing cover crop contributions to urban garden soil fertility (Gregory, Leslie, & Drinkwater, 2016).

In all three questions, we aim to characterize and partially assess the CBOs' work within the context of the activities and goals they specified in their collaborative pathway models. In other words, we are anchoring our primary analysis within this internal frame of the CBOs' goals. However, in secondary analyses across cases, we are also imposing external lenses to help characterize the collective contributions of CBOs to the national food justice, food security, and food system movements. For example, this might include asking the research questions posed by the studies in Table 1 of our own data set. These kinds of analyses appear in included papers discussed in the "asking more specific questions" section below.

Shifting modes of listening

As principal investigator, seeking epistemological as well as ethical rigor, I wanted to find ways to systematically listen to our data and to the expertise of community-based co-investigators. I had proposed semi-open coding across documents from all five CBOs as one of the key research methods. For the first three years of the project, I led a small team of four part-time research staff members to develop a large, relatively generic coding vocabulary of 102 codes in seven categories.[4] We then apply it to analyze the textual data collected. For example, an array of codes under the category of "action" were designed to help us map what each CBO was doing within different parts of the food system (i.e., to what extent did they focus on producing food, teaching people production skills, labor issues, etc.). We also developed a file naming system where a prefix identified the date, partner (e.g., UW, DDF, ENYF), any sub-project focus (e.g., minigrant or a CBO-specific program), and file content type (e.g., flier, email, grant application, field notes).

I assigned a team member to organize and code each CBO's files. I also read all the data files, examined reports from each CBO's "hermeneutic unit" (we used Atlas.ti, which uses that phrase to identify each set of coded files), and spot-duplicated some coding to check for overall consistency in our use of the codes. At first, we coded nearly all incoming and historical files. Later, though we always read, categorized, and saved every file, we began filtering to code only those that added new information. For example, if a CBO provided several files about one workshop, we would code just one or two with the most data in them (e.g., notes from the workshop and a handout provided, but not flyers and email announcements).

Organizing and coding the files made co-investigators from outside the CBOs read them closely. This enabled academic co-investigators to learn key elements of the history, context, and actions of each organization. However, by 2013, insights from insider and outsider time spent

[4] These categories (with a few examples of subcodes within each) were: money (e.g., cash flow, grant administration, sales), action (e.g., bees, labor conditions, donate food, garden, raise public awareness), context (e.g., individual, national, CBO project), definitions (e.g., community, dignity, sustainability), Food Dignity support package themes (e.g., minigrants, community and academic relations, research), overarching/big picture (e.g., success, challenge, disagreement), strategies in use (e.g., framing, networking/partnering, ceremony/celebrate, start where people are), and themes (e.g., poverty, values, crime/violence including prevention, oppression). These exclude dozens more CBO-specific codes (e.g., identifying Whole Community Project's work on Gardens for Humanity or Dig Deep Farms' work on Furthering Youth Inspiration).

together (i.e., participation and observation), internal annual reports, and a more holistic analysis of interviews and field notes (i.e., narrative inquiry; see for example Clandinin & Connelly, 2000) meant that this generic coding was no longer adding to our understanding or information about the CBOs' work. In addition, community-based investigators were increasingly sharing sensitive data that were not suitable for sharing with all members of the coding team (e.g., confidential personnel information and talk about other Food Dignity collaborators). Also, much of this "data" was increasingly conveying complex forms of analysis, interpretation, and insight, unsuitable for the depersonalized and decontextualized slicing and dicing that coding entails. By mid-2013 we were no longer coding generically in this central way. We needed new approaches to analyzing our data.

Actually, we had needed new approaches to analyzing our data from the start of this project. As mentioned above, I led a small team in developing a shared coding approach. This was within our first six months. In November 2011, at our second all-team meeting, I presented the approach to the Food Dignity team. I was simultaneously trying to explain technically what coding is, while soliciting feedback about how to improve our approach. When I listen now to the audio of that meeting, I deem my approach to be a triple fumble. One, it was a little late to be asking for substantial participation and collaboration, for the first time, on an already-piloted design. Two, I explained even the technical basics concerning the purpose of coding so poorly, that today even I can hardly follow what I was trying to say. Three, I initially failed to respond to some profound and insightful questions and concerns, both scientific and ethical; I simply repeated technical details and vague reassurances that the CBOs would be able to review and co-interpret reports from the academic team's coding. As the project PI, I held systemic privileges and powers that meant I generally kept getting the ball back, even after a series of fumbles such as those. When I listen to the 2011 audio of that conversation, I hear both community and academic-based leaders striving to shape a shared path towards a shared goal, while also generously encouraging, enabling, and allowing me, personally, to try again.

Near the end of that coding discussion, we agreed that we needed to find a way to do this kind of analysis together, in ways that serve common food justice goals while also fulfilling commitments we made in the project proposal. Then I said, "There aren't a whole lot of models for that." People laughed. I added:

> Especially something as complex as this, even as straight up academic research, even if we did it conventionally, it would be hard. But that's not what I set out to do. That's not what you came here to do. That is not what we set out to do. That is not what we're going to do. And that story, the story that is unfolding here, I think will be the most important thing out of this [project].

However, I kept charging forward with only minor modifications to that coding approach for at least two more years before finally stopping, mostly because it was not proving to be epistemologically useful as a way to listen (which, for the record, was one of the concerns raised by community co-investigators that November, and later raised by the other members of the coding team).

I was afraid to stop because I still did not know what our new way should be. Normally, I would not have tolerated such uncertainty for long. However, in December 2012, I had also become a stage-3 breast cancer patient. The physical, emotional, and temporal drains of an eight-month treatment regime suddenly made me feel patient about, or at least resigned to, this methodological uncertainty. My exhaustion, plus more important things to be afraid of than not coding Food Dignity textual data, rendered me an increasingly participatory PI.[5]

[5] I was neither the first nor last person on the team to struggle with challenges of this sort and scale. I mention my own situation here because it so heavily impacted how I participated in and led the project thereafter. (I would like to note that I have no reasons to believe, at the time of this writing, that I am anything but healthy.)

Telling a different story

From the start of the project, I had described to the team of Food Dignity co-investigators my image of a series of five, 10-15 page case stories about the work of each food justice CBO. They would all follow a similar format, containing similar sections, and would be useful both for our research project and to the CBOs. I recall people nodding politely.

When I began talking seriously about implementing this plan, Gayle Woodsum (FLV founder and Food Dignity community-university liaison) noted that my case outlines would not result in stories. My plans would reduce forests of meaning about what each CBO does and why to tree stands of facts. I conceded, recasting "that nuts and bolts information as being an appendix to the case studies." She was still worried that some people might confuse those "nuts and bolts" with the real stories, noting, "I've spent years trying to get a different story, so I don't want this [nuts and bolts] to be seen as the core of the case studies." But we agreed I could try attaching my "appendices" to the real case stories, which would be produced primarily by community-based coinvestigators.

Then, under my guidance, one of the research staff collaborators followed my outline to draft one of these "appendix base cases" about DDF's work. On perhaps our fifth redraft, and in the face of near silence from community-based co-investigators at DDF about our drafts (who have always given feedback before and since), she finally proclaimed the product as "heartless." I finally admitted that my proposed approach was more like busywork rather than being the rigorous, evidence-based and useful foundation for the rest of our work that I had envisioned. I finally realized that the collaborative pathway models that Hargraves & Denning were developing with stakeholders and co-investigators at each CBO filled that role, and more, in our case study work. In addition to being a rigorously and systematically produced form of structured and explicit knowledge (i.e., research), the models also surface expertise that community-based co-investigators developed over decades of community organizing experience.

Sharing voices, but not risk

Academic voices frequently drown out the stories of people who are doing the work being studied and obscure the expertise that guides them, including in Food Dignity. For example, the coding vocabularies and my case outlines were pressing academic frameworks onto the CBOs' data and expertise. Though such externally imposed approaches can help answer some narrow research questions and helped me to grasp basic facts and truths of each case, they were excluding and obscuring too much insight to enable rigorous and useful storytelling about the CBOs' work. I had been asking myself and co-investigators how we should shift our listening; the answer was largely entwined with who should be doing the talking.

Doing research is usually part of an academic's job description. For example, even though the Food Dignity grant has ended, I still am paid to do research for 65% of my time, nine months out of each year. I was paid and, in other ways, rewarded for the time I invested in writing this paper. This is one reason that academic voices are prominent in Food Dignity, especially mine, such as in this paper and the case study research process it describes.

This kind of time, space, and support for research is, comparatively speaking, almost non-existent for community co-investigators in Food Dignity. Harking back to that November 2011 team meeting, I kept mentioning the research budget each CBO had as part of their subawards, saying, for example, "Of course you have your own research questions, and have a research budget to do whatever makes sense for you. To support your labor in providing files to us, or to hire researchers or yourselves to document and tell your story." I was referring to research budgets I had proposed and then allocated to each CBO partner; these averaged US$12,900 per organization each year for staff time to assist the lead community organizers (Porter & Wechsler, 2018). Unlike academic partners, no CBO staff joined the project with pre-existing job descriptions or goals that included doing the kinds of research I was asking for.

In my view, much of our most useful, richest, newest and truest knowledge generation and dissemination in this project has come from work in which community-based researchers served as

lead or sole authors. The digital stories and collaborative pathway models are the prime examples of this. The digital stories indicate the importance of making direct investments in offering time, space, and technical support for knowledge codification in production. Academic partners receive this kind of support and time in spades, usually as a core function of their paid jobs. Creating this option for community partners requires intentionality, funding, interest, and attention to opportunity costs. In this vein, we also organized a small writing retreat in September 2015 for interested partners. Their work forms case stories that we are releasing in phases on a renewed project website, and might also share in book form. In addition, the collaborative pathway modeling illustrates the value of sharing community expertise. It also illustrates how academic partners can sometimes help supply and apply frameworks and methods to assist with that, without being overly reductive.

Yet, for CBO leaders, the opportunity costs of doing research are extremely high. Funding is necessary to help bridge this, especially in small organizations. With ENYF, we once had the chance to partly resolve this issue when Daftary-Steel stepped down as the program's director, was in between jobs, and was interested in leading the ENYF case study research. Using a dynamic presentation software (Prezi), and archive and file assistance from an academic partner, she developed and narrated a tour of the drivers, actions, and meanings of ENYF's first 12 years of work (Daftary-Steel & Gervais, 2015). In response to interest from other partner CBOs, she developed a market guide (Daftary-Steel, 2014) and, later, a youth program guide (Daftary-Steel, 2015). Drawing on her expertise regarding unattainable demands some funders made of ENYF, she led a collaboration with someone at DDF and an academic partner to document it (Daftary-Steel, Herrera, & Porter, 2016). She developed those ideas and the fuller story of ENYF into a book chapter, in partnership with people still at ENYF and academic partners (Daftary-Steel, Porter, Gervais, Marshall, & Vigil, 2017). Most recently, she co-produced a video about the variety of forms of urban agriculture, contrasting the community-centered origins and activities of ENYF with high-tech, sometimes profit-centered urban food production projects (Daftary-Steel & Noguera, 2017). With the chance to develop research products while no longer simultaneously directing a CBO, she was highly prolific.

However, community organizers leaving their CBOs to do full-time research is hardly a desirable or scalable solution to the issue of how to share their voices. Paid sabbaticals and part-time endowed chair positions might be a viable solution. Grant awards or subawards that support CBOs in hiring research staff, on salary, not just stipends, might be another.

Finally, even if direct and opportunity costs are covered, CBOs still face another layer of risk in participating in, or being the subject of, research: results might be used in ways that harm the goals and interests of their organization and community. Harking back again to our November 2011 team meeting, one community leader spoke explicitly about how our results might shape USDA funding policy for decades to come, for better or possibly for worse. Over the years of our collaboration, co-investigators based at four of the five partnering CBOs independently and explicitly told me that even if *I* do not use the knowledge they share in ways that would harm their work, others might once we disseminate it.

That said, the risks of harm are even greater, probably, within a collaboration. In a September 2011 interview, after I had listed several of my fears about leading the project, the academic co-investigator interviewing me asked, "what do you think is the worst thing you could do?" I answered, to "make any one or all of the community partners feel betrayed, to betray their trust." I paused, adding, while laughing at myself, "to the extent to which I have their trust." I then admitted, "I probably already have [betrayed] in small ways," telling a story about how I had set up interviews with people in the Ithaca food movement without having consulted with Sequeira, the WCP community organizer. My *striving* to be a trustworthy academic partner does not mean *I* am entirely so. My academic, race, and class privileges offer me hundreds of blind spots, which are always difficult—

and never convenient[6]—for me to identify and remove.

During this project, I was awarded an endowed chair position and then tenure and a promotion. I sit in that chair now, or enjoy the standing desk option UW has provided, lauding the wisdom and expertise of the community co-investigators. One of the five CBOs was dissolved at the end of the Food Dignity funding—WCP. Sequeira is one of several community co-investigators who have since lost their jobs. Our collaboration did not cause this, but certainly did not prevent it either.

In sum, I asked community-based activists to collaborate on research in Food Dignity because I knew their insight, experience, expertise, and leadership were essential to generating new, relevant knowledge about building food-secure, sustainable and equitable communities. Even if I had adequately budgeted to cover direct and opportunity costs, and even if I had stepped back enough to "share voices" as much as I had claimed I meant to, the CBOs would still have been taking all of these risks above, whereas academics like myself stand mostly to benefit.[7]

Asking more specific questions

Starting in 2015, small teams or individual coinvestigators began asking more specific research questions of our growing catalog of case study data. With those narrower questions in mind, investigators returned to coding textual data. This time, they focused on relevant data subsets and developing coding approaches specific to their research questions. For example, for a paper in this issue (Porter, 2018a), I searched our interviews, documents, digital story video transcripts, and collaborative pathway models for every instance and variation of food-production-related words to characterize the production related activities and goals of the five CBOs. A graduate student examined a subset of our data for social movement framing used by Food Dignity co-investigators (Gaechter & Porter, 2018). Another paper assesses case study data along with several other data forms to outline outcomes of gardening (Porter, 2018b).

As an academic, I am interested in these questions as well as questions that have been asked in previous studies, such as those listed in Table 1. I do not feel, however, that I could make a convincing argument to community co-investigators in Food Dignity describing how these are substantively more than academic questions. Even if we do manage to ask and help answer some of these most pressing questions, knowledge gaps arguably make up only a small part of the chasm between society today and a society with food justice.

Verifying credibility and rigor

"Triangulation" is an oft-cited approach for checking and verifying research analysis and results, especially in qualitative research. Methods theorists describe four kinds of triangulation (Denzin, 1978; Patton, 2002, p. 247). Each kind is listed below, along with the ways in which we employed triangulation in the Food Dignity case study research:

- *Data triangulation*, i.e., using a variety of data sources. We have gathered and are analyzing myriad forms and quantities of data sources, as outlined above.
- *Investigator triangulation*, i.e., several researchers analyzing the data. In the parable of blind men feeling an elephant,

[6] I intend the superficiality of this word, "convenient," to convey how insidiously daily the maintenance of systemic oppression is, and my own blithe complicity and contribution to it.

[7] I have often heard academics describe risks of engaging in participatory research (as opposed to, for example, research that excludes the communities involved or that is not about community-level issues). Sharing power, via collaboration, does reduce academic control, which can feel risky (though also, as I have briefly begun to outline in this paper, it also improves relevance and rigor, which increases quality). However, for example, no matter what happened in Food Dignity, the graduate students could still earn their degrees and my tenure track job that started in 2010 offered me seven more years of job security than any of the CBO positions had except for the sheriff at DDF. An academic can even do a case study about a CBO that dissolves or lets most staff go for lack of funding. The risks for academics were so minor compared to those for community-based partners, in this project and in life generally, that I prefer not to use the same word (risk) to describe them both.

the Food Dignity team has the elephant surrounded with three dozen or so co-investigators. Also, individual co-investigators always check their data and interpretations with relevant individuals and CBO leaders (member checking).

- *Theory triangulation*, i.e., viewing the data through various theoretical lenses. Here, I venture two related claims. One, Food Dignity is more a- and post-disciplinary than trans-disciplinary. The leadership from community-based co-investigators has led us to center our analysis around communities and people, as opposed to, for example, food or soil. Two, the lens variation among co-investigators has often been paradigmatic, in the Kuhnian sense of differing worldviews (Kuhn, 1962; Porter, Herrera, Marshall, & Woodsum, 2014). This is in addition to the array of discipline-specific theory and methods the academic co-investigators (whose disciplines are listed in the last row of Table 1) have brought to our case study and other research.
- *Methodological triangulation*. i.e., using a variety of methods in a study. The academic case study methods we have used include semi-structured coding of textual files, narrative inquiry with some interviews (Riessman, 1993; Riley & Hawe, 2005), collaborative pathway modelling (Hargraves & Denning, 2018), and institutional ethnography (Campbell & Gregor, 2004; D. E. Smith, 2005). Among academic-based investigators, we used auto-ethnography with technical approaches approximating Anderson's (2006), but always with ethical commitments mirroring Denzin's (2006). For examples from Food Dignity's work, see the graduate student reflective essay in this issue on emotional rigor (Bradley, Gregory, Armstrong, Arthur, & Porter, 2018), and (Porter et al., 2014; Wechsler, 2017).

In his *Research is Ceremony* guide to indigenous research methods, Wilson (2008) cites a friend who questions the idea of triangulation: "We came up with 'encircle'… And rather than it being valid or reliable, I thought that maybe it's authentic or credible, and rather than focus on being reliable, it's relational. How it relates. So that's the test" (p.101). Striving for ethical and emotional rigor, in addition to epistemological, is a promising step towards this kind of relational credibility (Bradley et al., 2018).

Reflection and Conclusion

Food insecurity, racism, and other forms of social oppression, frayed community ties, food system unsustainability, and gross economic inequity are wicked and systemic social problems in the U.S. They are literally life and death problems, killing people with proximate causes such as gunshots, addictions, cancers, and complications of type II diabetes. In this context, the most relevant use of the word *rigor* is with *mortis*, not about research methods. Resolving these problems drives the work of food justice CBOs, and they do it by building on the expertise, relationships, and other assets in their communities (see, for example, nearly every other paper in this issue).

In spite of these costs and risks, the CBO leaders let the academic co-investigators learn with and from their work, and often actively taught and mentored academic partners. As with the Community and Regional Food Systems project (Ventura & Bailey, 2017, p. 3), these leaders were clear that they did not want to *be studied*, neither as individuals nor as organizations. In spite of all the risks, and the insufficient subaward funding, they were generously willing to share some of what they learned through decades of community organizing and food justice work and were willing *to study*, as co-investigators, in a cycle of funded action and reflection.

My experience as PI of Food Dignity leads me to hypothesize that the only chance of research contributing to CBOs resolving these problems is striving for ever-more-equitable community-university action research partnerships and ever-stronger relationships among collaborators ["bridge the distance between our cosmos and us" (Wilson, 2008, p. 137)]. I think this for at least two reasons. One is that community-based food justice activists will push academics to make resolving these problems the focus of their teaching, action,

and research. They certainly did in Food Dignity. The other reason is that people doing the work have knowledge, expertise, and relationships that are essential and irreplaceable for doing useful and rigorous action research about community food justice (or about any other community-based issue).

However, our community-university relationships in Food Dignity were never equitable. Following the guidance of our Food Dignity Values statement (Hargraves, 2018b), we did strive for ever greater equity. Six strategies we used for traveling that path together in a good way (Porter, 2016) included the following, with *summaries of their impacts in italics*:

1. Issuing subawards to each CBO and mostly paying these in advance, rather than arrears (Porter & Wechsler, 2018). This enabled the partnerships to form in the first place. Few of the CBOs could have afforded to be paid in arrears for the expenses incurred.
2. Investing financially and temporally in co-authorship with and first-person work by community-based co-investigators. Academics are otherwise the only ones who would be paid to do this work.
3. Investing heavily in spending in-person time together during seven national all-team meetings, plus smaller group working and socializing at a writing workshop, dozens of co-presentations at national conferences, and during site visits. This created and enacted our relationships and research collaborations.
4. Supporting a community-university liaison as a half-time position, who also worked as a co-investigator based at one of the five CBOs partnering in the project. Gayle Woodsum, also of FLV, took on this role in 2013. This was a first step in slightly reducing inequity between academic and community partners, including via having a CBO advocate and supporting community research more extensively. Woodsum also introduced the next two strategies.
5. Engaging an external facilitator for two of our national team meetings, Ms. Lila Cabbil. Cabbil and Mr. Malik Yakini had previously facilitated anti-racism trainings at our meetings. I would not ever again host such meetings without a strong, external, community-centered and anti-racist facilitator to help reduce the community-academic and other power inequities during negotiations and discussions.
6. Organizing a pre-team-meeting community-partner-only retreat without academics in 2013, facilitated by Woodsum and Cabbil. People with less negotiating power at any given table benefit from having in-group time to deepen personal relationships and establish shared group priorities and strategies to help increase their power (see, for example, Cervero & Wilson, 2006).

Including for reasons described above, I believe these helped improve the equity of our partnership and depths of our inter-personal relationships which also, in turn, I think enriched the quality, quantity, and the epistemological and ethical rigor of our research. These two kinds of rigor are the first two “e”s of triple-e rigorous storytelling.

The seventh key to our collaboration on this case study research was the gift of substantial time and money—ultimately seven years and nearly US$5 million. We needed this time not only to complete an enormous scope of work, but to learn to do it together. In the cliché-but-insightful framework for describing stages of group collaboration (Tuckman, 1965), we formed and then stormed—frequently and at times heavily—particularly through our second year. In our 2014 national meeting, a small working group developed what became our Food Dignity values statement, marking a turning point towards our most collaborative and productive time from then until the end of our funded time together in 2016. We also were given the national Community-Campus Partnerships for Health award in 2014, a recognition of action-research collaborations striving for equity within their partnerships and in public health outcomes.

An eighth factor has been my excruciating, transformative, and love-infused labors to learn

how to lead and how to follow with personal and academic humility, and the similar work of other academics who have attempted this path with me. This is a journey that I will explore in future writing, and one in which the CBO co-investigators were my guides, mentors, and teachers. (To avoid sounding too romantic about this, I will add that I often verbally characterize some of this guidance as "schooling me" and "slapping me upside the head." We shared lots of love, but little romance.) This depth of engaged emotion is the third "e" of the triple rigor in rigorous storytelling. As Wilson (2008) cites a friend saying, "If research doesn't change you as a person, then you aren't doing it right" (p. 83).

The ninth, and turnkey, factor is the generosity, courage, and ferocious dedication to justice of the community-based coinvestigators in Food Dignity. They were doing the work before this project, and continue to afterwards. At risk of delaying or even derailing their journeys towards food justice, they tolerated or even embraced academic outsiders in following them down some of this road—the one they are making by walking.

Acknowledgments

I am grateful to collaborators, friends, and mentors in Food Dignity. Thanks especially to Monica Hargraves, E. Jemila Sequeira, Katie Bradley, and Gayle M. Woodsum.

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Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Follow the money: Resource allocation and academic supremacy among community and university partners in Food Dignity

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Submitted October 27, 2017 / Revised January 26 and February 25, 2018 / Accepted February 26, 2018 / Published online July 18, 2018

Citation: Porter, C. M., & Wechsler, A. (2018). Follow the money: Resource allocation and academic supremacy among community and university partners in Food Dignity. *Journal of Agriculture, Food Systems, and Community Development, 8*(Suppl. 1), 63–82. https://doi.org/10.5304/jafscd.2018.08A.006

Abstract

A guiding principle in participatory action research collaborations is to strive for equity in relations between community and academic project partners. One promising way of assessing equity and power sharing in such partnerships is to trace and analyze financial resource allocation within them. This paper reports and assesses how nearly US$5 million in grant funding was allocated and spent between community and academic partners in a research, extension, and education project called Food Dignity in the United States. Findings from this analysis of extensive financial project records include that 36% of the funding was subawarded to the five community-based organization (CBO) partners, 40% supported the work of two university partners, and the remaining 24% was invested in developing and supporting the collaboration of many diverse partners on a wide range of project goals. Staff salary and fringe composed the single largest spending arena, making up about two-thirds of spending for CBOs and collaboration, and half for universities. However, had faculty salaries been paid from the grant, rather than by the partnering universities, then this component would have been

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Funding Disclosure

Food Dignity (http://www.fooddignity.org) was funded by USDA National Institute of Food and Agriculture's Agriculture and Food Research Initiative Competitive Grant no. 2011-68004-30074.

Contributors and Supporting Agencies

Blue Mountain Associates; Feeding Laramie Valley; Whole Community Project; East New York Farms!; Dig Deep Farms; University of Wyoming, Cornell University, U.S. Department of Agriculture National Institute of Food and Agriculture.

much higher. Indirect costs and support for graduate students were the next-biggest categories in academic budgets, while CBOs received and spent zero dollars in these arenas. Although this project has received a national award for community-campus partnerships, we find that, even within a narrow lens of an individual community-university partnership, our allocations underinvested in the research expertise, administrative costs, and capacity development needs of the CBOs. Using a wider lens that encompasses the systemic, institutionalized inequities between community-based and university-based partners, we find that we produced and reproduced inequities in our monetary resource allocations in at least four main ways: employment conditions, institutional support, capacity development, and autonomy, including control over funding. We call these systemic inequities *academic supremacy* and close with several institutional and individual recommendations for how to begin undoing them.

Keywords
Food Dignity; Participatory Research; Academic Supremacy

Introduction

A guiding principle in participatory action research is to strive for equity—both in research partnerships and also, usually, in the outcomes of such partnerships. As outlined in community-based participatory research (CBPR) principles, this means facilitating "a collaborative, equitable partnership in all phases of the research, involving an empowering and power-sharing process that attends to social inequalities" (Israel, Eng, Schulz, & Parker, 2005, pp. 7–8).

One promising way of assessing equity and power sharing in such partnerships is to trace financial resource allocation. The allocation and distribution of funding, and the decision-making regarding how that funding should be allocated, may offer an empirically quantifiable indicator of power (in the Foucaultian sense of power being pervasive, circulating, and normalizing (Foucault, 1972/1980; 1975/1995)). Another potential benefit of allocation and spending analysis is to illuminate project leaders' hypotheses, or bets, regarding which investments will best help them reach project goals and how well those bets pay off. Finally, if comparable spending data were available across multiple projects, then cross-project analyses of spending and outcomes might help to identify effective grant-spending strategies, benchmark equitable budget allocations in such partnerships, assess associations between partnership equity and project effectiveness, and increase accountability and transparency in publicly funded research. However, to our knowledge, no funded action research collaboration to date has published detailed financial data and analyses about its partnerships, in either the grey or peer-reviewed literature. In this paper, we[1] offer such financial data and analysis about how we budgeted and spent nearly US$5 million, mostly over five years, in an action research and education partnership called Food Dignity. We also examine the implications for equity in community-academic research partnerships. In addition, Food Dignity's community-university liaison, who is also the founder of one of the five CBOs partnering in the project, provides commentary and insight on our work from the standpoint of a community partner in two essays published in this issue (Woodsum 2018a, 2018b). As she illustrates, CBOs and university partners often experience the process and outcomes of these allocations very differently.

Literature Review

We found four peer-reviewed papers that share some empirical data about financial allocation processes or results in community-academic research project collaborations. Each paper presents very different forms of data, each with different goals, as outlined below. We also searched the grey literature but did not find any further additions to this tiny body of work.

One CBPR collaboration team outlines how it successfully apportioned both tasks and money for a cancer-prevention project among five partner

[1] The "we" in this paper specifically consists of the co-authors of this paper and, more abstractly, the larger "we" of the many organizational and individual Food Dignity collaborators who participated in allocating and spending this money.

organizations (Gehlert et al., 2014). The authors describe a four-stage process of outlining the tasks their project would require, assessing the cost of completing each task, deciding which partners would do which tasks, and then drafting the budgets for each organization accordingly. Their goal was "eliminating institutionalized inequalities" (Gehlert et al., 2014, p. 561). They received assistance from their university partner's research office in assessing the costs and renegotiated budgets after tasks were assigned and before reaching a final agreement. The paper does not share financial allocation data but focuses instead on how the budgets were developed as a suggestion for how to allocate funding equitably.

Another paper derives eight lessons from decades of collaborations to improve Native American health, including two specifically regarding financial allocations (Burhansstipanov, Christopher, & Schumacher, 2005). One of the lessons is to allocate budgets comparably among partner organizations. The authors share one formula used in their partnership where, after first allocating about US$40,000 for administrative and data analysis costs to the primary grant-receiving organization, the rest of the funding is allocated equally. (Indirect costs are not mentioned explicitly.) The other financial lesson was to provide salaries, not just stipends, to Tribal partners and staff. The authors chide academics for asking community-based people to volunteer while academic-based people receive salaries, noting "this is inappropriate" (Burhansstipanov et al., 2005, p. 74).

A third paper provides some detailed spending and cost data from a subset of a budget for a collaboration between a university and an Alaska Native community. The collaboration investigated how to disseminate results from genetic research studies (Hoeft et al., 2014). The goal of this academic-authored paper is to "inform budget discussions in community-academic partnerships" (Hoeft et al., 2014, p. 263) by accounting in detail for US$115,461 in project expenses. This amount represents about 18% of the US$632,828 award (including indirect costs) from the project funder, the National Institutes of Health (NIH) (author calculations from Table 1 in the paper and from the project's public funding record [Ethics of dissemination, 2010]). The largest spending category that the authors report, by far, is on food and travel expenses for project meetings. These totaled 73% of the reported expense amount, or US$85,500 (author calculations from Hoeft, p. 226). Another US$25,238 was paid to community partners as honorariums. The authors tabulate the cost of academic-based people's time spent on between-meeting communications (email, phone, and mail) as US$4,825. They do not provide cost estimates for the likely much more substantial investments of academic time in travel and in-person meetings. They also qualitatively list opportunity costs, borne by community and academic-based partners, of participating in the collaboration. The authors note the importance of investing in the time and travel costs for face-to-face meetings in such collaborations, while providing sufficient community compensation for opportunity costs. They also note the importance of striving to shift academic institutional policies to reduce academic opportunity costs by valuing CBPR more.

Finally, a fourth paper assesses budget allocations to academic vs. community partner organizations across 49 CBPR projects funded by the NIH from 2005 to 2012, based on budget justifications submitted with each project proposal (Cain, Theurer, & Sehgal, 2014). When the authors were not certain of an allocation, they erred on the side of naming budget lines as community rather than as academic. They found that of the US$139 million in total awarded amount (including direct and indirect costs), 68% of funds went to academic organizations and 30% went to community partners, with the remaining 2% unclear. Half (24) of the projects analyzed included an award or subaward to a CBO partner. Community financial shares were higher, on average, (35%) in those projects than for CBOs partners without awards or subawards, who received 22% of their average total project awards. Within the average project, with US$2.8 million in funding, the authors also summarized average budget line allocations (e.g., for personnel, travel, indirect costs) for academic and community partners. In the average project, personnel costs represented the largest single budget

category for both academic and community partners, with 49% and 65% allocated for these expenses, respectively. For academic partners, indirect costs represented the second-largest budget category, constituting 43% of the total average budget; however, indirect costs composed only 7% of community partners' total budget (author calculations from data in Table 2, Cain et al., 2014, p. 143).[2]

All four of these papers discuss the importance of allocating funding more equitably between community and university partners. All four describe projects in which academic partners, rather than community partners, held and managed the grants. Of this limited empirical literature on the budgeting of community-academic partnerships, the papers by Cain et al. (2014) and Burhansstipanov et al. (2005) provide empirical reference points for actual community vs. academic partner allocations. Even though indirect costs make up a major proportion of funding for university partner research, the paper by Cain et al. (2014) is the only one to discuss indirect costs. Their work especially, and to some extent the paper by Hoeft et al. (2014), also provides some insight into intraproject allocations between expense category lines. Gehlert et al. (2014) is the only paper in this group to suggest a process for matching the scope of work in a project to the appropriate amount of funding.

A larger body of work discusses principles for equitable partnerships between community and academic institutions and individuals, including direct or indirect references to resource allocation specifically (Israel et al., 2005, pp. 7–9; Israel et al., 2003, pp. 59–70). For example, the goal of "democratizing science by valuing communities as equal contributors to the knowledge production process" (Wallerstein & Duran, 2010, p. S44 could include valuing these contributions in financially equitable terms. However, academic authors have rarely been explicit about their resource-sharing practices. In one rare example of a specific mention of monetary allocations in the literature, it is about stipends paid by academic partners to community-based partners:

> The potential for success of CBPR efforts may be enhanced if sufficient funds are allocated to pay stipends for community members' time and to absorb costs associated with their participation, such as child care, transportation, and meal expenses. Some analysts have suggested that community members be compensated for their time at the level of graduate student researchers as a further demonstration of respect for their contributions. (Minkler, Blackwell, Thompson, & Tamir, 2003, p. 1212)

Since then, approaches that use stipends as a means to pay community-based collaborators have come under fire as inequitable, especially when academic-based collaborators are receiving salaries, as in the Burhansstipanov et al. (2005) paper discussed above.

The professional association Community-Campus Partnerships for Health (CCPH) mentions resource allocation explicitly in its Principles of Partnership list—namely, that a real partnership "balances power among partners and enables

[2] In addition to paying direct costs of a project, some funders also cover "indirect costs" that grantees incur for general operations (e.g., building maintenance or rent, research review board services, internet service, heat) but that are difficult to calculate precisely enough to charge proportionately to a funder as a direct cost. If a funder does agree to pay indirect costs to grantees, it usually does so as a percentage of direct costs awarded. Grant-making foundations commonly pay a 10% indirect cost rate to grantees, though some pay none. U.S. federal funding agencies, such as the USDA and NIH, pay much higher indirect cost rates to grantee organizations that have individually negotiated an indirect cost rate with the federal government. The average indirect cost rate paid to NIH awardee organizations is reported to be 53% (Ledford, 2014). Using the numbers reported in Cain, Theurer, & Sehgal (2014) for the 49 NIH-funded CBPR projects, it appears that the average university received indirect cost rates of 74.4% (paid on top of their direct cost awards) vs. 7.5% indirect cost rates paid to community partners (author calculations from data in Table 2, p. 143). The federal agencies generally will negotiate rates only with organizations that hold major amounts ($10 million or more) in federal funding awards. Recently, they have become more systematic about suggesting a 10% *de minimus* indirect cost rate for organizations without a negotiated rate. In addition, exceptions to these rates are published by each agency.

resources among partners to be shared" (CCPH, n.d.). A subgroup of CCPH's community-based research partners—the Community Network for Research Equity & Impact (CNREI)—has issued even more explicit guidance about resource allocation and overall equity in the research enterprise. Its agenda envisions not only equitable research partnerships with academic-based researchers, but also "a shared, balanced, and equal ownership stake in the decision-making system for the research enterprise at the federal, state, local and academic levels" (CNREI, 2013, p. 3) and that "community leaders and community-based organizations will be compensated at the same rate of pay for their time and expertise as academic partners" (p. 4). Of all the practices and principles in the literature, this CNREI guide is the most explicit about not only undoing internal financial inequities within projects, but also the institutionalized inequities between community and academic partners in the research enterprise.

This paper makes a significant empirical contribution to this limited literature about financial resource allocations and their implications in community-university research partnerships by analyzing and assessing spending in a community-university collaboration called Food Dignity using an institutional (in)equity lens.

Background and Setting

One of the policy successes of the now-defunct Community Food Security Coalition was to secure a line of funding from U.S. Department of Agriculture's (USDA) National Institute of Food and Agriculture (NIFA) for Community Food Projects, which aim to build community food systems and improving food security. The first annual request for applications (RFA) was in 1996. NIFA appointed Elizabeth Tuckermanty as the program officer for this funding stream. Over her first decade of overseeing Community Food Projects, Tuckermanty began to wish that more of the extensive experience and wisdom accumulating among community project leaders could be codified and disseminated (personal verbal communication to Porter, 2011). With this in mind, when NIFA was redesigning its Agriculture and Food Research Initiative (AFRI) competitive grants programs, she successfully advocated for and developed an RFA for "Improved Sustainable Food Systems to Reduce Hunger and Food Insecurity Domestically and Globally" whose purpose was to "develop research, education, and extension sustainable programs on local and regional food systems that will increase food security in disadvantaged U.S. communities and create viability in local economies" (USDA NIFA, 2010, pp. 11–12). Proposals were invited for "integrated" projects—that is, projects that blend research, extension, and education. Such projects could be awarded up to US$5 million over five years, with multiple partners. NIFA expected to fund up to five projects. So that these projects would leverage the expertise of community-based work in these arenas, the RFA noted that "there are many regional and local sustainable food system programs across the country addressing food insecurity by developing small food economies in diverse ways" and required that "applications must explore best practices in these projects" (USDA NIFA, 2010, pp. 12).

When NIFA issued that call in early 2010, Porter was finishing a community nutrition doctorate at Cornell University and had accepted an assistant professor position at the University of Wyoming (UW), to start in the fall. She began drafting a proposal by drawing upon her academic studies and the mentorship of an experienced community organizer in Ithaca, E. Jemila Sequeira. Porter then invited five CBOs to collaborate: Blue Mountain Associates (BMA) in Wind River Indian Reservation; Feeding Laramie Valley (FLV) in Laramie, Wyoming; Whole Community Project (WCP) in Ithaca, New York; East New York Farms! (ENYF) in Brooklyn, New York; and Dig Deep Farms (DDF) in the Bay area of California. These invitations were largely cold-call contacts except for WCP, which Sequeira directed. In issuing these invitations, Porter considered geography (for variation and for travel-related practicality) and diversity of historical and institutional contexts. As described in the series of essays that open this special issue (Daftary-Steel, 2018; Niedeffer, 2018; Porter, Woodsum, & Hargraves, 2018; Sequeira, 2018; Sutter, 2018; Woodsum, 2018a), leaders of each of the five CBOs decided to collaborate on

the Food Dignity project proposal.

Academic collaborators included professors, research staff, and graduate students at UW, which was the primary grant holder, and at Cornell University. Porter also recruited a "think and do" tank called the Center for Popular Research, Education and Policy (C-PREP) to work as a liaison and support between community and academic partners and to assist the CBOs with research.

The final proposed plan included UW issuing subaward contracts to each of these seven partner organizations (ENYF, WCP, BMA, FLV, DDF, Cornell, and C-PREP), who would receive and manage their own budgets and scopes of work. Our two overarching goals, as stated in the proposal, were:

1. Identifying, developing, and evaluating scalable strategies for organizing sustainable community food systems for food security, in collaboration with communities facing food insecurity.
2. Expanding the capacity to catalyze, support, and research sustainable community food systems for food security in cooperative extension, CBOs, citizens living in low-income communities, and universities.

In June 2010, Porter was in the midst of moving from Ithaca, New York, to Laramie, Wyoming, while the UW research office submitted the team's Food Dignity proposal to NIFA. Then, on a Friday afternoon in mid-September, Tuckermanty called to let her know that Food Dignity, as the "top rated" proposal, would be funded. We were ultimately awarded US$4,978,700. We started officially in April 2011 and, with two no-cost extensions, officially ended in March 2018.

Methods

The primary data used in this paper include, for each partner organization, numbers related to budgets as originally laid out in the grant proposal, budgets as actually subawarded to partners, and actual spending recorded via accounting. These data were meticulously maintained throughout the project for practical and technical reasons, which made them readily available for this analysis.

We examined our overall budget allocations to the organizational partners in four main forms: the five-year budgets originally proposed to NIFA in 2010, the revised budgets included in our annual continuation award proposals required by NIFA, our budgets as actually subawarded to each organization, and the financial reports of actual spending provided to UW by each CBO. For results about CBOs, we used subawarded funds for analyses because they were the most thorough and consistent accounts, and the spending reports to UW from each CBO generally were consistent with subaward line items and did not add any further detailed data. At UW, we had highly granular access to the university's spending data, with a spreadsheet line for every individual expenditure. We coded each line, which yielded the main expenditure categories reported here—of staff, students, indirect costs, and "other." Similarly, the project coordinator at Cornell, Suzanne Gervais, also categorized and reported their institutional spending data, using the same broad categories as UW, for inclusion in this study.

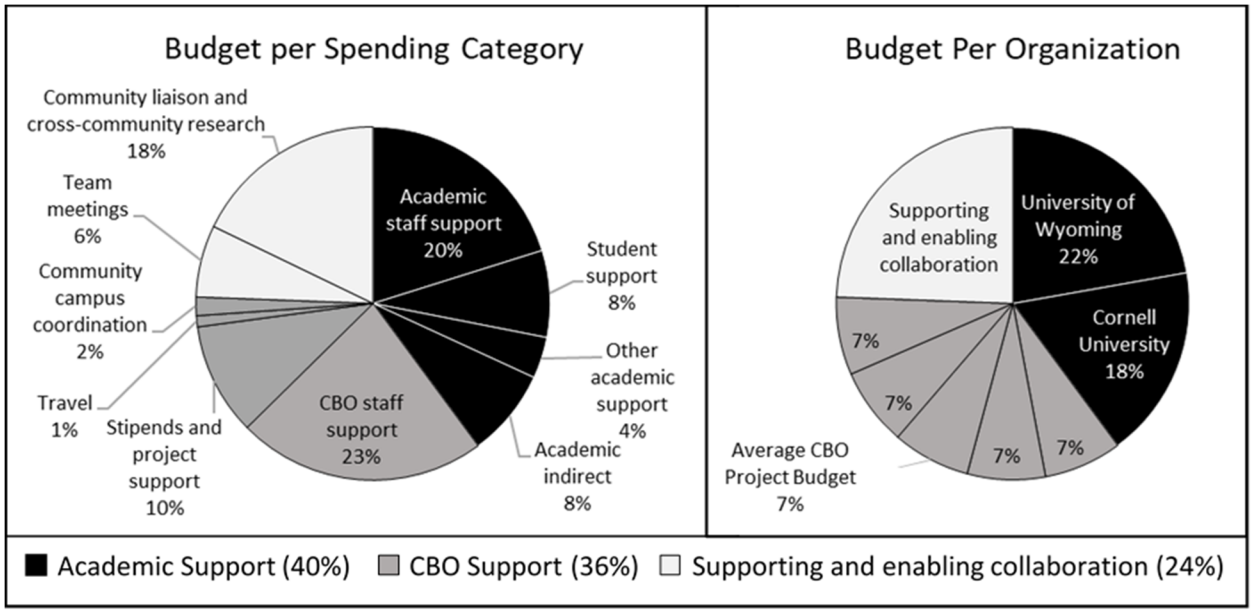
Finally, we consulted internal memos, emails, and field notes related to the Food Dignity project to help us confirm, contextualize, categorize, and explain budgeting and spending decisions as needed during analysis.

Results

We invested the nearly US$5 million Food Dignity award in three main categories: about 36% to CBO support, 40% to academic support, and the remaining 24% to supporting and enabling collaboration among and between the organizations. Per capita, individual CBOs received *much* less of this pie, receiving 7.2% of the total amount each, while the universities received 18% to 22% each. Therefore, despite the fact that total allocations to academic support versus CBO support were similar (within 4%), numerous CBO partners reflected that the budget allocation did not feel equitable in part because the per-organization amounts were so much higher for academic organizations than CBOs (see Figure 1).

Allocations to the five CBOs were very similar, as were expenditures by each university. In all three

Figure 1: Food Dignity Spending of the US$4,978,700 Budget, by Category, 2011–2018



main categories, staffing costs occupy the largest slices—about half for the universities and nearly two-thirds for the CBOs and for the collaboration category (via salary support for community liaison and cross-community research positions).

UW was the awardee and fiscal agent for the USDA NIFA funds. Each organizational partner then received subaward contracts from UW with associated budgets and scopes of work, which were all developed and agreed upon during the proposal development stage. Each sub-awardee organization had the authority to internally reallocate their funds as needed to most effectively meet that scope of work within federal allowable costs rules.

The sections below characterize the allocations awarded to the five CBO partners, the spending by the university partners, and the investments in collaboration among project partners.

CBO Budgets: US$1.78 Million Total

Each CBO managed a budget of about US$67,800 per year, on average, during the five-year Food Dignity project (Table 1). From the proposal stage onward, Porter called this the *community organizing support package*. These packages represented the bulk of our investments in the "extension" components of the project, which constituted supporting CBO action. Unusually, the RFA included "implementation of community organizing" as an extension activity (USDA NIFA, 2010, p. 13). The CBO budgets also included lines for research support and a small amount for administration.

Porter proposed draft scopes and budgets to each CBO when preparing the proposal in 2010. Input from each led to some shifts in the plans and allocations ultimately submitted to USDA. For example, BMA wanted to redirect some of the support to founding a tribal farmers market; therefore, their "animator" line was specified for market management instead. ENYF suggested adding Photovoice to the overall research methods. The other CBOs agreed to this, and research materials and the community researcher lines were increased in the first and last years in each CBO budget to help account for that addition.

However, since the community organizing support package was flexible and would be shared as a subaward in the control of each CBO, the organizations mainly embraced the draft plan Porter floated with each, knowing that they could adjust it later as needed. Table 1 provides a summary of the average annual budget for each CBO's community organizing support package.

A core research goal in Food Dignity was to analyze the CBOs' use and assessment of this package as indicators of two things: One, their

Table 1. Average Annual Community Organizing Support Package Budget for 2011 to 2016, Subawarded to Five Community Organizations [a] (all amounts in US$)

Budget category	Average per CBO per year	Scope and purpose
Community organizer (salary and fringe)	$26,600	For 50% of a full-time organizer to lead and manage the community organizing support package work and Food Dignity reporting and collaboration.
Community researchers (as salary and fringe or stipend)	$12,900	For salary or stipends to compensate people working to answer community-driven research questions related to Food Dignity
Grant manager (salary and fringe)	$5,800	When the proposed 10% for indirect costs was rejected by USDA, most CBOs chose to move that funding to this line as a direct cost.
Minigrants	$6,000	CBOs designed and implemented how to award these, and to whom, to support citizen-led work to improve food security or sustainability in their communities.
Community animators (stipend)	$2,800	For stipends to community leaders to assist with soliciting, supporting, and tracking minigrant-funded projects.
Steering committee (stipend)	$3,000	Stipend and travel for community leaders, as convened by community organizer, to support and guide CBO work and to help design and implement the minigrant program.
Materials and supplies	$3,500	For example, cameras for digital storytelling, laptops, refreshments for meetings, stationery.
Travel	$2,000	Any travel related to the project, including for dissemination or capacity development (travel to annual project meetings was covered separately by UW's budget).
Leadership development funds	$5,200	Piloted as a $5,000 addition to the package in 2012 and then committed for 2013–2015 at $7,000 per year per CBO.
Subtotal (not including community/campus coordination activities)	$67,800	This is the average annual amount (excluding the two categories below) that each CBO partner managed, primarily via a subaward from UW, for Food Dignity work.
* Student internship programs (FLV and WCP only)	$5,000	FLV is geographically close to UW, and WCP is close to Cornell and Ithaca College. Their scopes of work and budgets also included funding for supervising and/or paying student interns and for a small amount of time for a coordinator to participate in the development of university minors in sustainable food systems and to recruit, place, and support interns. Only FLV and WCP received these additional average amounts each year. Therefore, these numbers are averaged across only two organizations.
* Community/campus coordinator (FLV and WCP only)	$3,400	
TOTAL	$71,200	This is the average annual amount that each CBO partner managed, primarily via a subaward from UW for Food Dignity work with community-campus coordination.activities averaged across all five organizations.

[a] The five community-based organizations (CBOs) are Blue Mountain Association (BMA), Dig Deep Farm (DDF), East New York Farms! (ENYF), Feeding Laramie Valley (FLV), and Whole Community Project (WCP).
* Line items marked with an asterisk indicate community-campus coordination activities only awarded to CBOs working directly with participating universities, including Feeding Laramie Valley (University of Wyoming) and Whole Community Project (Cornell University). These budget items are not included in the annual average of US$67,900 but are included in the US$1.78 million total CBO budget amount.

investments likely signal new strategies that food justice leaders within each CBO wished to try, based on their expertise, priorities, and experience; and two, their spending (combined) and their assessment of the package likely provide insights into how funders and partner organizations can best support the work of such CBOs. Thus, we conducted a separate, more detailed analysis of lessons from CBO budget and spending results

(see, e.g., Woodsum, 2018b).[3] However, for the purposes of the research questions in this paper regarding our allocations within the larger action-research partnership, we report four findings here.

First, indirect costs, including support covering costs of facilities, are notably absent from this package. Though Porter had proposed a 10% indirect cost rate on the direct cost budgets for each of the five CBOs and for C-PREP, the supervising accountant at USDA chose not to allow the indirect costs for those organizations. In consultation with each organization, UW converted those funds to direct costs instead, in most cases as salary for staff who managed the subaward administration. The loss of the flexibility of unrestricted indirect funds was a blow for the CBOs. The inequity of it was magnified by the substantial indirect cost amounts awarded to the universities. The lack of unrestricted indirect costs created particular hardship for the smallest organizations. One leader illustrated this vividly by wondering if they were supposed to "work out of the trunk" of a personal car.

Second, although CBOs were allowed to move funding between lines in their subawards, their spending reports to UW tended to mirror or even replicate the budget allocations as originally laid out in the grant application. Though each CBO did spend its money in ways designed to maximize impact on its desired outcomes while meeting the Food Dignity scopes of work, many of the organizational leaders reported feeling constrained by the proposed allocations, feelings based on decades of experience with nonflexible funding and also because of the power UW held over this funding.

Third, most of the CBOs could not afford to front the costs of implementation for later reimbursement, which is the funding structure generally used by federal funding agencies. This meant that UW needed to modify typical funding procedures to provide advance payments for CBOs.

Fourth, both need and opportunity for food justice action and knowledge generation outstripped what this package supported, which we made up for in only small part via transfers from university budgets to CBO ones over the course of the project. These last two budgeting issues and results are described in more detail below.

Advance payments to CBOs

Like most funders, federal funding agencies pay grantees in arrears for project-related costs. However, this reimbursement system only works for organizations that have enough credit and cash on hand to pay these costs and to safely carry them for at least six months before being paid back. As a doctoral candidate when putting together the Food Dignity proposal, Porter was ignorant of normal practice when applying for the funding and presumed that UW would pay subaward amounts to CBOs in advance.

When the proposal was awarded, the UW Research Office did, in fact, agree to do that. For the CBOs that requested them, UW provided quarterly advances and then later, to reduce paperwork burdens and increase CBO flexibility in spending decisions, six-month advances. This was essentially a loan from UW to each CBO, which the USDA then "repaid" about nine months later when UW expenditures were approved and reimbursed.

Reallocations to CBOs from Universities

In the original 2010 project proposal, the average CBO's total budget allocation was US$314,800, or about US$63,000 a year. In practice, by the end of the project in 2016, the actual average allocation to each CBO was US$356,200, or around US$71,200 per year (including the community-campus coordination funds awarded to FLV and WCP only, as shown in Table 1).

This increase to CBO budgets decreased university budgets by US$207,200 over five years. This represented about 10% of UW and Cornell's direct cost funding out of the original allocations and added US$8,200 a year to the average annual budget for each CBO.

WCP and FLV each received more of these

[3] For example, a consensus among the CBOs was that this package had too many small pots of money, especially for stipends (including "animators," minigrantees, steering committee members, and research assistants), without proportionate and sufficient amounts to pay CBO staff for recruiting, supporting, managing, and mentoring them.

reallocations than the other three CBOs. This was, in rough proportion, the additional research and, especially, education-related requests that Cornell and UW made of each because of their geographic proximity. In Laramie, we decided to move nearly all the US$40,000 in student internship money that was originally in the UW budget to FLV and the remainder to BMA. In Ithaca, Cornell drew from part of the graduate student budget savings (see below) to increase the salary of the WCP community organizer. Cornell contributed the rest of these savings to adding a leadership-development component to the CBO packages.

During the first three years, Porter asked community-based researchers two or three times each year if they would like to travel to co-present joint work at national conferences, ultimately paying US$12,200[4] in community partner travel expenses. She agreed with CBO leaders that allocating money directly to their budgets would be better, practically and ethically, instead of Porter making these travel invitation decisions. In addition, by the third year of the collaboration, the CBOs had explicitly identified leadership development as one of their most important, but most underfunded, activities. Thus, after piloting a US$5,000-per-CBO version of leadership-development support in the second year, mostly from Cornell contributions, UW committed US$7,000 per organization per year for the final three years of Food Dignity for leadership-development work. This additional US$26,000 per CBO was tied to a leadership-development plan for action and for briefly sharing outcomes and learning from that action. In other words, this reallocation to CBOs added at least as much workload as it did money to pay for it.

University Budgets: US$1.99 Million Total

Over seven years (including the two no-cost extension years), UW spent US$1,108,000 and Cornell spent US$882,900. Central administration of each university took a total of about 20% of these amounts as indirect costs, leaving academic partners with US$1,590,900 to spend directly on Food Dignity work.

At the start of the project, Porter had mischaracterized these community vs. university allocations in two key ways. One, she excluded indirect costs in her framing calculations regarding how equitable (or inequitable) the Food Dignity allocations were. However, the approximately US$500,000 for facilities and administration obviously supplied substantial institutional support to the two universities, while the CBOs received none. Two, though she had explicitly called the CBO allocations the *community organizing support package*, Porter initially did not think to name the university financial support as a package as well. Failing to name and publicly quantify the university packages served to naturalize and normalize the substantial allocations to academic institutions, making them nearly invisible in our public discussions about Food Dignity. She realized this while preparing slides about the project budgets for a CCPH presentation about Food Dignity in 2014. From then on, she called the university funding the *university support package.*

The following sections characterize the direct-cost allocations and spending in the university support packages. Figure 2 summarizes overall spending at the two universities.

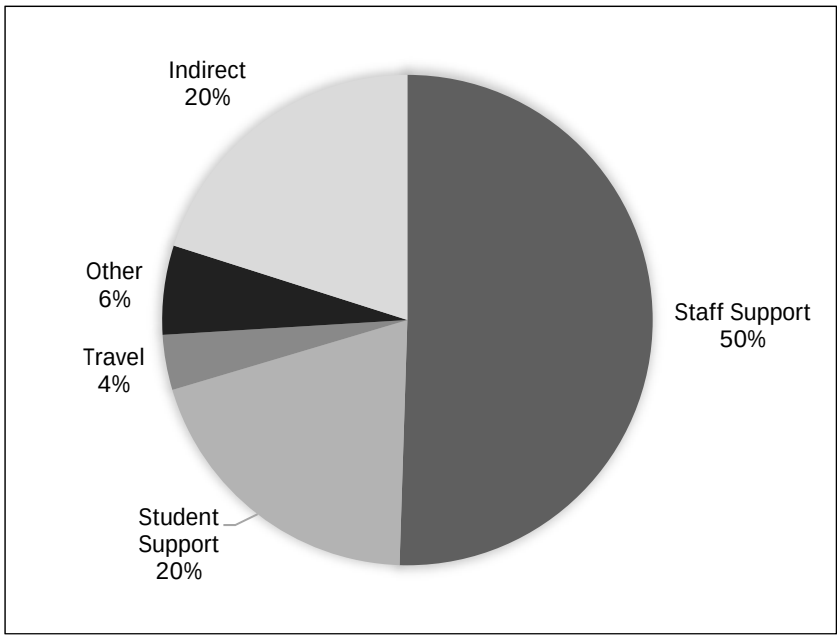
Academic staff

As with the CBOs, the universities' largest expenditure category was staff salaries plus fringe (which cost an additional 50–60% of salary to pay, for example, for health insurance and retirement contributions). At UW, this staffing was almost entirely for project coordination and research assistance. Starting in 2013, this role was filled by a full-time research scientist, Alyssa Wechsler. At Cornell, this staff budget supported fractions (10–25%) of the time for senior project coordinator Suzanne Gervais, agroecology lab technician Heather Scott, and for people who coordinated the development of a new community food system undergraduate minor. This also paid for 15–40% of Monica

[4] This amount is included in the "collaboration" spending results because convening at such events for our presentations also functioned as informal team meetings, and because it was not spent in university support nor was it under direct CBO control.

Figure 2. Spending of the Food Dignity Grant by Category by the University of Wyoming and Cornell University, 2011–2018

Although the University of Wyoming's overall spending was higher than Cornell University's (US$1,108,000 versus US$882,900), they had similar proportional spending by category, so their spending is combined here (total budget of US$1,990,900).



Hargraves' time for her leadership on minigrant-related research. Hargraves' scope later expanded to encompass WCP research support; conceiving and co-developing collaborative pathway models with each CBO (Hargraves & Denning, 2018, this issue); and becoming part of the overall project leadership team with Porter and Gayle Woodsum. A much smaller portion of the staff spending includes paying for some short-term, part-time, hourly work on Food Dignity research conducted by people who had previously been graduate students with the project.

Porter was the only faculty member on the project for whom Food Dignity paid any salary costs. As is common in universities, UW pays Porter a salary for nine months during the academic year. She is allowed to earn the remaining third of a full-time, 12-month salary during summer months if she garners funding for it. Porter originally budgeted to pay 80% of her three-month summer salary and fringe with Food Dignity funds in each of the five planned project years. In practice, she paid herself for 39% of her time, on average, across the seven years, for her nearly full-time work in the summer months. Savings went toward increased allocations to CBO partners. That said, these savings were limited both by Porter receiving raises on her nine-month salary (which was US$54,600 for 2011–2014 and went up to US$74,500 in 2015) and by extending the project by two years. Also, of course, Porter could have elected to use all of these funds differently instead of paying herself.

Other than this summer pay for the principal investigator, the cost of tenured or tenure-track faculty time spent on Food Dignity work is nearly invisible in our budget analysis, as they were not paid by the project but instead supported by hard money salaries[5] (plus costs of fringe benefits) as land-grant university employees during the academic year. At Cornell, none of the faculty co-investigators—including Scott Peters, Phil McMichael, and Laurie Drinkwater—received a salary from this grant. They each committed 5–10% of their time to its research and education goals as part of their academic jobs (both by advising graduate students and teaching), and any contributions during the summer were uncompensated. At UW, Porter spent at least half her academic-year time on this project during the first five years, including developing and teaching new

[5] Employees whose salaries are paid from funds provided only for a specified time frame, such the five-year USDA grant for Food Dignity, and whose employment will end unless new money is secured, are said to be on "soft money." Those who are paid from funds expected to be stable, such as tuition money, state support, and indirect costs that UW receives, are said to be on "hard money."

food system courses. The state of Wyoming, via UW, paid for nearly all[6] of this time, with a price tag of about US$197,300 (including fringe). This amount alone would have been equivalent to 21% of the total UW direct budget in the Food Dignity grant.

Graduate students

The second largest direct spending category at each university was funding graduate students. USDA funding for Food Dignity paid in full for the studies of five masters students with Porter at UW (Peggy McCrackin, Shannon Conk, Elisabeth "Livy" Lewis, Melvin Arthur, and Lacey Gaechter). The cost of each degree, over a two-year course of study, was about US$43,000 (US$216,000 total for the five students). At Cornell, annual graduate student support packages cost more than double UW's, with higher tuition and, at that time, approximately US$22,000 in academic-year stipends (vs. the US$11,400 UW graduate students received in an academic year; additional summer funding was paid to students in some years at both institutions). The project supported about two-thirds of the costs for one doctoral student, John Armstrong, who worked with Peters. Armstrong spared Cornell's Food Dignity budget about US$80,000 by garnering other assistantships to pay the other third, intentionally freeing up some funds for transfer to CBO partners. The Cornell budget was also used to support small portions of the studies of two agroecology students who studied with Drinkwater. The total Food Dignity support for Ph.D. students at Cornell was about US$180,100.

Roughly half of graduate students' time went toward Food Dignity-related teaching and research. In this sense, some of the graduate student support could be considered a staffing cost.

Travel and other

The rest of university spending was on travel and on expenses categorized as "Other," such as stipends to community-based research collaborators and participants who were not receiving salaries from the CBOs as co-investigators (US$25,000); interview transcriptions and general materials and supplies (US$25,900); expenses (not including travel) related to information dissemination such as publication and printing (US$20,100); expenses related to the Team GROW project at UW (US$9,000); and honorariums to Food Dignity partners for contributions to final project outputs in the final years of no-cost extension (US$37,000).

Travel budgets funded conference presentation expenses and visits to CBO partners. For example, at UW, conference travel cost US$16,900 over the course the project, paying in part or in full for Porter's travel related to 32 Food Dignity presentations and posters. Her travel to visit with project partners cost an additional US$11,500, funding 15 trips in total to WCP, ENYF, and DDF, plus 16 to BMA in Wind River Indian Reservation. (Porter is co-located with FLV, so visits with that organization did not incur travel costs.)

Supporting and Enabling Collaboration: US$1.22 Million Total

We invested US$1,218,400 in our team's collaboration work primarily in two ways. Nearly three-quarters of the nearly US$1.22 million went to support cross-community research and community-liaison services, including salary and travel for a liaison between community and academic partners. Duties for the community liaison role included advocating for CBO interests in the project; co-investigating research on the collaboration itself; and assisting CBOs with their research contributions. We began the project with Hank Herrera at C-PREP in the designated role of community liaison; he also was a manager at CBO partner DDF. About halfway through the project, most of that scope of work and associated funding was transferred to Action Resources International (ARI), led by Gayle Woodsum. ARI also houses the CBO partner FLV.

The rest of this collaboration budget—US$328,700 over the five years—paid for our eight

[6] The Food Dignity grant did also pay UW back for a small portion of Porter's academic-year work; a US$25,300 "buy-out" of her time went toward paying adjunct instructors to teach two courses a year, in lieu of Porter. This amount is excluded from the state-funded contribution listed.

national team workshop meetings. This covered food, lodging, and transportation for the participating team members. The size of meetings ranged from 8 to 38 people, with an average of 28 and a median of 33 participants. This also includes retaining facilitation and training services of Lila Cabbil twice and also of Malik Yakini, Eric Holt-Giménez, and StoryCenter. For example, 18 of us met in Oakland for four days in January 2015, including three days with StoryCenter, to produce digital stories of our individual journeys fighting for food justice and Food Dignity, contribute to a minidocumentary about that process, and produce brief stories about others in our organizations or lives who have inspired us. That meeting cost about US$58,100, including postproduction work by StoryCenter. These team meeting figures do not include the substantial staffing costs of organizing the meetings, provided mostly by the project coordinator at UW (Wechsler), but also by the community-campus liaison and, to a lesser extent, the leader at each partner organization.

Funding for team meetings was held within the UW budget, meaning that Porter ultimately controlled these dollars and that the institution received indirect costs on this sum.

Discussion

The results above outline our funding allocations and spending among the community and academic partners in the Food Dignity project. Of the nearly US$5 million budget, 36% went to five CBOs, 40% to two universities, and the remaining 24% was invested in supporting and enabling our collaboration.

We believe this is the first paper to share and assess such complete data on action-research project allocations and spending. On their own, these figures provide some transparency in that they highlight the use of these public monies and provide some technical benchmarking for others who are budgeting for such large, multigoal, multistakeholder projects. In this discussion, we consider these decision-making power, allocation, and spending results as an empirical indicator of equity and power-sharing, or lack thereof, in our community-university partnership. As outlined below, we find that our allocations reflect and reproduce systematically unbalanced power relations between academic and community partners. We call this systemic imbalance *academic supremacy*.

(In)equity and Our (Re)Production of Academic Supremacy

Our inequity problems begin with the overarching issue of one academic person—Porter, in this case—having the singular and sole power to allocate the Food Dignity budget (within both the confines of the scope agreed upon by USDA and collaborators and within funder and UW spending rules). By granting subawards to each CBO, she elected to devolve some of this power to the directors of each organization who, in turn, had authority over their budgets and spending. However, as indicated in the paper by Cain et al. (2014) about NIH-funded CBPR projects, only half of the academic grantees in their review issued funding to their community-based partners directly. This hierarchy of power institutionalizes inequity. Our inequity problem in Food Dignity, similarly, stems from who allocated the funding (i.e., Porter) and how she allocated it.

If the benchmark for assessing equity in our Food Dignity allocations were comparable with the limited data highlighting how other CBPR projects have spent their money, our allocations come out well. For example, if we used the approach of Cain et al. (2014) for categorizing spending in NIH-funded CBPR projects, both the CBO allocations and nearly all of the investment in our joint collaboration would have been counted as "community." By this count, Food Dignity's community vs. academic spending would be roughly 55% vs. 45%, respectively, as opposed to the 30% vs. 68% averages identified in that review.

However, the benchmark for equity is not *what is*, but *what should be*. By this measure, Food Dignity allocations and spending fare less well.

In our analysis of these (in)equities, we suggest the phrase *academic supremacy* to signal the systemically inequitable social relations between university partners (individually and institutionally) and community-based people and organizations, that

are pervasive and institutionalized in U.S. society.[7] A scholar discussing nonprofit funding more generally describes this problem as "institutionalization of a relation of dominance" (Rodríguez, 2007, p. 39).

Because academia is not integrated across U.S. society to the extent to which, for example, race and gender are, this form of oppressive relations is not as ubiquitously experienced as, for example, racism and sexism. Also, as with all forms of social oppression, it is intertwined with, or "intersectional" with, these other forms of oppression. For example, in Food Dignity, many of the community partners are people of color, while nearly all the academic partners are white, including Porter (see Gaechter & Porter, 2018, this issue). Because the project was a community-university collaboration, concrete manifestations of academic supremacy impacted our everyday work and structural relations. These manifestations included producing and reproducing inequities in our monetary resource allocations in at least four main arenas: employment conditions, institutional support, capacity development, and autonomy and control of the funding.

1. Employment conditions

Employment conditions within academic institutions are generally more favorable than those in CBOs in terms of salary, and even more so in terms of benefits (in particular, employer contributions to retirement funds and health insurance premiums) and job security. On average, this was certainly the case in Food Dignity. To some extent, this was determined by Porter's budgeting. This, in turn, was shaped by pay scales and policies within each partner organization.

These differences are systemic. For example, UW and Cornell required that grant funds pay fringe rates equivalent to 41% and 56%, respectively, on top of any salaries paid out of the award (with indirect costs charged on top of that). Of the five CBOs, only ENYF submitted a budget with fringe on top of salaries, at a 32% rate. (In addition, the parent organizations housing DDF and WCP explicitly told Porter that their fringe costs would be covered by other sources.) Directly related to fringe rates on pay, all academic partners enjoyed health insurance benefits, whereas only some CBO-based partners could afford to offer those benefits.

Also, except for one director-level civil servant working with DDF, none of the community-based collaborators enjoy any job security. In universities, for tenure-track academics—as stressful as the six years of tenure-clock ticking are designed to be—the tenure process entails nearly certain job security for seven years with the additional promise of lifelong job security if tenure is awarded. Even for the university-based collaborators paid by soft money from grant-funded work, including Food Dignity funds, salaries and benefits were relatively secure; everyone who was employed by the university partners before the project started remained employed when the project ended. By contrast, nearly everyone working with the CBO partners was paid out of soft money, which sometimes made simply making payroll challenging for some of the organizations. Jobs were frequently at imminent risk. Funding program continuity or growth was a challenge for all five CBOs. Overall, most of the individual collaborators based in academic organizations enjoyed better benefit packages, more job security, and better salaries than most of the community-based partners. The universities that employed them never had to worry about whether they could meet payroll and continue their teaching, research, and service work.

However, there was one group within the academic setting that did not receive better pay rates: graduate students, who received between US$11,400 and US$27,400 a year in assistantship stipends (with the top end of that range including stipend increases over the five years and summer

[7] The systemic, institutionalized nature of this power imbalance, which we call *academic supremacy*, confers privilege to individual academic partners over community-based researchers. However, it does not mean that we claim individual academics are academic *supremacists*. Similarly, systemic racism in U.S. society yields white supremacy, which in turn generates white privilege for white people in the U.S. (even if many simultaneously endure other individual or systemic forms of suffering); however, very few white people are white supremacists.

pay at Cornell). The idea in Minkler et al. (2003) that community-based co-investigators be paid at student rates is remarkable, and not in a good way, as illustrated by two other essays in this issue—one by the FLV founder and Food Dignity community-university liaison (Woodsum, 2018b) and the other by graduate students in Food Dignity (Bradley, Gregory, Armstrong, Arthur, & Porter, 2018). Experienced community leaders and organizers often mentor graduate student researchers, as they did extensively in Food Dignity. For example, after a joint presentation about our work in late 2015 by Sequeira and Porter, an audience member asked Sequeira afterward if she had been Porter's Ph.D. committee chair. In addition, all students received tuition, health insurance, and ultimately degrees along with their stipends. Therefore, student pay rates would provide a highly disrespectful benchmark for community-based researcher pay rates. Other systemic inequity issues with capacity development investments are discussed below.

Especially in a project specifically about documenting and sharing the expertise of community-based partners, we should have met the CNREI standard of paying the same rates for academic and community-based time and expertise. However, we failed to meet these standards. In some of the CBOs, with flexible pay rates determined in-house, providing higher pay would have been an option. When that was not possible, then paying higher fringe rates to cover benefits and covering a greater portion of salaries would have helped to ameliorate, though not eliminate, these inequities.

2. Institutional support

Like all public academic institutions, UW and Cornell enjoy systemic financial support in two forms that CBOs do not: substantial indirect cost income and public investment.

Universities receive significant indirect cost income from external grant funding. For example, universities received US$399,900 of indirect cost income during Food Dignity while CBOs received none. Even when funders do grant CBOs some indirect costs, the amounts are much smaller than the actual overhead. They also exclude a category of direct costs that are actually among the most resource-intensive for many CBOs to administer: "participant support costs." These are "direct costs for items such as stipends or subsistence allowances, travel allowances, and registration fees paid to or on behalf of participants or trainees (but not employees) in connection with conferences, or training projects" (Uniform Administrative Requirements, 2014, p. 90). We do not know why federal funders exclude these from indirect cost payment calculations; tuition costs for graduate students are also excluded, and perhaps the idea is that this kind of capacity development involves minimal administration and is part of the academic mission. For example, for universities, this category includes paying cash stipends to research participants and honorariums or per diem expenses to external advisers. However, for CBOs that extensively support "participants" as mentees and developing leaders with this funding line, excluding them compounds the hardship of having low or no indirect cost funding to cover basics such as bookkeeping and accounting. Public universities also receive general-purpose support from state governments. For example, UW receives about a quarter of a billion dollars each year in general state funding (UW Office of Academic Affairs and Budget Office, 2013). In contrast, the two Wyoming-based CBOs in Food Dignity—FLV and BMA—receive US$0 in such general funds. Though public funds for higher education have been decreasing, sometimes dramatically, over the last decade (Mitchell, Leachman, & Masterson, 2016), the funding provided is still substantial.

Overall, one of our major failures in Food Dignity was insufficient attention to supporting the five CBOs in building financial sustainability, particularly in the face of these systemic inequities. This should have included, for example, allocating much more funding for direct overhead costs, staff time, and capacity development for each organization.

Moreover, as the ones with the experiential expertise and practical wisdom about how to build equitable and sustainable community food systems, the CBOs led or co-led much of our research, and community-based partners served as co-investigators in all that work. In addition, leaders from FLV and WCP were heavily involved in formal education as guest instructors, internship coordinators,

and co-planners of new sustainable food system minors at UW and Cornell. Most of the graduate students involved with Food Dignity worked under CBO supervision and mentorship at some point. And yet universities are the organizations with core funding—before, during, and after any grant-funded project—for paying tenure-track academics to generate and document new knowledge and to provide formal education and student mentorship.

3. Capacity development

Food Dignity replicated trends of making much heavier investments in capacity development for academic-based partners, mainly in the form of graduate students, than in community-based partners.

Funding streams for research, in general, tend to value producing graduate students, without any comparable support for capacity development among community-based partners. In Food Dignity, we spent US$396,000 to fully fund five people earning master's degrees and partially fund (in some cases paying only a small fraction of the costs) three doctoral students who earned Ph.D.s. Such degrees count as an output on their own for our funder. Also, these substantial investments benefited not only our project (via staffing our action research and increasing our number of peer-reviewed publications) but also the graduates themselves. On average, those with a master's degree earn about 20% more and are less likely to be unemployed than those with a bachelor's degrees; personal income gains are as much again for those with a Ph.D. over those with a master's degree (Bureau of Labor Statistics, 2017).

In addition, while well beyond the control of this project, the convention of faculty being able to take a paid sabbatical every seven years is another way in which this inequity manifests itself. (For example, Porter was on paid sabbatical when she wrote the bulk of her contributions to the manuscripts in this issue.)

Capacity development investments for CBO partners in Food Dignity comprised mainly minor travel funding for conference and workshop participation, totaling about US$10,200 per CBO, or US$50,800 for the overall project. The UW budget was also used to cover US$13,100 in community partner travel directly. This was later supplemented with the addition of leadership development funds totaling US$26,000 per CBO, or US$130,000 total for all five CBOs over five years.

However, even with this addition, the total CBO capacity investments, across dozens of people in five organizations, are only 49% of what Food Dignity spent on supporting eight graduate students. This is compounded by the risks of our university food system degree programs professionalizing, and therefore also likely weakening, food justice work (Boyte 2004). What if one of our graduates were hired over a grassroots community leader because they now have formal food system qualifications (Holt 2015)? As with the other three forms of academic supremacy discussed here, this differential perpetuates and widens inequities between academic and community partners.

4. Autonomy and control with funding

Federal research funders strongly favor large, and largely academic, organizations as primary grant holders via extensive grant administration requirements, payments made as reimbursements, and insufficient *de minimus* indirect cost rates. This means that a university is nearly always the primary grant-holder in community-university partnerships—as was the case with Food Dignity, the projects with papers about their budgeting reviewed above, and in 48 of the 49 NIH-funded projects reviewed by Cain et al. (2014). Particularly in the absence of funder guidelines regarding budget allocations, this means that academic organizations control resource allocation, including which organizations and partners are invited to participate and how much funding each receives. Individual and organizational partners can choose to negotiate, but most decision-making power resides in the hands of the awarded organization, which is almost always an academic one.

In addition, the high negotiated indirect cost rates universities receive provides them with extensive unrestricted funds that CBOs do not receive. For those who receive them, these funds not only support management of current grants but are often invested in securing future ones, such as via research "start-up" funding for new faculty members, internal pilot project grants, and grant-writing

support.

Providing subaward funding, controlled by each organizational partner in Food Dignity, slightly ameliorated, but far from resolved, these inequities. Flipping that common funding model, so that CBOs receive the funds and subaward them to academics, would be one step toward ending those inequities.

Limitations, Overlaps, and Margins of Error

For the purposes of this paper, the accuracy of our data does not present a limitation of our work. We believe the spending numbers reported here are accurate to at least the nearest thousand dollars. Some of this spending we could calculate to the dollar, although we rounded to the nearest hundred in this paper for ease of reading (and, in a few cases, this rounding means not all numbers add up precisely).

How we allocated dollars to each of the three main categories (CBOs, universities, and collaboration) was a little rougher, especially in two cases. One case is that Katherine "Katie" Bradley was a paid team member from the start of the project, at first as an employee of C-PREP. At that time, she was also finishing a master's degree, without Food Dignity support, and starting a Ph.D. program at the University of California, Davis (UC Davis) and already collaborating with DDF. When we ended the project's relationship with C-PREP, Porter retained Bradley first as a Ph.D. candidate and then as a post-doctoral scholar via a three-year, US$94,400 subaward to UC Davis. Her role of working closely with DDF in particular did not change. For simplicity, and because UC Davis was not a collaborator in the Food Dignity project beyond Bradley individually, we counted these numbers as cross-community research and included them in the "collaboration" totals. The other case is that UW paid salary and benefits totaling US$43,100 to an employee and former Food Dignity master's student, Peggy McCrackin, who in practice worked directly for FLV during that time. This amount is included in the UW university budget section above. Net, this means we may have overstated the collaboration budget and understated the university budget by just over US$51,000. Yet some other expenses appearing in the university budgets were spent on collaboration with one or more of the CBOs, such as food for community-university meetings, stipends to non-salaried community research partners, and honorariums for higher education work by community leaders. In addition to those two cases, it is worth noting that Ithaca College was also a partner organization in Food Dignity but had a very small (US$2,000 annually) education-related budget managed via the WCP subaward and a travel budget for dissemination administered by UW.

In the end, any overlaps or allocation questions about these dollar amounts, within or between categories, are small enough that they do not affect any of the implications or conclusions that can be derived from these results.

Future Research

Our real limitations lie in what implications and conclusions can be derived from these results. For example, because this is the first paper we know of to analyze project spending in a community-university action research collaboration, we have little context for making comparisons and contrasts. Also, because systemic forms of power and privilege are embedded and naturalized (such as failing to name and quantify university support packages the way we named and quantified community packages), we have likely missed many ways that academic supremacy manifested itself in our allocations and spending during the Food Dignity project. What we *do* see has largely been shown to us by the community-based partners in the project, especially Woodsum, who has reviewed and commented on this manuscript and provided original analysis in related essays in this issue (2018a, 2018b).

Having comparable spending data available across multiple community-university action research collaborations would enable a more thorough investigation of what grant-spending strategies are most effective for reaching project goals. This would allow an assessment of whether the steps for equity proposed below truly work; it would also allow an assessment of the associations between partnership equity and project effectiveness. Based on our experience in Food Dignity, we hypothesize that this is causal. We also claim that,

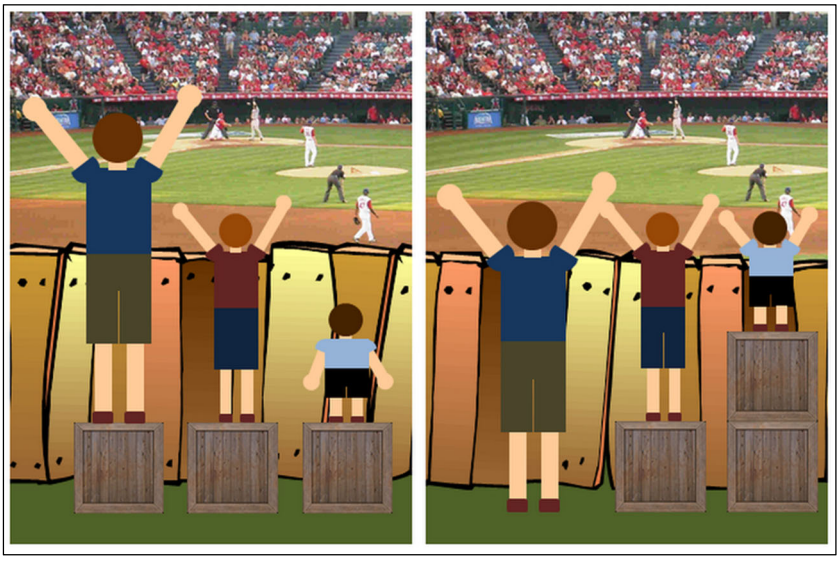
regardless, seeking equity is an ethical imperative.

Conclusions

The allocation of funding among and between community and university partners in Food Dignity illustrates our project's production and reproduction of systemic inequities in community-university collaboration relations, even as we strived to establish equitable research relations. In Food Dignity, this systemic dominance manifested in better employment conditions, greater institutional support, higher capacity development investments, and more financial autonomy and control for academic partners than for community ones. More generally, we have named these systemic and structural inequities as academic supremacy.

Figure 3. The "Equality vs. Equity" Meme

First posted by Craig Froehle in 2012, this was later adapted by others to illustrate equality vs. equity and, in some versions, "liberation" with the removal of the fence or "reality" with boxes stacked to favor the tallest person.



Source: Froehle, C. (2012). Equality to a conservative and to a liberal (Image). Retrieved from https://plus.google.com/+CraigFroehle/posts/AdKcNKesXwa

Early systemic steps towards assessing and undoing these inequities could include the following: (1) increasing *de minimus* indirect cost rates and standardizing negotiated ones; (2) including budget-equity assessments in evaluation of community-campus action research funding proposals and annual funding reviews, thus fostering financial transparency in allocations and spending in federally funded research; and (3) creating sabbatical systems to support CBO leaders in codifying their expertise. In addition, mechanisms for granting awards directly to CBOs and joint awards to community and academic grantees would increase CBO control. Means for at least partially prepaying for grant expenses are also needed for small organizations. The budget equity evaluations and granting awards to CBOs directly in particular would both help create a driving motivation for universities and individual academics to build equitable research partnerships.

Individual academics forming such collaborative partnerships can help bring these changes into action through internal advocacy in our institutions and with funding agencies and with individual practices in forming community-academic partnerships. These practices include, for example, adhering to the CNREI's guidelines outlined in the introduction for co-designing budgets and maximizing equity in pay rates; minimizing stipend-based work; co-designing and selecting project staffing; investing in financial sustainability and capacity development with community partners; negotiating with our universities to prepay subawards as needed; budgeting for direct administrative costs to help bridge inequitable indirect cost rates; and providing face-to-face meetings and other collaboration, capacity, and relationship development. No individual academic or university can create the systemic changes needed alone. However, these actions help point the way while slightly ameliorating inequities in the meantime.

Consider an analogy with the meme image adapted to illustrate equality vs. equity with three people of varying heights trying to watch a baseball game over a fence (Figure 3).

The *equality* image shows the three people

standing on boxes of the same size, which means the shortest of them cannot see over the fence. The *equity* image shows the boxes reallocated so the shortest person reaches the same height as the tallest, so she can see over the fence as well. Some versions of this meme include a third image of *reality*, with the tallest person on extra boxes and/or the shortest person standing in a hole. Distributing funding equally in a CBO-university collaboration, in proportion to scopes of work, will leave a partnership closer to this "reality" scenario than to an "equity" one because CBOs are systemically less resourced than are universities.

Undoing the systems of academic supremacy, including the forms outlined here, is a transformational project. No single project action can eliminate these institutional inequalities any more than, for example, feminist efforts of individuals and groups can end patriarchy. However, we must name these inequities and intentionally design our actions to reduce them, or we will end up reproducing them. Perhaps we can find seats in the grandstand for all three of the spectators who are trying to watch the game over the fence, or maybe we could be playing a different game all together.

Acknowledgments

We are grateful to the action research teams of Food Dignity and the Community Network for Research Equity & Impact team of Community-Campus Partnerships for Health. We especially thank Suzanne Gervais of Cornell University for her help with that institution's figures.

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Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

The cost of community-based action research: Examining research access and implementation through the Food Dignity project community support package

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Submitted July 9, 2018 / Published online July 18, 2018

Citation: Woodsum, G. M. (2018). The cost of community-based action research: Examining research access and implementation through the Food Dignity project community support package. *Journal of Agriculture, Food Systems, and Community Development*, *8*(Suppl. 1), 83–99. https://doi.org/10.5304/jafscd.2018.08A.021

Preface

I had the distinct honor of serving two roles in the Food Dignity research project. From the spring of 2010, when I was initially contacted by Christine Porter and invited to contribute thinking and feedback for her Food Dignity grant application, through completion of the project in March 2016, I served as the project's director for the community partner site in Laramie, Wyoming, Feeding Laramie Valley. In addition, between March 2011 and September 2013, I played a small, minimally funded role in providing projectwide consulting and support to Christine, the project's principle investigator (PI) and director. Halfway through Year 3 of the project, in fall 2013, this role expanded and developed into that of projectwide community liaison—one which I retained through the end of the project's 7th no-cost extension year in March 2018 and its completion. I continued to provide direction and oversight for Feeding Laramie Valley's position as a community-based organization (CBO) partner in the project while serving as community liaison, but the role of community organizer for FLV and its research obligations were carried out by FLV program staff leadership. Carrying this multilevel responsibility and dual perspective within the project was inspiring, enlightening, and at times challenging for me. I interpreted and carried out my community liaison position as being one of advocacy for and on behalf of all the community members involved

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Funding Disclosure
Food Dignity (http://www.fooddignity.org) was funded by U.S. Department of Agriculture–National Institute of Food and Agriculture's Agriculture and Food Research Initiative Competitive Grant no. 2011-68004-30074.

Contributors and Supporting Agencies
Blue Mountain Associates; Dig Deep Farms; East New York Farms!; Feeding Laramie Valley; Whole Community Project; U.S. Department of AgricultureNational Institute of Food and Agriculture.

directly and indirectly with the Food Dignity research project across the country. My decades of experience as a community-based writer and activist (since the early 1980s) guided and motivated me with clarity on whose behalf I was working. My role as project community liaison allowed me to get to know nearly all the individuals involved with the project, to spend time learning about their work, their philosophies, and the challenges they were presented with through their involvement with Food Dignity. Almost without exception, every individual with whom I worked, community member and academic alike, honored me with a willingness to be open, honest and diligently hard-working in fulfilling their obligations to Food Dignity. Every community member who contributed to the project, and most especially the leaders of its community partner sites, followed through with their project obligations while remaining true to their extraordinary commitments and allegiance to the communities on whose behalf they served. They never wavered in the social justice underpinning of their work and the 24/7 brilliance, time, and caring they gave to it, and I will be forever grateful for what I learned from each and every one of them.

Acknowledgments

I had the great fortune to work closely with Monica Hargraves and Cecilia Denning in gathering, organizing, and disseminating the final Food Dignity findings. Their insightful analysis and deep respect for first-person expertise has been constant. Finally, these acknowledgments would not be complete without recognition for the creativity and dedication of the Food Dignity action research project's initiator and PI, Christine Porter. Throughout a long and complex implementation process, she maintained a deep commitment to support and respect the rigorous frontline contributions of the project's community partners.

Keywords

Community-based Participatory Research; Action Research; Food Justice; Community Activism; Social Justice; Community-Academic Partnerships; Equity

Introduction

There's a world of difference between research funding awarded to institutions of higher learning and what goes for standard program support funding available to the average nonprofit community-based organization (CBO)—in particular, grassroots efforts defined and guided by the constituency living with the problems being addressed. Beyond a baseline difference between research grants that ask questions and program grants that provide services in response to identified needs, access to and internal functioning of research grants versus program grants are often diametrically opposed. On a practical level, research funding is far more likely than CBO funding to provide multiple-year support and large budgets that allow funds to be used for personnel and indirect costs. Very few research opportunities are offered directly to CBOs, with eligibility typically limited to colleges, universities, and other so-called institutions of higher learning. Yet, while CBOs are commonly shut out of major research funding pools at the outset, they are increasingly required to provide an approved "evidence base" to justify funding for the program services they provide. This requirement forces them to draw on information-gathering and analysis processes from which they are essentially excluded.

Beyond the obvious, there are subtle distinctions to be made between the researcher's hunger to explore and expose deep roots beneath the human condition that can lead to the elevation of knowledge, and the activist's hunger to *act* on deep-rooted knowledge of the same human condition. Research can open doors to revelations that may or may not be acted upon. Grassroots activism is most often propelled by raw knowledge originating from first-person experience, mining that very specific expertise and contextualizing it for the primary purpose of creating social change as it can be lived day to day.

Historically, the standard research paradigm not only operates within a frame of objectivity and disinterest as accuracy and rigor; it also promotes these ideals as being essential standard-bearers in a hierarchical view of expertise. This view rewards the researcher in a quest for knowledge for its own sake and diminishes frontline activism by

marginalizing first-person expertise and limiting grassroots access to leadership roles in research that supports action. Knowledge hierarchy, as a concept backed by the academy, is largely unchallenged by policy makers and funders. This creates and maintains a functional power gap between researchers and activists.

Community-based participatory research attempts to minimize that gap by creating collaborative efforts between the academy and CBOs. As well-intentioned and even passionate the goal for equitable collaboration might be, research leadership, funding, and eligibility access, as well as all the privileges that accompany them, remain severely limited for CBOs.

In the spring of 2010, Christine Porter, having recently received a Ph.D. in community nutrition from Cornell University, began the application process for an Agriculture and Food Research Initiative (AFRI) grant from the USDA National Institute of Food and Agriculture. Having conducted much of her doctoral research on the relationship between food and public health, Christine was finding herself increasingly interested in and drawn to the development of community food systems work being done at the grassroots level in response to a range of issues related to food security. The call for proposals through the USDA-AFRI initiative at that time appeared to Christine to offer an opportunity for a much deeper exploration of how communities were experiencing and responding to challenges of local food insecurity. She embarked on the development of an application, drawing on input and assistance from her academic and community colleagues and mentors, and national leaders in food systems activism. She also drew input from a diverse mix of CBOs across the country that she was referred to or sought out as potential community-based sites. These sites would serve as the core sites from which project data would be derived.

With her newly minted doctoral degree in hand, Christine's debut application for major research funds was successful, naming her as principal investigator and project director on the project she named *Food Dignity: Action Research on Engaging Food Insecure Communities and Universities in Building Sustainable Community Food Systems*.[1] As a result, on April 1, 2011, several dozen people spread across various parts of California, Wyoming, and New York embarked on the five-year, US$5 million Food Dignity action research project. Key academic partners included the University of Wyoming as the lead institutional grant administrator—also serving as Christine's new employer and her research base; Cornell University; Ithaca College; and UC Davis. There were also five CBOs and community leaders holding key partnerships: Dr. Virginia Sutter of Blue Mountain Associates, Wind River Indian Reservation, Fort Washakie, Wyoming; Captain Martin Neideffer, Dig Deep Farms, Deputy Sheriff's Athletic League, Ashland-Cherryland, California; Director Sarita Daftary-Steel, East New York Farms!, United Community Centers, East New York, New York; Founder Gayle Woodsum, Feeding Laramie Valley, Action Resources International, Laramie, Wyoming; Director, Jemila Sequeira, Whole Community Project, Cornell Cooperative Extension of Tompkins County, Ithaca, New York.

To its credit, the Food Dignity action research project design was developed and submitted for funding consideration with some unique equity-seeking aspects between the academic and community partners. All five community partner sites were consulted not just for their interest in and willingness to participate in the study, but for feedback on the overall research vision and design fashioned by Christine, and for extensive input into crafting their own individual scope of work within that vision. While the final drafting of the project's narrative and the identification of the budget line items and their associated justification was solely under Christine's direction and final approval, her establishment of a dedicated community support package for each of the project's community partner sites reflected, at the outset, a clear commitment to the core importance of the sites' roles in the

[1] The term *Food Dignity* in the project's name was inspired by E. Jemila Sequeira in conversation with Christine regarding community needs connected to food security. More on that story can be read in this issue (Sequeira, 2018) and seen in a video story (Porter, 2015).

project. It also reflected recognition of the value of their knowledge and expertise to be shared with the project and acknowledgment of the financial support needed by each CBO in order to carry out their project commitments.

The motivation for agreeing to participate in the Food Dignity research project varied in detail among the leaders of each community partner site. These motivations can be explored further in the series of introductory articles featured in this JAFSCD special issue from all five of the CBOs (Daftary-Steel, 2018; Neideffer, 2018; Sequeira, 2018; Sutter, 2018; Woodsum, 2018). As a general common theme, the leader of each CBO cited an opportunity to advance their core mission and the community support package (in particular line items that supported personnel and administrative costs, as well as the five-year length of that support) as contributing factors in the decision to join the project. As the project played out, and as this paper discusses, the flexibility inherent in the community support package—an aspect that was also developed along the way—became a crucial contributor to the level of commitment and depth of contributions possible from the community partner sites.

Community Organizing and Program Strategies of the Community Partners

As written in the Food Dignity project proposal in 2010, "the goals of this integrated project [were] to identify, develop and evaluate community organizing strategies for sustainable food systems (SFS) for food security (FS) while expanding university, community, and individual capacities to catalyze, support and research SFS for FS." Tedious initialisms aside, there were two predominant aspects of the action research built into the project at the outset that reflected its intention to amplify community-based knowledge. The first was the focus on community organizing strategies, reflecting an acknowledgment that participating CBOs (identified at the time the grant application was submitted) already had leadership roles dedicated to identifying need and to mobilizing resources through a focus on sustainable activism. The second aspect was for the project to act as a catalyst, provide support, and expand research—this subsequent key component is clearly linked to the first.

As proposed, the Food Dignity project presented itself as a plan for action research to be conducted as much by communities as it was about them, casting the academic role as one of a supportive partner rather than an extractive autocrat. The invitation for specific CBOs to join the project was based in part on each community site's existing accomplishments in addressing food insecurity through sustainable food systems efforts. It was also based in part on their confirmed capacity to carry out the research needs of the project itself.

Each of the five community partner sites joined the project with a mission and philosophy established, along with a key person in place providing leadership for their implementation. There was intentional diversity among and between the sites, including in geographical location; community demographics (organizational, micro, and macro); organizational philosophy; and management design. Program strategies—types and longevity—varied within and between sites. They were typically in keeping with the unique attributes of each site, as listed above, and were, in particular, reflective of the specific community needs being addressed. Brief descriptions of the intervention strategies (i.e., programmatic efforts designed and implemented in response to community needs in relationship to sustainable food systems for food security) put in place or envisioned by each of the Food Dignity project community partners at the time the project was officially launched are provided in sidebars in this piece. Descriptions were adapted from each community partner's own promotional materials and presentations.

Each of the five Food Dignity community partners quickly distinguished themselves individually—not only through the unique sustainable food systems projects in which they were engaged, but by presenting an identity borne of their individual and traditional roots of activism driving them to face challenges directly and on the front line. For Blue Mountain Associates, it's a combination of historical trauma and the Wind River community's health challenges (including an average life expectancy of 49 and high rates of diabetes) that serve as an impetus for reclaiming

traditional ways of pursuing community health. Dig Deep Farms organizes for sustainable food security in a community locale that annually feels the impact of 8,000 formally incarcerated people entering an unincorporated urban environment. Dig Deep Farm's home organization, Deputy Sheriff's Activities League (DSAL), holds steadfastly to the idea that collaboration and enrichment for building community safety is part of successful community policing. East New York Farms! works with the multicultural needs of immigrant community members and dozens of young people every year in an atmosphere of humility and unhindered appreciation. Feeding Laramie Valley moves forward with community building that blurs the lines between giver and receiver in a way that honors lived experience as first-person expertise. Whole Community Project's legacy is the advancement of proactive efforts to ensure truly diverse voice and leadership representation at every level of food systems assessment, including policy making and opportunity development.

Project and Design Intention of the Food Dignity Community Support Package

Individually, the community partners of the Food Dignity action research project were strong, independent agents of change. They were well accustomed to forging new paths on their own and with extremely limited recognition or support. Then, in April 2011, they added to their own operations by signing on to be part of a national venture that promised to be larger than the sum of its individual contributions. They would each receive a complex list of deliverables expected to submitted over the next five years (and which would require bringing in new organizational roles and people to fulfill them); they would also be required to attend and contribute extensively to seven all-team meetings held in varying parts of the country (five of which corresponded with the locations of the community sites and two others located in key parts of the country involved with distinguished sustainable community food systems efforts); and each community partner would find every aspect of the work they were doing affected by their new key role in the Food Dignity project. In return, each site would be awarded financial support in the form of a community support package, which they would subcontract with the University of Wyoming on an annual basis (see Table 1).

Projectwide View of an Evolving Community Support Package

The five community partners entered into the Food Dignity research project without extensive previous knowledge of or direct, working connection to one another. While, to varying degrees, each provided feedback and made suggestions regarding their scope of work and how it could best align

Blue Mountain Associates, Wind River Indian Reservation, Wyoming.

Blue Mountain Associates (BMA) has a background in community health services, support, and program implementation on American Indian reservations. BMA was developing specialized, local sustainable food systems programs for the Northern Arapaho and Eastern Shoshone tribes of the Wind River Indian Reservation in Wyoming when they joined the Food Dignity research project. Through education, collaboration, and action research, their programs seek to fulfill organizational goals that include: expansion of sustainable community food system (SCFS) work to increase food security (FS); increased substantial involvement of and leadership from community members facing food insecurity in SCFS work; learning from the community's own past history and ongoing work, including research methods and other partners in this project, to improve a SCFS on the reservation; and expanding their organizational capacity and the communities' civic infrastructure for building food security and agency. Specific programs used to reach these goals throughout the Food Dignity research project included: mentoring, guidance, and support for community-developed projects that increased community food access and security as well as local economic development; the implementation of weekly farmers markets held in various locations across the reservation, at which beginning farmers and gardeners had the opportunity to be involved as sellers; and the development, installation, support, and action research study of backyard gardens and gardeners.

Table 1. Food Dignity Community Support Package Categories as Originally Proposed[a]

General allocation note: The budget was designed on a graduated basis from year to year. Some line items increased each year (such as the one for the community organizer), while others waxed and waned according to project requirements in any given year (e.g., minigrant funds started low, peaked in Years 2–3, and ended after year 4; materials and supplies allowed for upfront expenditures in Year 1 to enable the site to invest in project-necessary items). The range of funding levels between sites at the time of the grant award were the result of geographically-based average salary range differences for the community organizer, line item funding unique to a particular site (e.g., farmers market management funds for BMA; annual stipend of US$3000 for campus-community coordination and placement and internship stipends for FLV and WCP—the two sites located in the same community as major university partners University of Wyoming and Cornell University. These line items not shown in the table below and are excluded from the Community Support Package totals for those two partner sites in the final row and in the percentage calculations).

Line Item Category	Annual Amount[b] (US$)	% of Annual Community Support Package Budget[c]	Notes
Salaries and Wages			
Senior/Key Person	$0–$8,573	3%	In most cases, the senior and/or key person held an unfunded position of oversight for a particular community partner site. One site allocated funds to the key person and the project's community organizer.
Community Researchers	$5,000–$16,000	20%	Community researchers were written into the grant as individuals capable of being trained to supplement data collection and deliverable product development.
Community Animators	$1,000–$4,000	5%	A line item for community animators was included in Years 1-4 for four sites as additional assistance to community efforts for developing and facilitating learning programs that support action for local and social change. The remaining site used these funds to support a Farmers Market Manager position.
Community Organizer (50% FTE)	$20,000–$28,143	40%	The largest portion of each community support package went toward funding a 50% full-time equivalent position for a community organizer, a role designed to take the lead on fulfilling the site's project and grant requirements.
Other Direct Costs			
Travel	$1,100–$2,335	3%	Travel funds were allocated to the community sites to directly support their attendance and presentations at educational conferences and events.
Participant Support Costs			
Stipends	$750–$3,150	3%	The grant application called for the formation of a community steering committee as part of the project implementation. The budget allowed for stipends to be paid for meeting attendance.
Travel	$500–$4,000	3%	Funds were budgeted for mileage and other travel reimbursement costs for community member participation in meetings, trainings, and project-related conferences.
Other	$250-$500	1%	A small amount was budgeted to cover miscellaneous additional participant support costs.
Materials and Supplies	$2,000–$8,000	5%	The original grant application included expectations that a formal photovoice project be conducted by each site, utilizing community members as photographers. Supply funds were budgeted to include the capacity for each site to purchase multiple cameras in Year 1. *(continued)*

Minigrants	$1,000–$10,000	9%	Each community partner site was allocated $30,000 total over the course of the 5-year Food Dignity project for the development of a minigrant funding program to community member food projects (funds were budgeted in Years 1-4 and unused funds could be rolled over).
Indirect Costs			
10% Indirect	$4,348–$6,464	10% (of Total Direct Costs)	Between the application process and the actual grant award, indirect costs were disallowed for the community partner sites. The funds were re-allocated into the salaries and wages category and designated as Sub-Award Project Manager.
Total Support Budget (excluding intern-related line items for WCP and FLV)	$47,828–$67,669		The annual support package as originally proposed ranged per site between $49,918–$60,610 in Year 1 and between $51,735–$67,669 in Year 3, the highest funded year of the project when the peak of minigrant funding was made available.

[a] For details on projectwide funding for the Food Dignity research project, see the article in this issue, "Follow the Money: Resource Allocation and Academic Supremacy among Community and University Partners in Food Dignity" (Porter & Wechsler, 2018).
[b] The range reports the lowest and the highest allocated amount, at any site across all years.
[c] Averaged over all years and all sites.

with how the project would play out, there was one overall research design assigned to all five groups. The primary aim of the community support package was to ensure that the cost of participation in the project would be covered by the grant. This included the proposal's assertion (as noted in the Organizing and Programming Strategies section earlier in this paper) that the community support package be a catalyst for identifying, developing, and evaluating community organizing strategies for sustainable food systems (SFS) for food security (FS), as well as the assertion that the it would serve to expand individual capacity for doing the same. It was clear that the grant was not designed to provide 100% funding to any of its community partners. What could not have been anticipated was that, while Food Dignity project funding initially appeared as though it should cover the sites' costs for living up to their project-related obligations, the ultimate reality of the complexity and level of work required of the partner sites extended beyond what the grant actually paid for.

Although community partners had provided extensive input into crafting their individual scopes of work, they had not been included in the initial budget development process for the overall project, nor in determining their individual level of funding within the project other than determining salary rates of the community organizers. The originally proposed budget was established by Christine Porter at the grant-writing phase. As PI and project director, she retained control over the overarching project budget and pre-approval of each subaward, within the parameters and regulations set by USDA-AFRI and the proposed scope of the project.

The differences between how the Food Dignity research project was designed and how it played out revealed themselves early in the implementation process, with many of them connected one way or another to how funds were budgeted and then how they were utilized. To varying degrees, the infusion of Food Dignity project funds into the budgets of community partners changed the level of their capacity to function and grow. This capacity was also influenced by individual factors at each location.

Blue Mountain Associates (BMA), Wind River Indian Reservation; Dig Deep Farms (DDF), Ashland-Cherryland, California; and Feeding Laramie Valley (FLV), Laramie, Wyoming, were all operating community food systems programs that were relatively new.

Of those three sites, DDF was the only one to have secured government and/or foundation funding at a level capable of supporting program capacity-building—such as program staff—prior to joining the Food Dignity project. Yet, in spite of its

placement within the supportive infrastructure of the Alameda County Sheriff's office, the Food Dignity grant funds quickly became DDF's primary program funding source for a time (see the introductory essay on DDF by its director, Marty Neideffer, [Neideffer, 2018], in this issue).

While BMA brought years of community health experience with many Native First Nations across the western United States, including with its founder's own tribal community in the Wind River Indian Reservation, joining the Food Dignity project provided the shaping force for BMA's sustainable food systems work for food security and nearly its entire program budget for most of the research project.

Feeding Laramie Valley had launched its collaborative sustainable food systems work for food security in 2009, but changed sponsors in 2010. By the time it began its partnership with the Food Dignity action research project, its operational support consisted of 100% community-based volunteer labor and a few agriculturally based local and state program grants ranging in size from US$3,500–$24,000. Receiving the community support package that came along with participating as one of the community sites provided predictable financial support for some of its operations for the first time in FLV's brief existence.

East New York Farms! (ENYF!) of East New York, New York, joined the Food Dignity project with the least amount of crossover need for the project's funding to support or advance its existing or planned operations. At the start of the Food Dignity project, ENYF! had been working for sustainable food systems for food security for nearly 13 years. The organization had long term experience with procuring, managing, and leveraging ongoing funding for its frontline programming. It also had a baseline administrative infrastructure in place. Ultimately, ENYF!'s experience and infrastructure enabled the organization to join the Food Dignity research project as much more of a purely add-on opportunity to explore new dimensions and potential expansion of its efforts while contributing to the body of knowledge on community food systems work overall.

Whole Community Project (WCP) joined the Food Dignity project as part of Cornell

Dig Deep Farms, Ashland-Cherryland, California

Dig Deep Farms and Produce (DDF) was founded in 2010 (just a year prior to joining the Food Dignity research project as a community partner site) by residents of the Ashland and Cherryland communities of unincorporated Alameda County in partnership with the Alameda County Sheriff's Office and the nonprofit Deputy Sheriffs' Activities League (DSAL). DDF is a nonprofit, social enterprise founded on the conviction that integrated community involvement, healthy food access, and job creation raise the quality of life—individually and collectively—of a community. Dig Deep Farms launched with the vision of becoming a network of integrated food businesses that provides access to healthy food and jobs in the local community where access to both has historically been limited. Through the course of their participation in the Food Dignity research project, DDF's program services included the following: (1) the development of two neighborhood production gardens and one large-scale orchard, berry, and produce farm; (2) the development and operational success of farm stands in partnership with the Alameda County Social Services Agency, through which they provide access to fresh, organic, and healthy foods at two different Social Service and County Administration buildings, and in part source pesticide-free produce from small farmers in the Central Valley to support local and sustainable agriculture; (3) the development of food hub–style entrepreneurial pipeline opportunities for food-related businesses, groundbreaking on a food hub site designed to increase food access through area-wide distribution; and (4) the creation of DDF retail food products featuring DDF produce. At its core, DDF added a unique core and conviction to the mix of community partners in the Food Dignity research project, by presenting itself as believing that community-engaged sustainable food systems work can be an integral part of effective, innovative community policing. As Dig Deep Farms self-proclaims about the starting line for its unique vision: "Residents wanted to start community gardens. The Sheriff's Office wanted to reduce crime and recidivism. Dig Deep Farms blossomed from the alchemy between the two."

University's Cooperative Extension program in Ithaca, New York, carrying forward its support of community development special projects work. Being housed in a sizable and successful cooperative extension agency provided WCP with the largest and what appeared initially to be the most secure administrative infrastructure support of any of the Food Dignity community partner sites. WCP, led by Jemila Sequeira, directly invested much of its time and financial resources in developing, coordinating, and confronting the social justice and awareness aspects of Sustainable Food Systems for Food Security work in Tompkins County. On a practical level, the strategies needed for this work did not always align well with the budget structure of the Food Dignity community support package as originally delineated.

In the spring of 2011, when the Food Dignity action research project was officially launched and its five-year, US$5 million budget was about to be utilized, the implementing team included the following combination of factors. On the one hand, there were five diverse community-based social action programs serving as project partner sites. Each was dedicated to their individual program intervention strategies while also being committed to stepping up as key contributors to a national action research project designed to report those strategies (and their effectiveness) to the world. In addition to their expertise and experience, they brought with them a range of guardedness resulting from their knowledge of the historical inequities rife between researchers and their research subjects. On the other hand, there was an academic team that controlled the research design, the majority of the funding, and all deliverable requirements, and was accustomed to having expectations of how things would proceed.

Given these divergent yet equally resolute perspectives, it should come as no surprise that the Food Dignity project followed an unpredictable, sometimes contentious path as it unfolded. Given the detailed, five-year length of each community partner's budget and associated requirements, it should have been equally predictable that each community partner site would begin to look for changes, adjustments, and increases in the community support package in search of a means to address the differences between the academic perspective and the reality faced by community-based organizations.

Community Partner Funding Choices

There were two ways in which the frontline work of community partners in the Food Dignity project chafed against the project's design and strictures.

East New York Farms!, East New York, New York

The mission of East New York Farms! (ENYF!) is to organize youth and adults to address food justice in the East New York community by promoting local sustainable agriculture and community-led economic development. ENYF! is a project of the United Community Centers in partnership with local residents. They've been working with youth, gardeners, farmers, and entrepreneurs to build a more just and sustainable community since 1998. During the Food Dignity research project, their programs included community gardens throughout East New York neighborhoods, many of which produced food for ENYF! farmers markets, and were supported with workshops, resources, and assistance from ENYF-engaged youth; an annual, intensive, nine-month youth internship program for 35 young people who engage in hands-on learning centered around environment, health, community development, leadership, and social justice; community education in which community educators provide cooking demonstrations, presentations, and gardening workshops to educate residents about how to grow, prepare, and preserve healthy food; operation of three urban farms and one garden in East New York to increase access to locally grown produce, as well as to provide opportunities to learn, gather, and volunteer; two community-run farmers markets making fresh food available and affordable, while building the local economy and creating places for neighbors to meet and greet; and a composting program through which food scraps are collected year-round to process into nutrient-rich compost for farms and gardens in East New York to grow organic produce.

One was the distance and difference in perspectives and experience between project team members associated with the academic side of the project, and those whose primary work was connected to frontline roles as community leaders, activists, and advocates. The other manifestation of how conflict arose and required attention, was the recognition that the line item details of the community support package had to be translated, adjusted and in some cases modified or fully changed in order to have the project's aspirations (both research and community support-related) align with the core mission and existing intervention strategies of each site.

Both categories of core challenge between the academic and community sides of the Food Dignity project team quickly rose to the surface. Beginning with the first meeting of the full project team held in May 2011 in Ithaca, New York, conversations between community partners and members of the academic team were fraught with conflicting expectations and styles of communication. The conflict that surfaced at that meeting remained and even grew in multiple directions throughout the duration of the project. To fully explore the origin, consequences, and significance of that internal conflict is beyond the scope of this paper, but the discussion below highlights ways in which this core conflict played out in the evolution of the community support package

Tracking the use and modification of the community support package for each community partner site is a means of following some of the ways in which those sites leveraged their own power and knowledge to more effectively collect and disseminate research data on their Sustainable food systems for food security efforts, while simultaneously increasing the impact of the support package on that same community.

Projectwide Adjustments to the Community Support Package Management System

The way in which community partners received their share of funding from the Food Dignity project was via subawards from the primary grant recipient, the University of Wyoming, where Christine worked throughout the project. Via the subawards, funds were funneled to a site's 501(c)(3) federally tax exempt operating organization (as in the case of BMA, ENYF!, and FLV), or

Feeding Laramie Valley, Albany County, Wyoming

Feeding Laramie Valley (FLV) programs are dedicated to the mission and philosophy of sharing the best of what everyone has in order to create collaborative, community-led food systems that are sustainable, equitable, and just. A program of the grassroots nonprofit organization, Action Resources International, FLV is committed to working toward creating a sustainable and local food system and to promoting food security throughout the Rocky Mountain Region—with particular emphasis given to the community it calls home, Albany County, Wyoming. Since its founding in 2009, FLV continues to address its mission through the development of new community gardens, increased food production efforts as well as growing, rescuing, and donating high-quality locally grown produce that is shared with individuals and families, with special focus on elders, children, and people living with chronic illness. With a broader goal of developing a just and secure food system, FLV offers a free summer lunch program in the summer, year-round educational workshops and events, and provides garden mentoring to people living with chronic health conditions. During its five-year participation as a community partner site with the Food Dignity research project, FLV established an in-depth, year-round intern and apprenticeship program for university students and community members of all ages from high school age upward. FLV also created a Community Voice Journalism project through which community food project interviews are conducted, recorded, and disseminated as a means of maintaining the community's rich history with producing and distributing healthy, fresh produce in the challenging geographical environment of the high elevation and short growing season of Laramie Valley and the surrounding mountains. All FLV programs are predicated on the belief that people who are living with the problems FLV is working to help address are the same people who hold the expertise and the answers to those problems.

to the agency through which the community partner operated (as in the case of DDF and WCP).

The USDA-AFRI grants funds were being provided to the University of Wyoming on a reimbursement basis, meaning that funds must be first expended, then invoiced for reimbursement—a process that could take several months or more to be completed for each outlay of cash. This was an immediate challenge for all the community partners, but in particular for the independent CBOs—BMA, ENYF! and FLV—that were all operating on tight budgets with little to no cash reserves with the capacity to carry programming until reimbursements were received. On a related matter, the University of Wyoming (UW) was proposing to release funds on a quarterly, equal amount basis, which did not always line up with how the programs operated. In particular, since all five community partner sites were involved in one way or another with food production work, the majority of their cash outlay occurred between the months of April and October.

In response to community partner concerns and feedback, Christine negotiated with UW's research office on behalf of the project's community partners. She succeeded in changing how subawarded grant funds were distributed to them. Included in their subaward contracts was an agreement to advance funds on a quarterly basis for the first year and on a semi-annual basis for subsequent years. Christine also worked with individual sites on developing a payment plan that reflected when specific funds would be needed, and UW agreed to allow for payment amounts to fluctuate throughout each project year.

One final up-front adjustment to all the Food Dignity project community support packages was the removal of the budgeted 10% indirect cost line item, which USDA-AFRI disallowed for the community partners on this particular grant. Determined to provide some kind of administrative support, Christine negotiated to have those funds shifted to salary-wage support for a project administrator role.

That 10% of funds, which averaged US$5,800 a year, was at the time (and to date remains so) a rare add-on in grants awarded to CBOs. Even as the allocation was excluded post-award by the finance offices at USDA-AFRI and moved, instead, to become a line item that supported program management staff time, it was a rare phenomenon for community organizers to receive grant funds that helped, to any degree at all, defray the very real costs associated with infrastructure administration. This particular line item was most especially felt and immediately appreciated by BMA, ENYF!, and FLV, all of which were painfully familiar with the scramble to keep the furnace rooms of their grassroots efforts running to support their work at the frontline.

Nevertheless, this seemingly small yet valuable acknowledgement of need on behalf of the Food Dignity community partners also served as a stark reminder of the vast inequity stretching between

Whole Community Project, Tompkins County (Ithaca), New York

A program of Cornell Cooperative Extension Tompkins County, Whole Community Project (WCP) was established to strengthen youth, adults, families, and communities through learning partnerships that put knowledge to work. The Food Dignity project's principal investigator (PI) and director, Christine Porter, became familiar with WCP's move into sustainable community food system work to increase food security as part of her own research as a Ph.D. student at Cornell. She and WCP's community organizer, Jemila Sequeira, shared conversations that helped frame the research questions of the Food Dignity research project. WCP was deeply invested in the often hidden social constructs behind poverty and food insecurity—in particular matters of equity related to race and class—ensuring that its widened reach into sustainable community food system work was driven by that awareness. Throughout the five years of the Food Dignity project implementation, WCP enriched its Gardens 4 Humanity project, its presence at the Congo Square Farmers Market in Ithaca, innovative mentoring programs, and ongoing community education programs leading to economic development within the community and in support of individual entrepreneurs.

them and their academic counterparts. It's important to note here that the two major universities benefitted from biggest piece of the Food Dignity grant funds (just under US$2 million, including indirect costs), and USDA permitted them to charge an indirect cost rate of 22%, which supports the institutions' infrastructures.

Budget Line Item Modifications[2]

On the heels of the contractually and functionally important changes to the access of Food Dignity grant funds, there came additional questions and requests from community partners regarding their support package budgets. This suggests that Christine's proactive and positive response to initial financial concerns was perceived, in part, as an invitation to question and perhaps have the power to effect additional changes. That, connected to historic and individual experience with barriers that restrict funding, likely served as an impetus for the community partner sites to act on opportunity for change the moment it appeared.

Salaries and wages

As the Food Dignity project intervention components were rolled out at each community partner site, so too did the directors and organizers at those sites become aware that attaching project research needs to existing program operations came at a price. For example, one expected element of the project was to include the recording of SFS interventions through photography, video, narrative, and Photovoice[3] projects. These labor, skill, and time intensive methodologies were attached to (and meant to be supported by) salary and wage line items in each community site budget.

The original budget design financially supported a 50% full-time equivalennt (FTE) position for a community organizer. Annual amounts varied from site to site, based on a full-time rate proposed by Christine and accepted by each CBO. Funding was also provided for part-time roles called community researchers and animators. The average amount across all sites allocated for the community organizer was US$26,600 per year. For community researchers, the package allocated an average of US$12,900 per year for five years, and animators were funded at an average rate of US$2600 per year. Also, instead of animator funds, BMA was budgeted for farmers market managers. See Table 1 in Porter and Wechsler (2018) in this issue for details of the community support package funding lines.

If the budget items in the Food Dignity project community support packages were dedicated entirely to deliverables (data collection, analysis, and dissemination) of the research project itself—and if those deliverables were only attached to interventions already in place at each site—the allocations might have been sufficient to carry out the project's research objectives. But because the action research aspect of the project included capacity building, support, and the development of new intervention tools (notably the minigrants) as part of those objectives, the project expectations of the community partners were not met by the amount of funding provided—and in particular, not within the constraints of how the budget was first detailed.

Without exception, all five community partner sites determined that attempting to piecemeal salaries and wages as delineated in the project's predetermined line item budget was not practical. It added financial and management burdens to the site's existing structure and did not improve levels of participation in the community.

According to David Vigil, director for ENYF! beginning in the fourth year of the Food Dignity project, the original design of their budget was to provide no salary support for then director, Sarita Daftary-Steel. They were operating under the assumption that, by hiring a 50% FTE community

[2] For additional detail and context, refer to Table 1 in this paper.

[3] Photovoice is a process by which people can identify, represent, and enhance their community through a specific photographic technique. As a practice based in the production of knowledge, Photovoice has three main goals: (1) to enable people to record and reflect their community's strengths and concerns, (2) to promote critical dialogue and knowledge about important issues through large and small group discussion of photographs, and (3) to reach policymakers. (Wang & Burris, 1997).

organizer, all Food Dignity project requirements would be taken care of. Instead, the relative inexperience of the new community organizer cost time (and money) in training and supervision hours. By shifting funds between line items, they managed the problem by covering 15% FTE of Sarita's salary with Food Dignity project funds. They then filled the gap left in the community organizer's salary by shifting some of the researcher and animator funds to that position (held by Daryl Marshall throughout the length of the project).

That chain of decision-making regarding shifting allocations in the salaries and wages category of ENYF!'s project budget was also backed by lessons learned in trying to divide small amounts of money among community members as designed in the original budget.

In regard to offering small paid positions for photographers to help fill the project-prescribed roles of researchers and animators, David said, "we struggled with having a very part-time position like that. It evolved so [the person hired] ended up having a much more narrow role with us, limited to photography, but we even struggled with getting that organized." Another community member hired to collect data primarily through photography, David added, was "so part-time, she ended up not being able to devote the right kind of attention to it."

Similar shifts and the reasoning behind them were made at the other Food Dignity sites as well. Blue Mountain Associates created a part-time staff position called Community Researcher in response to the community researchers and animators budget lines, a position held by Jim Sutter. According to Jim, "originally the photographic collection process was to include the facilitation of two 'Photovoice' sessions in year one and another two sessions in year five. Due to the [implementation choices] of the other four [Food Dignity project community partners] and other obstacles, it was decided to complete the goals of the Photovoice, but entirely on a local basis as set up by the Community Researcher position and the [BMA] steering committee."

Both DDF and FLV made similar decisions to merge, mix, and match the roles and funding allocations for the community organizer, community researchers, and animators set forth in their original project budgets. They based their decisions on how their sites were operating and what they were attempting to accomplish at any given time within the five-year project.

In my personal experience at Feeding Laramie Valley, being able to combine these temporary roles and assign them in varying ways as we made our way through the project allowed me to envision the permanent staff needs of the organization, to utilize project funds almost as piloting placeholders for staff positions, and to bring in community members to help launch that vision. To us, this approach, along with collecting project-related data, seemed to encapsulate the meaning of community organizer, researcher, and animator. Two of our current full-time employees—our food production coordinator, Reece Owens, and our community engagement coordinator, Lina Dunning—began their paid work with FLV as a result of how we managed those particular Food Dignity project funds.

Dig Deep Farms experienced those funds very differently. Regarding researchers and animators, director Marty Neideffer pointed out, "conceptually those things made some sense, but practically they didn't at all—especially at a time when Dig Deep was so new."

In keeping with the mainstay of her objectives, one that always placed equity and social justice in a foundational position within any program effort, Jemila Sequeira of WCP articulated her view of how the Food Dignity project community support package, as designed, fell short in enabling the community partner sites to succeed in the project as they would have liked.

"One of the consistent challenges," she said, "was the language used in the project—such as animators, interns, researchers, etc. They all needed more clarification. What is an animator? I remember using the word 'catalyst' to describe the process, community members were offended, but they didn't talk to me about it. I realized then that the [Food Dignity project] grant language needed to be changed to make sense for the community members. It was challenging in the beginning to even find a common page where we could agree what 'dignity' meant for each of us."

Travel and participant support costs

One section of the community support package that proved particularly helpful to the community partners was that of travel and participant support costs. In the course of her graduate studies, Christine Porter had fully absorbed what she had been told about a common challenge among grassroots organizations eager to include community members in leadership and direct advisory roles as programs were developed and implemented. It was not uncommon for the engagement of community members to be truncated or not at all viable due to lack of practical support for people living with limited means. The costs of transportation, child or elder care, time taken away from paying jobs were all factors that often made participation difficult or even impossible.

With great aplomb, the community partners utilized these funds to reimburse mileage, provide food at meetings, and pay out stipends (that typically ranged from US$50 to US$100 for a two-hour meeting) in recognition of the value of a community member's knowledge base and skill set, and the time it took for them to share it in furtherance of the project's goals. Ironically, it was the one community site associated with a university-connected institution that often ran into trouble accessing and distributing those funds to the people for whom they were intended. WCP found itself and its community participants often having to file copious amounts of paperwork, then wait for weeks or more before receiving their small reimbursement or stipend checks.

Minigrants

Unlike other aspects of the Food Dignity project's community support package, the minigrant component prescribed a specific program to be implemented at each partner site (see Hargraves, 2018, this issue). The potential and possibilities associated with having US$30,000 over five years to experiment with how that amount of money could be invested in community food projects were well received by the Food Dignity project's community partners. The minigrant line item was one that provided the greatest opportunity for the project's CBOs to create a new program that would have a direct impact on their communities.

As written in the original grant proposal, it was expected that a steering committee made up of community members would be part of soliciting, reviewing, and awarding individual minigrant applications. ENYF! and BMA followed this basic design with a wide range of grant types. FLV modified the process by creating a progression model through which first-round grant recipients became grantmakers in a follow-up round. For WCP, grants were allocated to specifically support capacity development among individuals not typically invited to leadership positions and were awarded individually by the Community Organizer in most years, though there was a formal steering committee for awarding grants in the third year of the project. DDF, in the early stages of creating constituent-driven frontline work, held back its utilization of the minigrant funding and drafted a couple of program models before finding an appropriate community-based use in the fourth and fifth years of the Food Dignity project.

The minigrant line item in the community support package became a reflection of each community partner site's ability to creatively manage limited resources in a way that best suited an array of local community needs. This included a layered implementation process that provided mentoring, support, entrepreneurial capacity building, and leadership recognition and development aspects along the way. Having been given backing for being flexible in their utilization of the package, five community partner sites pulled out the stops in their innovative design and realization of what they soon began to call the Food Dignity project's minigrant program.

Leadership development funds

Even as great effort was made to honor and respect the exigent duality of a combined academic and community approach to the Food Dignity project, the friction sometimes created as a result of its built-in dichotomy and inequities was not easily managed. The community partners were limited in their choices and in the power of their individual and collective voices. It was within the day-to-day operations of their frontline work that they maintained autonomy and held fast to their own sense of dignity. As they began to understand

the flexibility of the community support package once it was in their hands and developed an ability to articulate to Christine their need for changes in the budget structure, an opportunity for significant change was brought into play.

Leadership among the community partners had begun to comfortably point out that there was great inequity exhibited by how the project's funding distribution was weighted heavily on the academic side. At about the same time, Christine let it be known that there were funds at the project level that she had the ability to reallocate. This gradual shift in perspectives on both sides led to a community request for additional funds for each site that would dedicated to independent leadership development and capacity building projects.

A small amount of funds originally under the complete control of the project's central administration was transferred to the community support package in the form of what was called "Leadership Development (LD) Funds." After a pilot of US$5000 in LD funds for each CBO in the project's second year, each site was given an additional US$21,000 (funded at US$7000/year for the last three years of the grant) to be used for projects that helped support sustainable capacity building in their communities.

In a team-developed and approved process, each site was required to submit a detailed proposal and time-line for each use of the LD funds, which had to ultimately be approved by Christine and myself. Projects ranged from workplace culture improvements to statewide community food summit funding and a variety of other projects that will be available for review on the Food Dignity project website.

Concluding Reflections and Observations

At the start of the Food Dignity research project, Christine responded to my query about her expectations for the project by saying that she expected to be surprised and to learn a great deal she hadn't yet imagined. Those expectations were met along a road that was often rocky, filled with pot-holes, and circuitous. The community partners proved to be a stalwart bunch that held great vision they played out in unexpected, ingenious—and sometimes contentious—ways.

Money was often the devil of the details as the community-based members of the Food Dignity research team scrambled to live up to their obligations to the project while simultaneously providing something of value to their communities (all in addition to everything they were already doing). The small percentage (7%) of the overall project funding that went to each community partner site served as a reminder that, along with the unique opportunities that came with being a community partner on the Food Dignity project team, there were project realities that replicated a long history of inequities. These inequities included those of power and privilege that exist between the academy and the communities it mines for material upon which academic careers and recognition are built.

For five years, I learned from an extraordinary group of community activists who were deeply invested in helping to establish viable methods for increasing food security, sovereignty, and justice in their local communities. They were equally committed to generously sharing what they learned along the way. These people taught me more about food production, preservation, distribution, cooking, and eating—as well as how these essential aspects of human survival relate to our individual, cultural, social, and political experiences in life—than I could have ever imagined when I agreed to be part of the Food Dignity research project. As I write, I've now had more than seven years of involvement with the project, and I expect to be learning from what it produced for many more years to come.

Above all else, I value the in-person time I got to spend with members of the Food Dignity project team, very often on site in the communities they love. I'm not alone in feeling this way. As the project's five-year span drew to a close, I began to ask the project's key community partners questions of reflection regarding their experiences with the Food Dignity project. All of them talked about how extraordinary it was to be part of the nearly week-long national team meetings (a total of seven of them), for which all direct expenses were covered by the project.

Some of the most difficult conversations and struggles took place at those meetings as project partners tried to hash out our differences and come

to some kind of consensus over what is needed—or even possible—in community food systems work and in the current, dominant, food-access structures. We also found common ground to stand on when it came to at least a theoretical view that availability and adequate access at all times to the sufficient amount of safe and nutritious food needed to maintain a healthy and active life should be considered a right, not a privilege.

The budget funds from the Food Dignity project's community support package were alternately generous and insufficient in the daily working lives of its community partner sites. In a world that values institutionally-based knowledge over the first person expertise of lived experience, grassroots activists struggle constantly with the desire to show gratitude for all support that comes our way and the need to push back against the oppressive realities of being perpetually underfunded (especially in comparison to our academic "partners") and marginalized.

The Food Dignity project's community support package did not provide funding capable of establishing a direct route to program sustainability for its community partner sites. It did, however, provide a path to sustainability and increased mainstream credibility through its leveraging potential. Several of the sites subsequently received federal and private foundation grant funds substantial enough to move their programs forward, an achievement no doubt aided by the status achieved by their key involvement in a major, award-winning, national action research project. Many of the community partner team members authored or co-authored published papers associated with their work with the Food Dignity project, and many were presenters or co-presenters at local and national conferences.

Greater than the direct results we're able to report from the work done within the Food Dignity action research project is the opportunity it has unearthed to discuss, plan, and enact systemic change moving forward. How the knowledge and work of community-based activists, in particular those who have themselves experienced the problems they are trying to address, is supported (or not) through funding is directly related to their ability to succeed in community-based, social change work.

The Food Dignity action research project itself could have looked very different, and might have accomplished even more, if the community support package had been accessed, designed, developed, and distributed differently. The questions that can arise out of that kind of imagining are limitless. Had the community partners been collectively involved with the design and distribution of the Food Dignity project funds from the start, had they themselves been given the opportunity to competitively apply for the funds, had the academic team served as subawardees with clearly defined and limited roles in service to the community partners, had the ~US$400,000 of indirect costs been distributed among the community partner sites, etc., etc., how would the process and results of this project's objectives turned out?

Until the embedded belief that the knowledge hierarchy is dominated by the academy is fully dismantled, and until the academic system is prepared to relinquish its out-of-balance share of the power and privilege (including funding) attached to that disparity, the possibility of achieving an equitable, and therefore true, community-academic partnership remains out of reach.

Yet, as history at large and the recounting of the many elements of the Food Dignity action research project have shown, the long reach for justice is served well by the courageous, countless steps taken by those who dare to imagine that change is possible.

I have no doubt that most of the community members directly involved with the Food Dignity project will continue to acknowledge the project's contribution to their life's work. I'm equally certain that the greatest achievements of the Food Dignity project are rooted in the toil, courage, and brilliance of the community members who made those achievements possible.

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Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Visualizing expertise: Collaborative Pathway Modeling as a methodology for conveying community-driven strategies for change

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Submitted September 20, 2017 / Revised December 5, 2017, and February 23, 2018 /
Accepted February 24, 2018 / Published online July 18, 2018

Citation: Hargraves, M., & Denning, C (2018). Visualizing expertise: Collaborative Pathway Modeling as a methodology for conveying community-driven strategies for change. *Journal of Agriculture, Food Systems, and Community Development*, *8*(Suppl. 1), 101–115. https://doi.org/10.5304/jafscd.2018.08A.005

Abstract

The Food Dignity project brought teams from five community-led organizations working on local food systems together with researchers from four academic institutions, to learn from community strategies for building sustainable local food systems and improving food justice. This reflective essay describes the emergence and refinement, within this context, of a values-driven methodology for surfacing, protecting, and conveying the strategic thinking and theories of change held by community practitioners. Knowledge utilization is too often viewed as a one-way street in which research-derived knowledge is expected to infuse and improve practice, without sufficient focus and mechanisms to ensure that practice-derived knowledge is

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Disclosures

Hargraves and Denning serve on the board of directors of and have consulted to Action Resources International, the sponsoring organization for Feeding Laramie Valley, one of the community organizations partnering in the Food Dignity project.

Contributors and Supporting Agencies

Blue Mountain Associates; Feeding Laramie Valley; Whole Community Project; East New York Farms!; Dig Deep Farms; University of Wyoming; Cornell University; U.S. Department of Agriculture National Institute of Food and Agriculture (USDA NIFA).

Funding Disclosure

Food Dignity (http://www.fooddignity.org) was supported by Agriculture and Food Research Initiative Competitive Grant no. 2011-68004-30074 from the USDA National Institute of Food and Agriculture.

valued and brought forward. Collaborative Pathway Modeling (CPM) addresses this gap by offering a practical tool for capturing and presenting practitioners' theories of change. Importantly, the models that are produced are not just useful as tools for research. They have been valuable and useful to the community organizations themselves, underscoring a central commitment in CPM to equity and respect for community expertise and intellectual property. In this paper we describe the origins and development of CPM and its research-derived approach to program modeling, situate CPM relative to calls for greater community involvement in research, and present the values and process that define the methodology. We share stories from developing the community partner models, and conclude with reflections on the nature of the work and its larger potential for bringing forward essential diverse sources of knowledge in many arenas.

Keywords
Collaborative Pathway Modeling; Collaborative Research; Community Knowledge; Practitioner Expertise; Theory of Change; Program Modeling; Community-based Participatory Research; Food Dignity

Introduction

Efforts to improve the strength, equity, and sustainability of community food systems—as with efforts to address many contemporary community problems—face a complex mix of systemic and local challenges. It stands to reason that relevant, effective solutions would require the expertise of community leaders and others with lived experience and knowledge of their community realities, history, culture, obstacles, strengths, and priorities. Researchers and funders in many fields have come to recognize the value of community expertise, as reflected in widespread calls for new or stronger practices such as community-academic partnerships, community-based participatory research (CBPR), and community involvement in research and implementation science (Ahmed & Palermo, 2010; Drahota et al., 2016; Green, 2001; Green & Mercer, 2001; Leviton & Trujillo, 2016; Lobb & Colditz, 2013; Pine & de Souza, 2013; Wallerstein & Duran, 2010; Wandersman, Alia, Cook, Hsu, & Ramaswamy, 2016). The value that is added by participatory research is summarized well by Minkler (2005), who identifies numerous ways that the quality, relevance, and validity of research can be improved through CBPR.

It is also important to recognize—as some of the above scholars do, explicitly—that community and practitioner experts originate solutions of their own. That is, it is not just that community voices need to be included in research projects in order to generate research that is more relevant, viable, and effective in addressing community problems, but that experienced community practitioners have answers and ideas—program designs and policy recommendations—of their own, drawing on their distinct expertise and knowledge. Indeed, the Food Dignity action research project was based on the recognition that practitioners are implementing important solutions that researchers can learn from. In practice, however, community-generated programs face numerous challenges. As Tseng claims, the "past 15 years have not created a meaningful role for practitioners in building evidence agendas. Instead, evidence agendas have been largely under the province of policymakers and researchers" (Tseng, 2015, "Where are we going," item 4). Wallerstein and Duran list "the privileging of academic knowledge" as one of the six core challenges of translational research (Wallerstein & Duran, 2010, p. S41). Chen and Turner (2012) claim that formal theory from academia is favored over stakeholder theories, and that practitioner-developed programs have been systematically discounted compared to formal theory-based interventions—less likely to be studied, funded, or included in the published literature—although they tend to be favored by practitioners and community stakeholders as more relevant and practical. The CPM process described in this essay offers a practical tool for bringing practitioner theories of change forward, an important step toward obtaining due consideration for funding, evaluation, and evidence-development for practitioner-derived solutions.

CPM is a structured, values-driven process for surfacing and articulating the insights, knowledge, and expertise of groups and individuals designing

community-driven solutions to community problems. The strength of CPM is that it combines two things: an ethics-driven approach that elevates and protects the expertise derived from lived experience, and a structured process that yields a program model and visual theory of change. The models that emerge are well suited to evaluation, research-practice integration, and related endeavors that benefit from an articulated framework of organizing concepts (Trochim et al., 2016; Urban & Trochim, 2009).

An important point is that both the process and results of CPM are also valuable to the community leaders and community members whose expertise is brought forward. The intricate models that emerged from the CPM process with Food Dignity community partners have facilitated internal and external stakeholder communication and understanding, strengthened grant-writing and proposal development, and provided a valued bridge between the complex expertise of community leaders and external stakeholders.

In this reflective essay, we explain and describe how we developed CPM in the context of the Food Dignity action research project, and how and why it has been valuable to both researchers and practitioners. We begin, in the following section, with the origins of CPM, with dual roots in the research-tested pathway modeling methods central to the Systems Evaluation Protocol, and insights from community partners in the Food Dignity action research project that shaped the CPM process. Then we describe the development of CPM and how the process evolved as we extended the effort beyond the initial projects, explaining significant challenges using examples from the Food Dignity work. This narrative approach is complemented by a step-by-step summary of the CPM process in the Appendix to underscore and clarify the process. The values foundation for CPM guides the way the work is done, and is discussed next. We conclude with reflections on the CPM experience with community partners and recommendations for future work.

Origins of Collaborative Pathway Modeling

CPM utilizes the program modeling process that is central to the evaluation planning approach developed by the Cornell Office for Research on Evaluation (CORE), formalized as the Systems Evaluation Protocol (Trochim et al., 2016). The protocol and companion software system called the Netway were developed with research grants from the National Science Foundation (NSF Awards #0535492 and #0814364) and were tested and refined in multiple cohorts of evaluation partnerships with various U.S. education and outreach programs.

The reasoning behind the particular kind of program modeling used in the protocol comes from the recognition that before planning a program evaluation, it is essential to establish a clear and detailed understanding of what that program is and how it works: what program participants do or experience as part of the program, what kinds of early changes these activities lead to and what changes unfold later, and how the activities in the program work to bring about those particular changes and set off the whole process that ultimately leads to expected impacts. Outsiders to a program may not always have that level of understanding of a program. A program model is one way that that information and insight can be communicated. Many evaluation strategies involve developing a logic model, in which lists of program inputs, activities, and short-, mid-, and long-term outcomes (the anticipated changes) are laid out in columns. Logic models are used in many evaluations, are often required as part of grant proposals, and in general are useful as a way of providing concise program information in a standard format. Logic models provide a great deal of information, but are not able to present the reasoning about how change works—that is, how and why particular activities are believed to contribute to or cause the changes listed in the outcome columns. Those causal connections—which make up the "theory of change" for a program—explain how a program is believed to work and provide a foundation for devising an evaluation to investigate how well it is working, how to make it work better, or how to make it work in different circumstances.

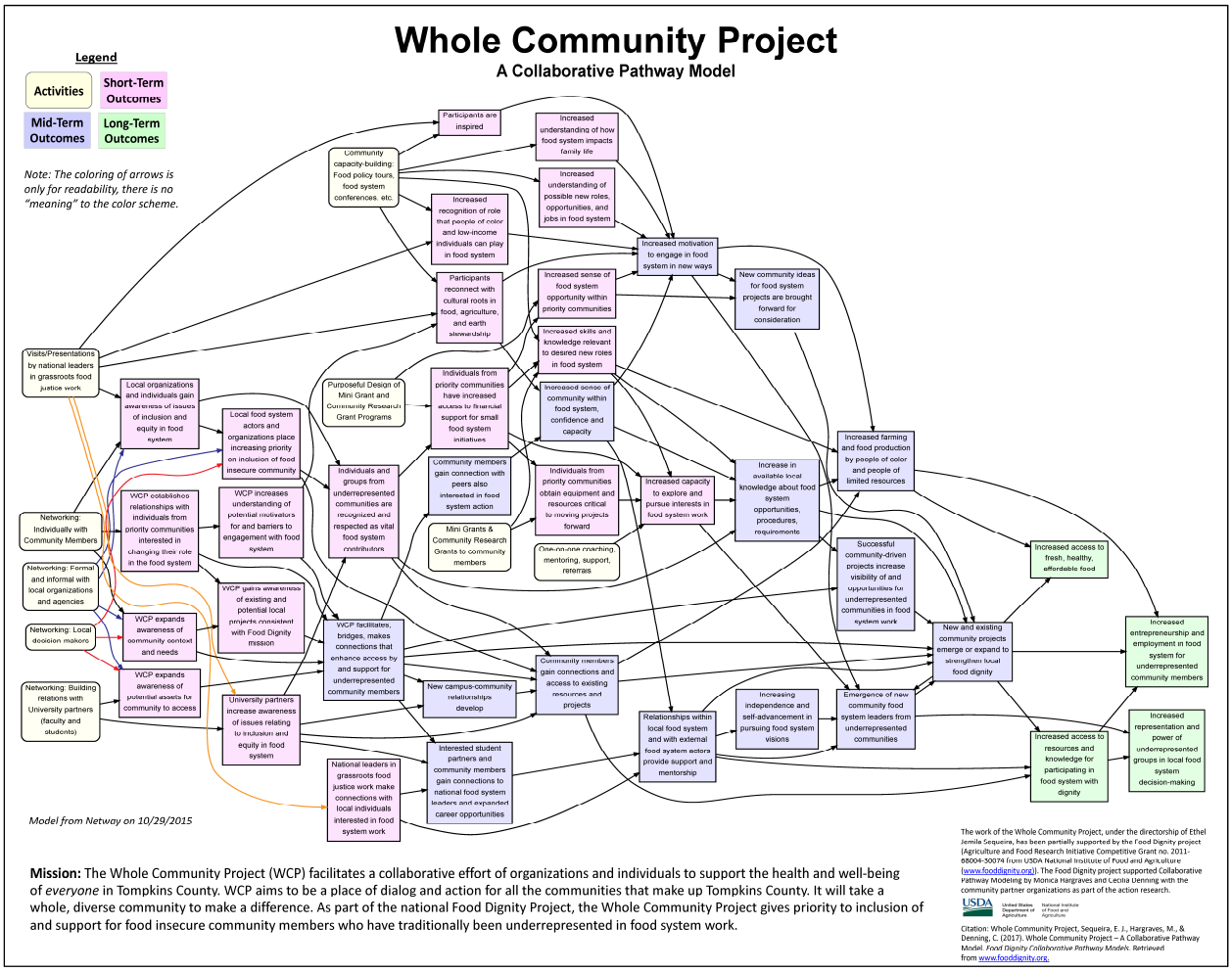
The Systems Evaluation Protocol uses pathway modeling, which is a visual type of program logic modeling that highlights the underlying theory of change and presents it in specific detail. The theory

of change spells out how the activities of a program are expected to lead to its larger, long-term goals. In a pathway model, program activities and outcomes appear as boxes with concise descriptive text, and arrows connect each program activity to the short-term outcome(s) to which it contributes. Additional arrows link each outcome to the other outcome(s) that it contributes to, tracing the pathways of change and convergence and the incremental manifestations of progress implied by the theory of change underlying the program design. The resulting diagram contains a wealth of information about how change is believed to unfold over the course of a program and beyond, and about the specific outcomes expected to emerge in the process (see Figure 1 for an example).

As Figure 1 shows, these diagrams can be very complicated, and may be daunting at first glance. Complex pathway models, however, reflect the complexity of the work itself. The challenge in pathway modeling is to make the model detailed enough to convey specific insights and components of change, while not making the model so dense that the details become unreadable. It takes time to absorb the information they contain. (The small image size makes the model in Figure 1 difficult to read, but our intent is to provide a quick view of what a pathway model can look like. A larger version of the model in Figure 1 can be viewed at https://www.fooddignity.org/collaborative-pathway-models.)

Pathway models in the Systems Evaluation Protocol form the foundation for evaluation decision-making by laying out the essential elements of the program design, theory of change,

Figure 1. Collaborative Pathway Model Poster of the Whole Community Project (Ithaca, New York)



and activities and outcomes (Trochim et al., 2016). An evaluation plan then focuses on selected parts of the program process, guiding the collection of data that will be most useful for program staff, funders, and other stakeholders. Pathway models can also be valuable for integrating research and practice by providing a framework in which existing research evidence can be mapped onto a program model and aligned with locally generated evidence from the program evaluation to provide a more complete evidence base for a program than is typically available from local program evaluations (Urban & Trochim, 2009). As a staff member of CORE, as well as part of the Food Dignity research team, Hargraves is familiar with pathway modeling, making it a natural choice for the Food Dignity project.

As the work proceeded, the model development approach was refined to serve a new and important purpose, bringing forward the expertise and theories of community practitioners. It is this purpose that marks the distinction between pathway modeling for purposes of evaluation and program development, as in the Systems Evaluation Protocol, and pathway modeling specifically aimed at elevating practitioner expertise and theories of change, which we called Collaborative Pathway Modeling. The technical structure of pathway modeling utilized in the Systems Evaluation Protocol is retained in CPM, but the process of gathering information and building the model in a particular kind of partnership with community program leaders is the distinguishing feature of CPM. The process combines the experience and expertise of the pathway modeling team and the designers and leaders of the community-based program, jointly creating a technically strong program model that serves the specific purpose of articulating the practitioners' theories of change. In this way CPM is designed to help counterbalance the prevailing system, which favors researcher expertise above others. Including "collaborative" in its name connects with collaborative and culturally responsive evaluation approaches, which have been described as "acknowledg[ing] the importance of valuing stakeholder knowledge as part of a larger effort to better understand a program's operation and impact" (Askew, Beverly, & Jay, 2012, p. 552).

This purpose of CPM aligned well with the Food Dignity project, a five-year (2011–2016) action research project funded by the U.S. Department of Agriculture's National Institute of Food and Agriculture (USDA NIFA) to explore community-led approaches to food justice and sustainable local food systems. It was predicated on the need to learn from grassroots community organizations designing local approaches to food system challenges and inequities. "Food dignity as a premise and Food Dignity as a research project are both steeped in recognizing that community people hold the knowledge and ability to ask the right questions and find the right answers to their own needs" (Porter, Herrera, Marshall, & Woodsum, 2014, p. 124).

Five U.S. community organizations joined the Food Dignity project as action research partners: Blue Mountain Associates, on the Wind River Indian Reservation in Wyoming; Dig Deep Farms, in Alameda County, California; East New York Farms!, in Brooklyn, New York; Feeding Laramie Valley, in Laramie, Wyoming; and the Whole Community Project, in Ithaca, New York (see http://www.fooddignity.org for more information on these partner organizations). Their common thread was dedication to strengthening sustainable local food systems and to food justice. Each organization and its programs is unique, however, reflecting the characteristics and priorities of their communities, as well as their organizational strengths and priorities.

The research challenge in the Food Dignity project involved how to surface and articulate the expertise and strategies driving these community-driven approaches. Extensive qualitative data, including interviews, digital storytelling, case studies, photo and video documentary evidence, and quantitative data on garden harvests and other elements made up the bulk of the planned research. Pathway modeling, and more specifically CPM, provided not just an additional unique form of data about the strategies in use in the five community programs, but a community-driven framework for organizing and analyzing other project data by identifying themes that were part of the community organization's work.

Emergence and Development of Collaborative Pathway Modeling

The first effort to use pathway modeling in Food Dignity took place in early 2014 with the Whole Community Project (WCP), directed by Jemila Sequeira. At that time there was no comprehensive plan for pathway modeling in Food Dignity; it was seen simply as a way to pull together a structured representation of the complex and responsive work of WCP for communication and reporting purposes. The WCP was based in Ithaca, New York, which is also home to Cornell University and CORE, where Hargraves is based. Their proximity made it easy for Sequeira and Hargraves to meet in person, and the model development proceeded as a collaboration between them.

Out of the rich story-telling and documentation provided by Sequeira, the underlying logic of her hands-on, relationship-focused approach to community organizing began to emerge. Hargraves and Sequeira were able to work through multiple iterations of the model over time, eventually arriving at a model that met with Sequeira's approval—and that one of her colleagues commented looked like "the inside of Jemila's brain!" (J. Sequeira, personal communication). The critical contribution of Sequeira's extensive and strategic networking with community members, local and national organizations, and academics is particularly visible in the model (see Figure 1 or the larger WCP model at http://fooddignity.org/collaborative-pathway-models) and helped convey the roles and relevance of an array of informal meetings, conversations, and related activities that had previously been discounted or unrecognized.

On the strength of the productivity of the modeling effort and the value—to Sequeira, the WCP, and the Food Dignity project—of the visually represented theory of change that emerged from that work, the Food Dignity leadership team proposed in October 2014 to extend the effort to all five community partner organizations. Gayle Woodsum, a community organizer with more than three decades of experience in grassroots organizing who was serving as community liaison for the Food Dignity project, had been interested in trying pathway modeling herself, based on its success with WCP. She pointed out the powerful potential of this kind of pathway modeling for articulating expertise in community-based work that so often goes unheard and undervalued. It was this insight that launched the CPM work in Food Dignity and anchored the process in its value foundation and purpose.

Cecilia Denning joined Hargraves in late 2014 to strengthen and support the newly planned work with community partners, forming a two-person CPM team. Given the distances between the community partner organizations, models for the remaining partner programs were developed through varying combinations of in-person visits and follow-up phone meetings. The model for Feeding Laramie Valley (FLV), directed by Gayle Woodsum, was the second to be developed, drawing on an initial in-person meeting in October 2014 and evolving through several rounds of revisions over numerous phone meetings with Hargraves, Denning, and Woodsum until it met with Woodsum's approval.

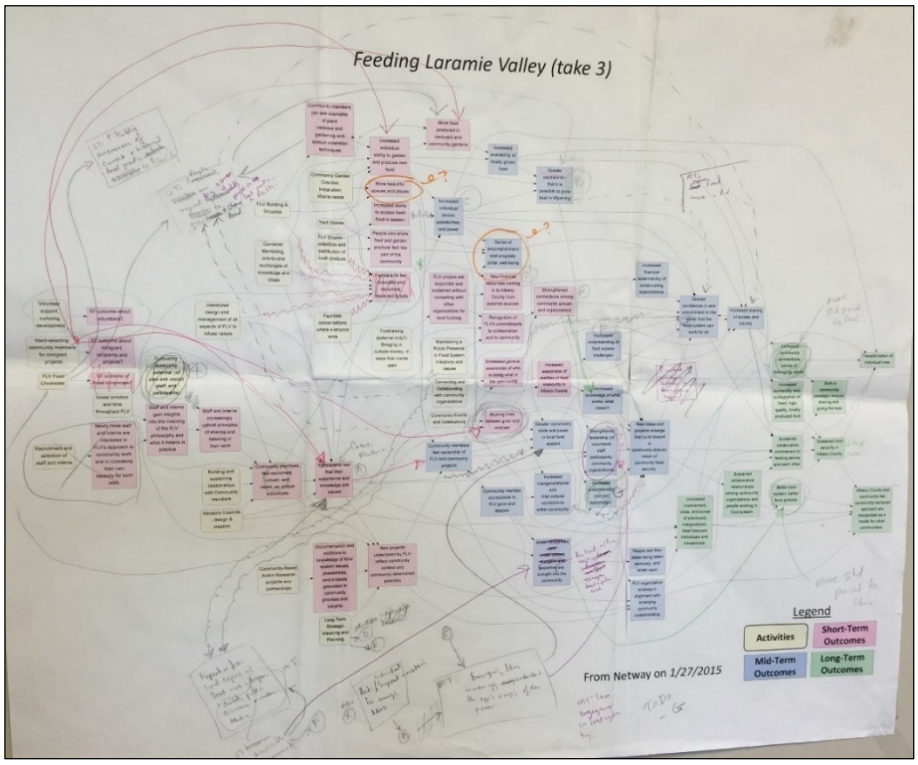
The experiences of developing models for Sequeira's and Woodsum's organizations laid the groundwork for extending the project to the other three community organizations, and we moved to establish a more standardized procedure for the collaborative process thereafter. For the remaining three community partners we had the time and funds for one two-day site visit for in-person work for each organization, so we worked to make that opportunity as productive as possible by reviewing written reports and website materials in advance to identify potential activities and outcomes for the anticipated model. This pre-analysis was sketched into a temporary prototype model, essentially a skeleton to speed the process of creating a full model during the site visit. The in-person meetings amounted to semistructured group interviews, soliciting stories and explanations of what the staff and leadership do, why it matters, what differences their activities make and why, how change takes place, what barriers exist, and whatever else they felt was relevant to understand how and why their programs work the way they do. (For ease of reference, the steps of CPM are summarized in a table in the Appendix.)

Throughout these discussions and iterations, the most important responsibility for us, the CPM

team, was to listen deeply. We were outsiders to the communities and programs we were modeling, and it was incumbent on us to represent what they perceived to be true, not what we thought made sense or could distill from the information they gave us. This marks a subtle but important distinction between the goals of CPM and Classical Grounded Theory, to which it might otherwise seem similar. In Classical Grounded Theory, researchers collect extensive information from stakeholders that is then analyzed, coded, and refined in a systematic, iterative process in order for the researchers to develop a theory of the phenomenon under study (Evans, 2013; Glaser & Strauss, 1965). By contrast, the goal of CPM is to bring forward the *practitioners'* theory of change for a program they have designed or are involved in delivering. This demanded from us a particular kind of critical listening. On the one hand, we had to question and scrutinize what we were hearing in order to ensure that the logical connections we were building were complete so that the model would be technically strong. On the other hand, we had to listen as openly as we could for things that necessarily were foreign to us, in order to detect the crucial mechanisms and characteristics of the change process. The process of listening deeply, asking questions, and revising and checking in with the contributors repeatedly until we had it right in their eyes was essential (see Figure 2).

It was a priority for each site visit to develop an initial full model in time for the contributors' in-person review before the end of the visit. Presenting the model to the contributors in person gave us a chance for richer discussions, ensuring that they were familiar with how pathway models work in general so that their feedback on their own pathway model could be precise and well directed. After the site visit, we made revisions that they had suggested and had follow-up phone meetings in order to refine the models further, until the community organizer and primary contributors felt the model offered a good representation of their work, their strategies, and their view of how change unfolds. That commitment—to listening, revising however much was required and even scrapping early versions, and deferring to the judgment of the community organizer—was essential for the quality of the model, not only for ensuring the accuracy of the end product, but also for the authenticity of the process itself. There had to be a foundation of trust in order for information to be shared and stories to be told.

Figure 2. Illustration of One Round of Revisions Based on Community Partner Feedback



An important feature of the final models is that they are recognized as the intellectual property of the community organizer directing the work and guiding the modeling process, and are the property of the community organization. In each finalized CPM poster

authorship is specified and is shared between the organization, the community organizer, and the CPM team. Table 1 lists the community organizer and primary contributors to the CPM for each partner organization. The five pathway model posters themselves can be viewed at http://fooddignity.org/collaborative-pathway-models.

What It Takes to Build a Pathway Model: Important Considerations Along the Way

The pathway model diagrams were constructed using the Netway, a free web-based software program developed by CORE to support evaluation planning using the Systems Evaluation Protocol (https://www.evaluationnetway.com). The pathway modeling feature of the Netway makes it easy, from a technical production point of view, to create and revise models. The process of building a collaborative pathway model, or a pathway model in general guided by the Systems Evaluation Protocol, involves attending to a number of features: program scope appropriate for the modeling exercise; individual elements of Activities, Outcomes, and Links indicating direction of contribution or causality; wording for the Activity and Outcome text; and Program Context. The process of developing each of these is described below, with examples from the Food Dignity partner models.

Program Scope

A critical step in the modeling process is to determine what scope of work will be included in the model. The choice is driven by the vision and communication needs of the program, as there can be both broad and narrow perspectives on the program which may be appropriate for different circumstances. The general goal is that the scope should be large enough to include aspects of the program that are of interest and that are needed to have a full understanding of how the program works, and yet be small enough to allow a level of detail that is informative while still being readable. In the terms used in the Systems Evaluation Protocol, this is a program "boundary" question (Trochim et al., 2016).

The issue of program scope came to the fore most vividly in the modeling of the Dig Deep Farms (DDF) program in California. Because our pre-visit materials were drawn from DDF annual reports and web pages, our skeleton pre-model focused on their farming, food distribution, and workforce-development activities and outcomes. However, the DDF leadership reaction upon seeing the pre-visit sketch was strongly negative. The intense discussions that followed made it clear that DDF is a part of a much larger community change initiative, and—most important—that it is not possible to understand the DDF enterprise unless it is viewed from this larger perspective. We restructured the model extensively in order to present Dig Deep Farms in its larger context; in fact, this became the title of the CPM poster. The result was a larger and more complex model that presented not only the work of DDF itself but its role as a significant pilot and demonstration project for an entirely new way of seeing and addressing complex community challenges involving poverty, lack of access to healthy food, lack of jobs (especially for those re-entering the community from prison), and lack of community infrastructure, gathering places, and opportunities. The resulting revised model, while still in need of fine-tuning, met with approval. In

Table 1. Food Dignity Community Partner Organizations and Collaborative Pathway Modeling (CPM) Contributors

Community Organization and Location	Community Organizer and Primary CPM Contributor
Blue Mountain Associates, Wind River Indian Reservation, Wyoming	Dr. Virginia Sutter, James Sutter
Dig Deep Farms, Ashland/Cherryland, California	Capt. Marty Neideffer, Hilary Bass
East New York Farms!, Brooklyn, New York	David Vigil, Daryl Marshall
Feeding Laramie Valley, Laramie, Wyoming	Gayle Woodsum
Whole Community Project, Ithaca, New York	Jemila Sequeira

the words of project director Marty Neideffer, responding to the first viewing of the revised CPM developed with his team, "No one has ever gotten us before" (M. Neideffer, personal communication, June 12, 2015).

Activities, Outcomes, and Links

In principle, a pathway model can be built from left to right (activities through to long-term outcomes), from right to left (working from long-term outcomes back to the activities that launch the work), or from some mix of the two. In practice, in the CPM work of the Food Dignity project it was generally a matter of listening in order to identify activities and the significant big-picture outcomes, both of which tended to be easier to hear, and then filling in the linkages and incremental outcomes in between by listening to stories of change in order to capture the causal story lines, and by asking questions about what difference something made or why it mattered.

The information came together in different ways, depending on the speakers and how they tend to think and view their work. In the case of Blue Mountain Associates, for example, the logic of their work emerged very clearly through Dr. Sutter's explanations of the origins and intentions behind the various parts of their work and how changes unfolded, thus providing natural left-to-right accounts for the modeling. In the case of the Whole Community Project, modeling began with Sequeira's clear initial announcement of four key long-term goals toward which all the effort was directed, and then the incremental change process was filled in from many stories about individuals reached by the work, networking efforts by the community organizer at many levels in the community, and so on. The staff and leadership contributing to the East New York Farms! pathway model individually represented several different aspects of their work in the community, and the ways that they described their work focused on the activities composing these organizational aspects. The challenge for modeling was to listen for how these distinct components interacted and reinforced each other so as to yield larger, integrated change.

Language and Concepts

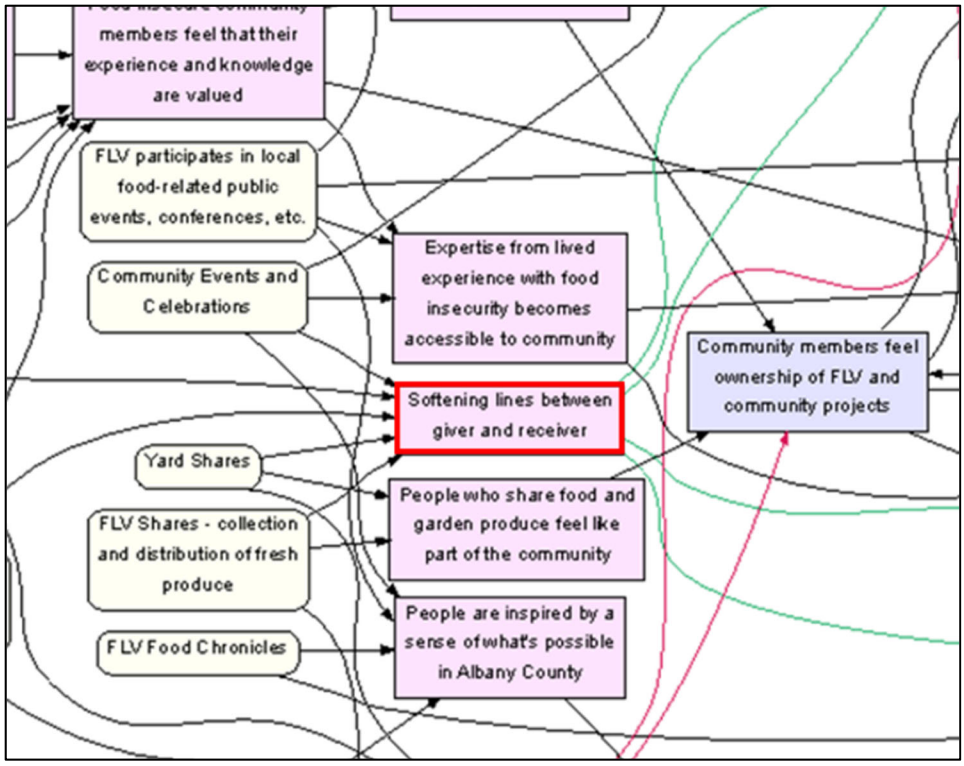
A great deal of detail is necessarily excluded when reducing richly detailed stories and nuanced strategies to a two-dimensional diagram with small boxes of text and connecting arrows. Trying to be as true to the work as possible and faithful to the expertise driving the program design requires considerable care about wording in the space-constrained activity and outcome boxes in the model. Using the language of the community organizers and program staff would be ideal, but this is not always possible. The art of the modeling process is to distill the essence—the underlying crucial concept—and word the text accordingly.

One example of such distillation is from the Feeding Laramie Valley modeling. A central goal of its work is to shift the community paradigm from a top-down charity model for responding to food insecurity to a more mutual enterprise in which the spirit and practice of sharing provides the foundation for improving community food security. Its core program activities are called "Shares" programs: in "Yard Shares," interested community members with yards are supported in developing gardens, with some of the produce shared with food-insecure households; in "FLV Shares," vendors and patrons at the farmers market are invited to contribute fresh quality produce that is given to families lacking fresh, healthy food. In describing these programs, Gayle Woodsum recounted a story from the weekly food-sharing delivery to a Laramie senior center. Several recipients of the weekly food baskets came not just to pick up their fresh produce, but also to contribute other food of their own that they had in abundance—sharing back to the community. The story resonated strongly with Gayle, and it was clear that it needed to be depicted in the model. As shown in Figure 3, an excerpt from the FLV model, "Softening lines between giver and receiver" is a short-term outcome emerging in the course of its work. Numerous arrows lead into and out of that element in the model, presenting it as a key shift along the way to larger success in changing the overall community approach to improving food security.

Program Context

The finishing touch on the final CPM posters was the addition of text presenting information about each program's context. In the form of brief paragraphs or bullet points, this information provides additional information that a viewer needs to know to understand important features shaping program design. In the case of the Food Dignity partners, this information was either provided by them directly or was drawn from existing written materials and approved by them.

Figure 3. Excerpt Showing a Key Short-Term Outcome in the Feeding Laramie Valley Model



Guiding Values

One of the defining features of CPM is the set of values that shape the process. The foundational premise of CPM is that first-person, lived experience yields a unique and valuable type of expertise. The goal and commitment of CPM are to bring that expertise to the surface, translate it accurately and faithfully, and protect the intellectual property rights of those who hold that expertise.

Trust is essential to this process but is not automatically achieved. Why should community organizers trust and share with outside researchers their hard-won expertise, with the all-too-common history of seeing it misused, or scooped up and taken away for analysis and publication while they continue to battle the challenges they are working to solve? (Cochran et al., 2008; Corbie-Smith, Thomas, & St. George, 2002; Christopher, Watts, McCormick, & Young, 2008; Porter et al., 2014). The effort to establish equitable, collaborative relationships and trust among the community and academic partners in the Food Dignity project was an active commitment and challenge in the early years of the project, requiring ongoing recommitment. Nevertheless, in 2014 Food Dignity was awarded the Community-Campus Partnerships for Health annual award, which included praise for the "partners' honesty and self-reflection in describing their challenges and how they dealt with them" (Community-Campus Partnerships for Health, n.d., para. 1).

These Food Dignity project efforts contributed an important basis for the CPM work as it emerged in the final two years of work. Building on that foundation, a critical component of the CPM effort was clear communication about its underlying specific values. These values, presented in Table 2, served as guiding principles shaping the way the CPM team prepared for and worked with community organizers to come to understand the strategies underlying the community programs, and to build and revise models to represent the programs accurately. Although we had not enumerated them

when we began the CPM work, they were present from the beginning because they were integral to the goals of the modeling work—to bring to the surface, highlight, and protect the insights and strategies of the community organizers. As we worked through the series of modeling collaborations, the importance of these underlying principles became more and more clear, and we were able to summarize them succinctly.

Reflections and Recommendations

While the commitments and associated operating principles underlying CPM look tidy when laid out in Table 2, doing the actual work can feel difficult and messy. Particularly under the very tight turnaround time necessitated by the two-day site visits, the thinking and model-crafting work can be very challenging. From the myriad stories, examples, vignettes, and explanations that we heard over the course of our in-person interviews, we worked to distill, synthesize, and integrate themes while still maintaining the distinctness of ideas and outcomes we had heard mentioned. It was invaluable with this turnaround schedule that the CPM team had technical facility and extensive experience with causal pathway modeling. The quality of the models was also strengthened by both of us listening closely so that we could compare notes and interpretations after the interviews. From this material we highlighted recurring themes and individual elements and then laid out elements and connective threads. Going from individual elements and story lines to an articulated model is a big step, however, and it felt almost sculptural—adding, carving away, linking, polishing—until the model cohered and began to do justice to the knowledge that had been shared with us.

Aside from the intensity of the listening and envisioning process, an important challenge we wrestled with was the issue of validity. No matter how carefully we listened and asked questions, it is unreasonable to expect that, if another team of CPM model-builders were to conduct the same two-day site visit and talk to the same people, they would develop the same model exactly in every detail that we had. There is a different kind of validity that this process seeks. Rather than exact, replicable precision of every individual detail, we sought accuracy of representation in the eyes of those whose ideas and causal theories we were trying to illustrate. It was critical to have thoughtful engagement and review from our community partners. This amounted to a type of expert validity, and this was the standard we worked toward.

With thoughtful review by community partners, the end result of the explorations, conversations, questions, distillation, synthesis, and iterative revisions of the CPM effort is a representation of the work and theory of change driving the community program that accurately reflects the community organizer's vision and understanding. From a Food Dignity research project point of view, the models have added a valuable way of understanding and presenting the strategies and expertise of the community partners whose work is the heart of the Food Dignity learning process. The distillation of information in the models lends itself to cross-program analyses that will be pursued in future work.

Importantly, the end results have been highly valued by the community partners for their own needs. Even just the initial, superficial impressions provided by the models have been validating for organization leaders and staff, as the complexity of each diagram feels like a fitting reflection of the

Table 2. Values and Operating Principles of Collaborative Pathway Modeling

Values	Operating Principles
Commitment to presenting the expertise and insights held by the people doing the work	Careful preparation in advance, deep listening
Commitment to integrity in translation and communication	Upholding technical standards, logical discipline of modeling process, and ongoing critical reflections
Commitment to practitioner ownership and assessment of the model	Revising, redirecting, starting over as needed, until the model "fits"

complexity of their work in the community. Beyond the first impressions, the visual presentation contains a remarkable amount of information and tends to be more accessible than lengthy written or spoken descriptions might be. Viewers tend to get drawn in, tracing significant pathways and noticing interesting outcomes, or examining parts of the work that they have had some hand in whether as a staff member, volunteer, program participant, or interested outsider. Large-format posters of the CPMs are on display in several of the community partner offices, providing ready background for discussions with board members, community collaborators, and others. One community partner used the structure of the model to create a template for internal quarterly reporting of activities and progress toward key outcomes. Several community partners have used the models in subsequent grant applications as a way of conveying not only the nature and strategy of their work, but also their clarity of thought and commitment to communication and accountability. Two community partners have incorporated CPM into new projects launched or proposed since the Food Dignity project concluded.

By bringing to the surface the strategic thinking and theory of change that shape the work on the ground of community-based programs, Collaborative Pathway Modeling provides a practical tool for bringing forward an essential part of the body of knowledge needed to ensure effective programmatic and policy responses to contemporary challenges. The need for additional sources of knowledge in general, and for innovative, community-designed approaches in particular, is underscored by problems and shortfalls that have been observed as evidence-based, research-derived programs have been implemented in real-world contexts (Horowitz, Robinson, & Seifer, 2009; Lobb & Colditz, 2013; Seifer & Sisco, 2006; Wandersman et al., 2016). Pine and de Souza (2013) issued a particular call for including people with lived experience of food insecurity into "an expanded program of food scholarship" (p. 71). Collaborative Pathway Modeling offers an innovative, ethically grounded tool that can contribute to the way forward.

Acknowledgments

The authors are grateful to the staff and leadership of the community organizations partnering in the Food Dignity project who collaborated so deeply with us in the development of the Collaborative Pathway Models presented here, and in particular to Gayle Woodsum, whose insight shaped CPM development and who contributed valuable feedback on early drafts of this manuscript.

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Appendix. Summary of Steps and Guidance for Collaborative Pathway Modeling (CPM)

CPM Steps	Key Considerations and Guidance for CPM Process

Begin the collaboration	• Hold these points firmly in mind:
	  ○ Humility (the goal is to surface what, by definition, you do not know)
	  ○ Trust is essential
	  ○ The goal is to bring to the surface and articulate, in formal modeling structures, the strategic thinking, key assumptions, operating principles, insights about context, and theory of change held by the community organizers and colleagues
	• Ensure shared understanding of purpose, audience, relevant contributors, timeline, etc.
	• Establish clearly that decision-making control, final approval, and ownership of the resulting model are held by the community organization.

Advance preparation	• With community organizer help, identify all available materials describing the project or program (website, internal documents, grant proposals, media coverage, etc.). • Review and make notes of all content that could be considered activities, major or intermediate outcomes, broad components of the work, or relevant contextual information. • Create a rough sketch or pre-model to organize this material to the extent it is possible, identifying questions and issues to be clarified. • If useful, enter pre-model into the web-based Netway software program (https://www.evaluationnetway.com).
Site visit: Planning for it	• Talk with community organizer to determine who will be the important contributors to the model—individuals with diverse perspectives or roles in the work can be very valuable, but it is also appropriate to build a model of a single individual's vision. • Arrange site visit, scheduling sizeable blocks of time for individual or group interviews, as well as time for a closing presentation to present and get feedback on the draft model.
Site visit: Gathering input	• Invite contributors to talk about the work and help you to understand what they do and why. Adapt prompt questions to the conversation, with the goal of filling out your understanding of the scope and workings of the program. • Listen carefully, try to hear and learn as much as possible about what they (or the organization) does, why they do it, what changes they've seen, what changes they anticipate and why, what changes are difficult to achieve and what happens relatively easily, why the changes matter, who participates in the program, who is affected by it, what differences it makes, etc. • Pay attention to what is unfamiliar, or to what you may be making assumptions about. Explore these, to ensure that their insights and reasoning are what you work with. • Listen with an ear attuned to the eventual goal of developing a model with clear causal story lines that connect elements of the work to the changes they engender and ultimately to the big-picture goals. • Take extensive notes.
Site visit: Synthesizing, distilling, and building the model	• Review notes and highlight all the elements that could have a place in the model and need to be incorporated in some way. • Reflect on the appropriate scope—what are the boundaries for current modeling purposes? What parts of the information need to be in the active

	working model; what parts are important as explanatory background or context, or important assumptions underlying the work? • Reflect on the level of detail or generality needed for the scope of work being modeled–smaller projects can be modeled with more specificity, larger-scope projects will need to use broader characterizations (for example, by bundling several small specific activities under a broader title that includes and characterizes them all); similarly, individual specific outcomes might need to be bundled into broader constructs. Often, the right level of detail will not be clear until the model is more developed, but be prepared for the choices that will need to be made. (There is no definitive rule about the correct level of detail. Key considerations are that the final model be readable, and that there be enough detail to provide meaningful insights and meet the preferences and needs of the community organizer.) • Transfer the emerging individual elements to index cards, and lay them out on a large surface in the ways that contributors connected them in their explanations and descriptions. • Review, reflect, adjust, edit, add and delete or combine elements, return to notes and make sure you haven't missed anything, return to the cards and see if the threads of the story are there and connected in the ways they should be. • Enter the rough draft into the Netway, see how it looks, print it out and again review, reflect, adjust, edit, etc. • Get the model to the place where it "hangs together" and tells what you understand to be the story.
Site visit: Present the draft model to the assembled contributors, get feedback	• Bring printouts of the draft model (large enough for people to read). • Offer an introduction to the model, pointing out the main long-term goals, major activities, "regions" that show up in the model reflecting the major threads of the work, significant outcomes along the way, and so on as appropriate. • Give them time to review the model on their own, and to ask questions of the CPM team. • Invite their feedback on what looks right, what looks wrong, what's missing, what they like or don't like, anything that surprises them, etc. • Discuss and agree on changes to be made.
Finalize model	• Make revisions to the model in the Netway, send or show the revised model to the community organizer and key contributors, invite further improvements and corrections. • Continue until they feel that the model matches their understanding of their work and its design and purposes, and they give final approval. • Prepare final print and digital versions of the model, including citation information and appropriate credits.

Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Learning from community-designed minigrant programs in the Food Dignity project

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Submitted February 23, 2018 / Published online July 18, 2018

Citation: Hargraves, M. (2018). Learning from community-designed minigrant programs in the Food Dignity project. *Journal of Agriculture, Food Systems, and Community Development, 8*(Suppl. 1), 117–146.
https://doi.org/10.5304/jafscd.2018.08A.007

Abstract

The Food Dignity project was a five-year (2011–2016, plus a two-year extension), US$5 million collaborative action research project funded by the U.S. Department of Agriculture's Agriculture and Food Research Initiative, that brought together individuals from four universities and five community organizations. The project goal was to learn from and with these community organizations working to strengthen local food systems and build food justice in their communities. As part of the action research, the partnering community organizations each received US$30,000 to be distributed in their communities in the form of minigrants. The evaluation literature on minigrant programs has highlighted their potential for fostering community engagement and supporting ideas brought forward by community members with lived experience of the issue being addressed. In these minigrant programs, the outside funder or distributing agency had largely or entirely determined their structure. In the Food Dignity project, however, the community organizations each designed their own program, led by their community organizers. The diversity of the community organizations and the flexibility and autonomy they exercised in designing their minigrant programs offers an opportunity to explore a novel question:

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Blue Mountain Associates; Feeding Laramie Valley; Whole Community Project; East New York Farms!; Dig Deep Farms; University of Wyoming; Cornell University; and the U.S. Department of Agriculture National Institute of Food and Agriculture.

Author Disclosures

Hargraves serves on the board of directors and consults for Action Resources International, the sponsoring organization for Feeding Laramie Valley, one of the community organizations that partnered in the Food Dignity project.

Funding Disclosure

Food Dignity (http://www.fooddignity.org) is supported by Agriculture and Food Research Initiative Competitive Grant no. 2011-68004-30074 from the U.S. Department of Agriculture National Institute of Food and Agriculture.

When community organizers design minigrant programs, what do they choose to build, and why? The analysis in this essay uses an evolutionary evaluation approach to study the Food Dignity-funded minigrant program designs and outcomes, with a view to identifying lessons for future minigrant programs. The paper reports on minigrant program design features, factors shaping program design choices, minigrants awarded by each community organization, and outcomes attributed to the minigrant programs by participants. The principal findings are that program designs differed and that the patterns of difference are consistent with organizational priorities and systemic issues affecting community members. The innovation and variation in minigrant program designs and funded projects are instructive for anyone considering future minigrant programs. An unanticipated finding is that several of the community organizers utilized the design and management of minigrant programs to achieve goals outside of the minigrant funding process. That is, community organizers recognized the program design itself as a way to advance community development goals separately from the support for minigrant projects, and they deliberately selected program features to serve organizational goals. This has implications for community organizers, highlighting internally designed minigrant programs as a promising addition to their strategies. This also has implications for outside funders committed to supporting community-driven change. Given that minigrant programs are often valued as a way to support community-driven solutions to local problems, the results here suggest that minigrant programs can have dual channels of impact, if community organizations design the minigrant programs themselves rather than having features specified externally.

Keywords
Minigrant; Microgrant; Food Dignity; Community Food Systems; Community-based Participatory Research; Collaborative Pathway Models; Food Justice; Community Organizer

Introduction

The Food Dignity project was a five-year, US$5 million collaborative action research project funded by the U.S. Department of Agriculture's Agriculture and Food Research Initiative (USDA–AFRI) beginning in 2011. The goal was to learn from and with five community organizations working to strengthen local food systems and build food justice in their communities. Academic researchers and students came from four universities: University of Wyoming, Cornell University, Ithaca College, and the University of California, Davis. The five organizations that chose to partner in the Food Dignity project came from across the United States: Blue Mountain Associates (BMA) from the Wind River Indian Reservation in Wyoming; Dig Deep Farms (DDF) in the unincorporated areas of Ashland and Cherryland, California; East New York Farms! (ENYF!) in Brooklyn, New York; Feeding Laramie Valley (FLV) in Laramie, Wyoming; and the Whole Community Project (WCP) in Ithaca, New York.

The foundational premise of the Food Dignity project was that community leaders have important and unique understanding and expertise that shape their goals and their approaches to community change (Porter, 2018). The grant included funding for staff, projects, and research in each organization. Another key feature of the sub-award to each community organization was the funding for a minigrant program in each community. Other studies have shown that community minigrants can "stimulate action and expand community control over that action," especially when available to individuals, not just agencies, and when accompanied by catalyzing support (Porter & Food Dignity Team, 2012). Drawing on this evidence, each community organization in the Food Dignity project was allocated US$30,000 to distribute in the form of minigrants. In contrast to other minigrant programs studied in the literature, the minigrant programs were designed by the community organizations, not by the funder or allocating agency (in this case, USDA and the University of Wyoming respectively). This autonomy, combined with the different contexts and priorities of the community organizations in the Food Dignity project, provides a unique opportunity to learn about the potential for minigrants as a mechanism for supporting community change.

This paper uses an evolutionary evaluation

approach to learn about the design of the minigrant programs and their outcomes (Urban, Hargraves, & Trochim, 2014). The Food Dignity minigrant initiative was a pilot project at two levels: the community organizations were designing minigrant programs for the first time, and the funded minigrants were pilot efforts for the minigrant recipients. Given this very early program lifecycle stage at both levels, an evaluation of causality and/or effectiveness of the minigrant programs or the individual grants would be premature. At this lifecycle stage it is appropriate, instead, to focus on program management and design, with an exploratory examination of reported outcomes (Urban et al., 2014). Accordingly, this paper asks the following: When community organizations design minigrant programs, what do they choose to build, and why? The more specific questions addressed within that are: What were the key features of the community-designed minigrant programs? What considerations influenced those designs? What similarities and differences were there among the minigrant programs, and to what are these differences attributable? What types of community minigrant projects were funded? What outcomes were reported for individual grants and the minigrant programs overall?

We begin below with a review of recent literature on minigrant programs, followed by a description of methods and data sources. Two important aspects of context are summarized next: the expectations and guidelines for minigrant programs that came from the Food Dignity project design, and the situation and characteristics of the community organizations partnering in the Food Dignity project. The results of the minigrant program evaluations are presented and discussed in two parts in order to focus separately on minigrant program design and minigrant project awards. Conclusions and questions for future work are offered in the final section.

Review of Literature on Minigrant Program Design and Goals

Motivations for Implementing Minigrant Programs

In the published literature on minigrant programs, a common motivation cited for minigrants is that they provide a mechanism for increasing community involvement and supporting community ideas. Kegler, Painter, Twiss, Aronson, and Norton (2009) characterize the emphasis on community involvement in many participatory health promotion efforts as reflecting an "implicit…hypothesis that resident involvement in community decision-making leads to better policies and programs, and ultimately to improved community health" (p. 301). Numerous studies of minigrant programs cite their potential for building this kind of community involvement. For example, Bobbitt-Cooke (2005) describes the Healthy Carolinians microgrant project as having "empowered communities and [community-based organizations] to be responsible for community health improvement" (p. 1). Resident mobilization was a primary goal of the *Yes we can!* community-building initiative in Battle Creek, Michigan, which included a neighborhood minigrant program and aimed to improve outcomes "by mobilizing low-income communities and resident leaders and building their capacity to influence the decisions and policies that impact their lives" (Foster-Fishman et al., 2006, p. 143). The desire to support solutions identified by those with lived experience of the challenges is also a common motivation: "… most mini-grant programs share the goal of promoting bottom-up community building by investing resources in people and neighborhood-based organizations to creatively address the problems that concern them" (Foster-Fishman et al., 2006, p. 146).

Increasing community involvement may involve different objectives, depending on the program's context. Numerous studies cite one or more of these specific minigrant program goals: stimulating community awareness, building community capacity, developing leadership, promoting community engagement or reducing barriers to it, increasing collaborative partnerships with community organizations and groups, and supporting local solutions and diverse grassroots involvement (see for example Bobbitt-Cooke, 2005; Caperchione, Mummery, & Joyner, 2010; Deacon, Foster-Fishman, Mahaffey, & Archer, 2009; Foster-Fishman et al., 2006; Foster-Fishman & Long, 2009; Hartwig, et al., 2006; Monahan, Olson, Berger, & Sklar, 1993; Smith, 1998).

In soliciting and supporting certain types of community-based projects, minigrant programs are designed to contribute to the goals of the funding organization, such as improved public health, neighborhood revitalization, increased physical activity, etc. Many examples of minigrant program evaluations come from the arena of public health, such as the 28 reviewed in Porter, McCrackin, and Naschold (2015); however, minigrant strategies have been used in a wide range of fields. The general potential of minigrants, independent of a particular context, is reflected in the case for minigrant programs offered by the Center for Community Health and Development at the University of Kansas, which is included in a chapter on "Establishing Micro-Grant Programs" in its online *Community Tool Box*. They list potential benefits of minigrant programs, including inspiring creative and innovative thinking; reaching "hard to reach" people; expanding eligibility to grassroots organizations not eligible for traditional grant funding; encouraging smaller, innovative groups who might not respond to larger grant programs; and more (Center for Community Health and Development, 2017).

Minigrant Program Designs

Minigrant program designs involve specifying multiple features of the program: the size of potential minigrants, who is eligible to receive one, what types of projects will be considered, how applicants are recruited, what the application process involves, criteria and process for selecting successful applicants, reporting requirements for minigrantees, and so on. The availability of details about minigrant program designs varies among the studies reviewed here. Some studies, such as Deacon et al. (2009), are focused on evaluating outcomes associated with the minigrant program taken as a whole in order to draw conclusions about the potential of minigrant programs in general. This type of study provides fewer details about the design itself. Others, such as Caperchione et al. (2006), are interested in drawing lessons that would be useful for those designing minigrant programs and so provide much greater detail about program design and management as part of their analysis. With a related goal of presenting ideas and options for future minigrant program designers, this paper shares design features adopted in each of the Food Dignity-supported minigrant programs.

Of particular interest for the current study is strategic decision-making connecting design elements to desired program outcomes. Foster-Fishman et al.'s (2006) analysis of the neighborhood minigrant component of the *Yes we can!* project provides an example of deliberate change in program design elements to redirect minigrant program outcomes. The authors describe an evolution in program design from a relatively "non-prescriptive program" that "was initially designed to support almost any resident-initiated effort" (p. 146) to one more strategically designed to align minigrant projects with the goals of the overall initiative and the desire to foster collective action. As the authors recognize, "Because of their connection with larger systems (e.g., the Foundation) and peers, [minigrants] encourage, reinforce, and validate certain community actions and experiences" (p. 148). In this case, the application process was amended to "become more tightly focused on both the process of collective action and the goals of the initiative," including specifying three funding areas into which proposals needed to fit (p. 148). By altering the minigrant program design, the funder was able to direct resources within the arena of community ideas for neighborhood improvement toward projects meeting desired criteria.

My search of the minigrant literature has not succeeded in discovering examples of minigrant programs designed by front-line community organizations, as is the case in the Food Dignity project. Smith and Littlejohn (2007) comment on the potential value of community input in their reflection on community granting by a Regional Health Authority in Alberta, Canada. They come to a strong conclusion, pointing out that community input might have averted a costly design choice:

> Our [Healthy Communities Initiative] emphasized broad participation in visioning, priority setting, program implementation, and evaluation. Yet perhaps the most significant design decision—the choice of a competitive grant model—was predetermined. In retrospect, it is clear to us that we would have had fewer problems if community

> members had been consulted on this question. They could have shared valued insights about what they saw as the potential benefits and challenges of such an approach, about how well it might fit with local cultures, and about how well it would be received and endorsed. (p. 246)

This acknowledges the value of community input for ensuring that a funder-designed minigrant program will be viable, yet does not go so far as to suggest community-controlled design.

The literature does provide some examples of entities that were close to community-based organizations having control over parts of the minigrant program design. Hartwig et al. (2006) studied the *Healthy People 2010* initiative in which the Office of Disease Prevention and Health Promotion in the U.S. Department of Health and Human Services selected two different models for awarding minigrants of US$2010 to community-based organizations (CBOs). In one model, the Office of Healthy Carolinians—a state agency in North Carolina—was the issuing agency. The agency decentralized the management and dissemination of the minigrants to a network of 32 community-based partnerships called Healthy Carolinians Partnerships (HCPs). The HCPs developed their own mechanisms for selecting CBO grantees, but all were given the same forms for proposals and the same criteria for awarding grants (Hartwig et al., 2006). The authors provide some description of the variations adopted by the HCPs: "… some partnerships conducted a blinded review process while others targeted agencies new to public health and the HCP to broaden the participation of the partnership and local coalition building for public health" (p. 91). However, the variation or reasons behind it are not the focus of their paper, and no other information is available. Smith (1998) reviews minigrant programs developed independently by four Regional Health Authorities (RHAs) in Alberta, Canada in the mid-1990s. As is reported here with the minigrant programs developed within the Food Dignity project, Smith found considerable variation in the minigrant program designs adopted by the RHAs in the study. He focuses on just two aspects of minigrant program design—the composition of the decision-making bodies and the nature of support or assistance offered to grantees during the application process and for their projects—but the reasoning behind the variation does not appear to be available for Smith's analysis, which focuses on perceived outcomes of individual projects rather than the implications of the different design choices.

The above two studies provide examples in which variation in minigrant program design is observed though not explored, and in which the entities designing the minigrant programs are in relationship with community organizations but are not community organizations themselves. This analysis of the Food Dignity minigrant programs, therefore, offers a distinct addition to the understanding of minigrant program potential by presenting cases of community organizations designing minigrant programs themselves, and by providing data on the reasoning behind their design choices.

Methods

Data Sources

The principal source of data on minigrant program development and implementation was the set of internal reports submitted annually by each community organization partnering in the Food Dignity project. The report format included a narrative section for their minigrant program, with specific questions about minigrants awarded; the processes for inviting or recruiting applicants, selecting grantees, supporting minigrantees, and tracking minigrant projects; challenges and/or benefits in "doing" minigrants; and lessons or recommendations on minigrants. The annual reports also requested a list of grants issued during that year, including the dollar amounts awarded and information about the funded projects. (These will be cited below with the format "[Community Organization acronym] Annual Report Year X, [calendar year].")

Additional data collected and analyzed for this research included:

- Meeting notes from the second annual Food Dignity project meeting in November

2011 that included a group discussion of minigrant priorities and concerns.
- Notes and summaries (reviewed by the community partners) from phone interviews conducted in May 2013 with the community organizer in the three most active minigrant programs at that time (ENYF!, BMA, and FLV).
- Transcripts and a summary report from interviews with eight FLV minigrant recipients in late 2013 conducted by two graduate students at the University of Wyoming.
- Notes and a written summary of interviews and meetings with 18 minigrant recipients or steering committee members in June 2014 during site visits to BMA and FLV.
- Participant-observation and associated meeting materials from the minigrant advisory committee for WCP in June 2014.
- Minigrant application forms developed and used by BMA, ENYF!, and WCP.
- Steering committee grant review sheets for WCP and ENYF!.
- Nine minigrant reports from individual minigrantees shared directly with Food Dignity by FLV and WCP in various years.
- Videotaped interviews, photo stories, or profiles of 11 minigrantees produced by ENYF! and by FLV.
- Notes from an extended in-person interview in January 2017 with Gayle Woodsum, who served as Community Liaison for the Food Dignity project from October 2013 onwards. In that capacity, she conferred extensively with all the community partner sites, in addition to serving as community organizer and project director for FLV.

Data Analysis

In the initial review of the data above I excerpted and logged passages relating to the following aspects of the minigrant programs in each organization: community context factors referenced by program directors, challenges identified by program directors, stated goals of the program, the design of the program (overall structure, application process, selection process, and process for follow-up), overall and individual minigrant program outcomes, and reported lessons or recommendations. I reviewed these items for emergent themes within and across sites and returned to the source materials for confirmation or contradiction.

In addition, a review of the reports of grants awarded in each organization yielded an inventory of all grants including dates awarded, dollar amounts, project names and descriptions, and all information that was provided about project progress, challenges, and outcomes. This inventory was used to generate summary statistics on minigrant grant sizes and, as described more fully later, a categorization of grants according to their purpose (food access, entrepreneurship, and so on) to assess patterns of grant types across the minigrant programs.

In addition to these specific and formal sources, my analysis and approach are informed by having been an active member of the Food Dignity project since the summer of 2011. I was invited to join the project at that time, a few months after the project's launch, to fill the position of evaluator of the minigrant programs. Over time my involvement and responsibilities expanded to include a major initiative to develop collaborative pathway models of each community organization's work. That role gave me greater contact and deeper collaborative relationships with community organizers and staff in each partner organization, and a more nuanced understanding of the vision and strategies connecting the parts of their work (Hargraves & Denning, 2018). The research conducted for this paper is informed by this experience, integrating the formal analytical components of this research project with the insights and strategic thinking that the community organizations in Food Dignity have shared.

The Food Dignity Collaborative Pathway Models[1] contributed an additional element to the analysis and interpretation of the project's results. These graphical models were developed from extensive interviews and an iterative revision process with community organizers and key staff

[1] https://www.fooddignity.org/collaborative-pathway-models

(Hargraves & Denning, 2018). The process resulted in detailed representations of the theory of change driving each community organization's work. The models are a graphical form of a program logic model, with arrows linking individual activities to the outcome(s) to which they contribute, and in turn, the outcome(s) to which those contribute, and so on all the way through to the program's desired long-term outcomes. As such, the model of each organization's work presents the community organization's articulated view of the larger body of work within which their minigrant program operates. The particular contribution that minigrants are believed to play is therefore reflected in the way minigrant activities are characterized in these models, and in the causal arrows connecting them to particular short-term outcomes and then on through the subsequent pathways. The models, therefore, provided a mechanism for triangulating results from the other analyses of qualitative data in each program.

Results and Discussion

The results are presented in the following four sections: (i) a summary of the guidelines for minigrant programs specified in the Food Dignity grant (to provide context); (ii) a review of the situations, priorities, and readiness of each organization relevant to the development of their minigrant programs; (iii) a summary of the minigrant program designs in each case, with explanations given for features that were adopted; and (iv) a summary of minigrant awards in each case, including the number and size of awards together with information about the types of projects funded, information about individual projects, and reported outcomes. Each of the four sections concludes with a discussion summarizing the results and their significance for the overall study.

Guidelines and Flexibility in Minigrant Program Design

The Food Dignity community support package included US$30,000 for each community partner, allocated over the years of the project. There was a partial rollout in Year 1 (US$2,500), the funding peaked in Years 2 and 3 (US$10,000/year), and it tapered down in Year 4 (US$7,500). The community support package also included half-time funding for a community organizer in each organization, whose job would include overseeing and supporting the minigrant program. Organizations could hold undistributed minigrant funds over from one year to the next. Minigrants could be awarded to individuals, groups, or organizations.

The following points, taken from the Food Dignity grant's Year 2 renewal documents and narratives produced by the project's principal investigator, provided some additional clarity and guidance to the community partners[2]:

- …steering committees for each community are responsible for dispersing microgrants
- The action goal of these microgrants is to support citizen strategies for building their community's capacity to create sustainable food systems that provide food security.
- Communities will select recipients and the amount for the microgrant or stipend based on local priorities and their assessment of local funding availability.
- [Microgrants] are not loans, 'perks,' or 'gifts.'

  (Food Dignity internal memo, "Porter et al. Food Dignity Revisions – Minigrants and Stipends," August 2011)

The original grant proposal and the above clarification both mentioned the use of a steering committee for making decisions about minigrants. However, there continued to be discussion and uncertainty about the extent to which a steering committee was absolutely required and about expectations or requirements for the composition of a steering committee. Community organizers asked many questions in the early discussions in and after the national team meetings in 2011, such as: What restrictions were there from the Food Dignity project or the funder (USDA) on the types of projects

[2] In the early Food Dignity project documents the term "microgrants" is prevalent, but usage shifted over time to "minigrants" which is the term used in this paper.

that could be supported? Were there restrictions on whether people could receive more than one minigrant? Could steering committee members apply for minigrants? Were there restrictions on the size of minigrants, or their timing? Some of these questions had very clear answers (USDA specified for example that minigrants could not be given as loans, perks, or gifts). Beyond that, however, there was flexibility: there was no minimum or maximum grant size stipulated; timing and eligibility were up to the community organization to decide on; the application format was up to the community organization and/or the steering committees to determine. A full treatment of the internal debates and evolution of thinking on how much flexibility the community organizers had goes beyond the scope of this paper. The salient point that forms the starting point here is that community organizations had control and flexibility in the design of their minigrant programs. This becomes apparent in the diversity of program designs adopted in the various organizations.

Organizational Context, Goals, and Minigrant Program Readiness

A second important starting point for understanding the experience with minigrants in the Food Dignity project is how varied the circumstances of the five partnering community organizations are. Their geography and demographics immediately signal some basic differences in context. DDF operates in a coastal, temperate, and densely populated area in California. FLV and BMA both face high elevation, short growing seasons, and low population density in Wyoming. WCP is based in a small city in an upstate New York agricultural region. ENYF! is in an urban, high-density, culturally diverse neighborhood in Brooklyn, New York. Their initiatives and priorities differed as well. BMA is a small nonprofit organization working to improve food security, health, and sovereignty on the Wind River Indian Reservation in Wyoming through education, research and knowledge-sharing; creation of the Wind River Tribal Farmers Market; and support for food production. DDF is a social enterprise urban farm under the umbrella of the Alameda County Sheriff's Office's Crime Prevention Unit, working to increase access to fresh, healthy food and create employment opportunities and community vitality in the unincorporated areas of Ashland and Cherryland, California. ENYF! operates as part of the United Community Centers in the East New York neighborhood of Brooklyn, New York and runs and supports youth programs, community gardening, an urban farm, a farmers market, and more to "promote local sustainable agriculture and community-led economic development" (https://ucceny.org/enyf/). FLV is a community-based and community-led nonprofit organization in Laramie Wyoming producing food and developing community and backyard gardens, with a focus on health and mentoring, a foundational culture of sharing, and a commitment to cooperative efforts to create sustainable and just food access in Laramie and statewide. WCP was a program within Cornell Cooperative Extension of Tompkins County (CCETC), in Ithaca, New York, focused on community-building, food justice, and increasing the role and voice of marginalized communities in the local food system. WCP ended in 2016, ten years after its inception, with the end of the Food Dignity project funding. The other four organizations continue their work today.

Important differences in their stages of development as organizations also positioned them differently for their minigrant program development. ENYF! was the most established, having already been in existence for thirteen years at the time the Food Dignity project started. Their programming and extensive community connections, and their established focus on and experience with home and community food production gave them a natural starting place for a minigrant program. In addition, ENYF! had prior experience with creating a revolving loan program for gardeners, beginning in 2004, called Backyard Exchange (Daftary-Steel & Gervais, 2015, p. 13). They were interested in extending this program as part of Food Dignity, but since the loan format was prohibited, they transitioned to a minigrant program (Daftary-Steel & Gervais, 2015, p. 24).

BMA was founded in 2003 and had been operating on the Wind River Indian Reservation since 2008, but began food work only in 2010 just before the Food Dignity project started. The leader of

BMA had served as a member of a governing tribal council and was well connected to and within the community. The minigrant program opportunity aligned well with BMA's mission of improving health, food production, and food access, and they were well positioned to establish a program.

WCP was founded in 2006 and operated under the organizational auspices of Cornell Cooperative Extension of Tompkins County. CCETC has a long tradition and history of agricultural, horticultural, and food-related programming which gave the larger organization extensive connections in the county's food system networks. However, starting with a change in WCP leadership in 2008, the mission of the project included moving outside those networks to reach and involve those traditionally underrepresented in food system work. In the period between 2008 and 2010, WCP had distributed small amounts of funds to community members in its network and had supported small grant proposals to other agencies that helped launch local food system initiatives. The success of these efforts motivated and formed the basis for the minigrant component of the Food Dignity grant proposal (C. Porter, personal communication, January 22, 2018). The minigrant program was thus well aligned with WCP's goals and vision.

The initiative that became the FLV organization began in 2009, launching its collaborative approach to community change by convening local and regional organizations doing frontline work to strengthen the local food system, and by offering hands-on gardening workshops to the general public. FLV's work took greater hold in 2010 when it helped to install, and subsequently manage, the first community garden to be located in a Laramie city park, as well as a table at the Laramie Downtown Farmers Market to collect food donated by vendors and shoppers for sharing with community members living with food insecurity. The organization quickly expanded, clarifying its mission and driving philosophies and recruiting a team of committed volunteers for program development. It had established a modest yet diverse funding stream for direct service provision at the time the Food Dignity project began. The flexibility of timing, scope, and structure in the Food Dignity project's minigrant opportunity was important to FLV, and FLV's community organizer "began by researching grant, minigrant, and microgrant history through literature and anecdotal interviews, in an effort to develop a unique, community-driven approach to how grants are offered, who receives them, under what guidelines they are administered, and what they create," (FLV Annual Report Year 2, 2013).

DDF was also committed to increasing food access, health, and opportunity in their community, but was an outlier relative to the other four organizations in several ways. DDF is part of a county government program, operating within the Alameda County Sheriff's Office and managed by the Deputy Sheriff's Activity League, an organization that actively engages with numerous community and governmental organizations and funders. It was just a year old at the time the Food Dignity project began, having just been launched as an innovative social enterprise and urban farming venture. Its goals were to increase food access in the larger community, to build the local economy, and to provide workforce opportunities for formerly incarcerated community members.

DDF's early annual reports to Food Dignity described evolving plans for a steering committee and minigrant program in a sometimes turbulent start-up environment. Changing staff and collaborators, emergent funding and partnership possibilities, production challenges from the new farm venture, and the challenge inherent in balancing business and community goals meant that the minigrant program was being explored at the same time that many large and small aspects of the organization were also being adjusted or settled. Against this backdrop, it was difficult for DDF to establish a structure for distributing minigrants even within the flexibility of the Food Dignity parameters. In addition, there was an emerging internal sense that a broad minigrant distribution effort might not be the most effective use of those project funds if the goal was to impact the food system (personal communication, M. Neideffer, February 28, 2018). Minigrant funds were rolled over for the first years of the project and were ultimately distributed through internally-selected community projects relating to the local food system. Because information about their process and minigrants is more limited, and because their experience is

significantly different from the others, I focus the remainder of this analysis on the minigrant programs of the other four community organizations.

All of the community organizations that partnered in the Food Dignity project are working to strengthen their local food systems. Their approaches to that work are shaped by local priorities, strengths, and constraints in terms of growing seasons, community characteristics, food access, and other factors. Therefore, the community characteristics shared above provide important context for their minigrant program design decisions. Organizational capacity and priorities matter as well, particularly given the administrative and programmatic costs of implementing a minigrant program. Although DDF is set aside for the remainder of the paper, their response to the minigrant opportunity is consistent with the overall observation that the Food Dignity partner organizations designed their minigrant programs in ways that aligned with their priorities and organizational circumstances.

Minigrant Program Designs: What Was Chosen, and Why?

Several themes emerged in the group discussion of minigrants at the second national project meeting in November 2011, where community organizers described the thinking behind their minigrant planning. Themes in the group discussion included: how to manage minigrants to ensure successful projects; how to assess feasibility and success; how to avoid issues or perceptions of bias or conflicts of interest; and sensitivity to the risks being taken by minigrant applicants in stepping forward to propose and then lead projects that would be very visible in their communities. In the words of one community organizer, "… the eyes of the community are going to be on the awardee. I don't want to set someone up for failure or use someone for a learning process" (Food Dignity project internal notes, December 2011). These shared concerns together with considerations specific to each community informed their minigrant program designs. Table 1 summarizes answers to the first research question asked in the introduction: What were the key features of the community-designed minigrant programs?

Reading across the rows of Table 1 makes it clear that there are no dimensions of minigrant program design for which all community organizations adopted the same solution. Reading down the columns, on the other hand, speaks to internal consistency within each program. A common thread is that each organization designed their program to fit the community's history, culture, current needs, and community context in ways that reflect their organizational priorities and capacity. All community organizations responded to a common need to overcome the effects of systemic marginalization, which prompted various efforts to build relationships and trust. Beyond that, however, there is no cross-cutting "best practice" design that emerges from these four community organizations. Variety and innovation are the hallmarks of the community-designed minigrant programs funded by the Food Dignity project.

To assess the motivations behind their design choices in more detail, the sections below present additional qualitative data together with analyses of each organization's collaborative pathway model. In all cases, the minigrant programs are aligned with the community organization's larger goals. One unanticipated finding is the extent to which community organizations used minigrant design features to serve community objectives directly, rather than through the support for community projects.

Blue Mountain Associates

BMA's focus on health is evident in their minigrant program's emphasis on food production combined with the expectation that grantees participate in the recently-established Wind River Tribal Farmers Market so that other families would also have increased access to fresh, healthy food. As BMA's leaders explained in an early annual report, "The high rate of diabetes and cardiac problems are constantly taking our people out of our lives much too early. We wanted to find a way to help educate and assist members in changing fast food habits and going back to healthy food, home-grown fruit and vegetables" (BMA Annual Report Year 2, 2013). Their commitment to tribal culture and history motivated efforts to restore traditions of food production and healthy dietary patterns and build a sense of possibility and ability. "Elders who know

Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Table 1. Minigrant Program Characteristics

The Food Dignity project's fiscal year was April 1–March 31. Abbreviations: SC = Steering Committee; CO = Community Organizer

Program Component	Blue Mountain Associates (BMA)	East New York Farms! (ENYF!)	Feeding Laramie Valley (FLV)	Whole Community Project (WCP)
Launch phases and timing	Full launch, with first applications and awards in Year 1	Full launch, with first applications in Year 1, first awards in April 2012	Year 1 used to research microfinance systems and experiences, define options within FD, and develop program design; first awards in Year 2	Year 1-2 grants selected by CO as SC options and community needs were explored; SC organized in Year 3 for awards early in Year 4
Minigrant program goals	"Increase health and well-being, through increased • physical activity from gardening and home production • availability of fresh natural foods to families doing the gardening • availability of fresh natural foods to others through Farmers Market and other outlets • local income from sales of produce" (Grantees were expected to sell extra produce at the weekly seasonal Farmers Market, making produce more available to community.) (Source: BMA Annual Report Year 2, 2013, pp. 2-3)	Increase community leadership and food access through grants and a supportive application and review process. "The goals of the program are to: • Increase access to food • Share knowledge about each project with wider audiences, so that others can gain from the project's experience • Develop sustainable, tangible projects • Contribute to applicants' skills and understanding of financing mechanisms so that their funding prospects improve • Recruit and support the Steering Committee in ways that develop and maintain community connections" (Source: "ENYF - Potential Material for Minigrant Report for Food Dignity 2012 Annual Report" based on my interview with CO Daryl Marshall, April 2013)	Design and manage a grant program that will • "identify, acknowledge, mentor and support individuals, particularly from marginalized communities, who are interested in the idea of grassroots, community based and led food system work based on their interests • create an environment and opportunities that increase potential and possibility for them to bring their ideas into existence • create an environment in which they develop or strengthen relationships among themselves and with the community • build toward a new, community-designed and community-based funding system that does not replicate the problematic mechanisms that are the norm in most places • support creative, innovative projects that are food-related and that benefit the community" • (Source: "FLV - Potential Material for Minigrant Report for Food Dignity 2012 Annual Report", based on my interview with CO Gayle Woodsum April	Program goals as stated in application form in Year 3: • "Support access to healthy food to people from low-income communities; • Improve the long-term health of neighborhood/community through education and awareness efforts focused on nutrition and hunger food insecurity; • Create opportunities for leadership and civic engagement for individuals who have not historically been represented in the food system ...; and • Generate cooperation and foster leadership among people from low-income household in the community to participate in the local food system in Tompkins County" (Source: Whole Community Project Food Dignity Minigrant Application Form, 2014)

			2013, edited and approved by Woodsum, May 2013)	
Decision-maker(s)	4-person SC, with exactly equal representation from the two tribes on the Wind River Reservation	SC varied somewhat around a core of 6; CO actively sought diversity in ages, languages, cultural backgrounds to reflect ENY community. SC met monthly, with activity varying in tune with grant cycle.	Initial grantees hand-selected by CO, first to include established and then to include emerging leaders from community; subsequent round of grantees identified and supported by first wave of grantees, giving them individual experience in receiving and then giving grants	Some grants (initially and subsequently) selected by CO; formal Committee established to review applications late in Year 3, seeking representation from experienced community business and organizational leaders as well as individuals with experience of food insecurity and/or those historically underrepresented in food system decisions
Support for decision-maker(s)	Stipends for SC members	Stipends according to amount of participation in meetings; on-going person-to-person support from CO; process streamlined and ENYF! staff role expanded to reduce time burden on SC members.	CO mentored or consulted with initial grantees in their roles as grantors.	Unspecified
Timing of grant cycles	Annual, in early spring in time for growing season	Two cycles per year, awards usually made in April and November	Annual, on individual schedules with each grant creating foundation for a next grant	Varied
Recruitment or invitation process	Widespread, through flyers, newspaper ads, and informal networks	Widespread, through email and mailing lists, community announcements, outreach at events and individually by SC and CO.	Person to person, not broadcast publicly	Person to person, and (in Year 3) through announcement on listserves and other outreach
Application or award process	SC developed application process, including written application and interview with SC. Committee wanted to ensure projects were viable and had good potential for success. Applicants submitted a 1-page proposal responding to multiple questions (nature and location of project; expected results and benefits for self, family, and community; timeline; amount of funding required; how funds will be used).	Application with contact info, 9 questions on project (need for it, connection to food access, community involvement, timing and steps involved, skills and resources for successful completion, alignment with other activities (if group project)), plus budget and references. CO worked closely with grantees to support and strengthen proposals. SC also assisted, in	Conversations with CO (or subsequent grantor), continuing as needed and for as long as needed to ensure a plan that felt right to everyone. The process is "guided by their interests and motivations, their ideas, and the inherent integrity and value of them as individuals" ("FLV - Potential Material for Minigrant Report for Food Dignity 2012 Annual Report"). Proposals could be written or oral. A project-	Initial and later grants: discussion with/request to CO; for Year 3 applications with SC: paper or on-line application form with contact info, 6 questions on project (goals, who served, alignment with Food Dignity goals, projects activities and steps, individuals involved, community support) plus work plan and timeline, budget, and evaluation plan.

		order to develop and refine project plans to promote success.	specific written agreement is signed by CO and grantee, spelling out expectations for communication, record-keeping, photo permissions, and participation in discussions with other grant recipients to share lessons and ideas.	
Decision-making process	SC made selections, prioritizing feasibility, likelihood of success, and contribution to health and to community.	Process evolved somewhat over time, to reduce time burden on SC which was considerable. Settled on having SC members each take on 1-2 proposals to read and present to SC for discussion and to identify additional info needed. Staff follows up and helps finalize decision. Committee seeks projects that are viable, and have community benefit or sharing of knowledge.	CO and then grantees made selections. Process was person-centered rather than project-centered, and sought established or emerging community leaders leadership potential, with "strong representation from traditionally marginalized community members, … and a cross section of cultural, racial, financial, gender, generational backgrounds" (FLV Annual Report Year 1, 2012). Also see Goals above. Once grantee was chosen, the project development process cultivated and refined the project ideas into an awarded project plan.	Initial and later grants: internal decision by CO; SC convened early in Year 4: Review form for scoring minigrants on 9 criteria (including clarity and quality, viability, likelihood of success, involvement of under-represented communities, potential impact re FD goals), then in-person committee meeting to discuss proposals and make decisions.
Reporting and follow-up activities	On-going support, education, and services for minigrantees to strengthen projects and knowledge-sharing. Monthly follow-up on-site with grantees and SC: "carry-in" or "pot latch" style, so grantees see all projects and can share ideas and support, build connections and network. Grantees were given a camera and submitted 3-, 6-, and 12-month reports with photos. Awards and progress of projects were highlighted in social media and through other channels, to promote new proposals and build a sense of possibilities.	SC did a site visit after 3-4 months to assess and support projects, promote success, learn about challenges, take photos, collect receipts. Selected minigrant recipients were highlighted and celebrated, as were other community members with different kinds of involvement with ENYF!, in newsletter profiles	On-going communication and relationship, grantees expected to stay in touch regarding how project was going, and submit notes and/or photographs of their work. Two meetings of minigrantees brought them together to share about their experience among themselves. Two public displays/receptions with widespread community publicity included photos, videos, and presentations by grantees to share stories and ideas with the community.	Varied. Year 4 awards requested a short report after 6 months and a final report.

how they used to garden at home and families with enough resources have begun to develop gardens. People have memories of their grandmothers or great-grandmothers gardening, so our plans for the Mini Grant gardeners draw on those memories and knowledge" (BMA Annual Report Year 2, 2013). The balanced tribal representation on the steering committee was an important part of ensuring that members of both tribes would be treated respectfully and fairly in the minigrant process and that community-driven solutions and ideas would be brought forward. "The purpose of the Blue Mountain Steering Committee was to help us know the needs of the communities and to bring all tribal members together to work on the most critical health issues, seeking solutions and implementing them through programming." (BMA Annual Report Year 3, 2014). BMA's reports recognized the damage done by outsiders and described an acquired caution on the part of community members that they worked hard to overcome: "Due to the reluctance of tribal members to get involved in new projects, having been disappointed through various government programs over the years, they have learned to be overly cautious. After quietly seeking basic information and hav[ing] been treated with great courtesy and respect, they became enthusiastic and were carefully choosing projects that they felt would benefit both their families and the communities to the greatest extent" (BMA Annual Report Year 1, 2012).

The design of BMA's application and steering committee processes, together with features such as the monthly potlatches (social gatherings where each person brings food to share), in which minigrantees and steering committee members visited and spent time with each project, reflected their intentions to promote success, build and share knowledge, and promote positive connections within the community and especially between the two tribes. Expanding and restoring people's sense of what was possible was an important goal. One of the themes that emerged in a meeting with steering committee members and grantees, organized by BMA when I visited in June 2014, was reported this way: "One speaker remarked that there are so many ventures that fail or simply fade away, that people become discouraged. There was much emphasis on wanting to show what is possible, and that the aspirations that many community members share can be brought to fruition, with benefits for many" ("Reflections on Food Dignity 'Minigrant Site Visit' to Wind River Reservation and Blue Mountain Associates," Internal Food Dignity report, July 2014).

The collaborative pathway model of BMA's work provides information about how BMA's leadership viewed the contributions of the minigrant programs in the larger context of their organization's overall work. Close examination of their model (see the Appendix for details) shows that funded minigrant projects were seen as contributing to improved access to healthy food for families and community, and to increased capacity for food production—both of which served their larger goals of improving community health. Surrounding support activities that were part of the management of the minigrant program reinforced those goals and worked to increase the success of projects, promote food system entrepreneurship, and expand community aspirations. In addition, the design and management of the minigrant program contribute to a region of the pathway model that is not related to project-generated outcomes of food access, health, or entrepreneurship. Confirming the larger vision and needs seen in the quotes above, the minigrant program was designed specifically to help strengthen relations between the two tribes on the Wind River Reservation, and to expand connections more generally both within and outside the reservation. That is, the opportunity to design the minigrant program in ways that suited their community gave the leaders of BMA opportunities to improve the chances of success for minigrant projects. It also gave them a way to advance important additional goals that extended beyond the food system projects. As such, the minigrant program design operated essentially as a distinct initiative in its own right.

East New York Farms!

ENYF!'s minigrant program also pursued goals beyond the important ones of promoting food production and access. ENYF!'s leadership saw minigrants as an opportunity to strengthen the skills of grantees and steering committee members

in navigating traditional funding mechanisms, and to expand and share knowledge and promote commitments to community well-being.

The community organizer at ENYF! worked hard to overcome the accumulated effects of historical exclusion and oppression, which made community members skeptical of the opportunity: "…I was proposing such a thing to a historically marginalized community, in which people can sometimes rightfully be suspicious" (ENYF! Annual Report Year 1, 2012). ENYF! reported that it was essential to build connections and relationships in the community to engage steering committee members, overcome caution and skepticism, and bring forward community ideas and proposals. Applicants were supported throughout the process:

> Right from the beginning, the [steering committee] and [community organizer] work to make the application process very supportive, spending time talking to potential applicants about their projects, and helping them put together an application with enough information and detail.…There is support given not only to grantees, but also to applicants whose projects were not funded. This may include feedback on their writing or project descriptions, connections to other resources or ENYF! community partners who may be more able to assist with the project, and so on. (ENYF! Annual Report Year 2, 2013)

The support provided to applicants whose projects were not funded is an important indication of the larger commitment surrounding the minigrant program. ENYF! recognized explicitly that the impact of the minigrant program was not just coming from the funds provided:

> What we have learned throughout this process is that material resources alone are not sufficient. If we just gave out mini-grants or purchased greenhouses or water tanks, we would not see the same impact. It is the relationships that we cultivate and the non-material support that we provide that makes our program effective and ensures that these resources are having broader impacts. (ENYF! Annual Report Year 4, 2015).

The steering committee itself was seen as an important opportunity for building and utilizing expertise, skills, and connections in the community. The committee met monthly, and members received a stipend for their contributions. ENYF! adjusted the application review process after the first round, as it was seen to have placed an excessive burden on steering committee members. The new process incorporated more staff support and adjusted compensation for steering committee members to reduce the burden on them while at the same time creating incentives to participate in meetings and ensuring that each application received a thorough and thoughtful review. The community organizer devoted time and sensitivity to supporting and guiding the steering committee, recognizing their role not only as an important contribution to the community but also as an important opportunity for the members themselves. Commenting on the frustrations steering committee members experienced as part of a "disenfranchised group in a marginalized neighborhood," and their continued dedication over months and years, the writer observed, "Our meetings were a place of empowerment, where one could have a say in their local food landscape" (ENYF! Food Dignity Final Report, 2016).

This distinct contribution of the minigrant program design is reflected in ENYF!'s collaborative pathway model (see the Appendix). The distribution of minigrant funds contributes to the launching of promising small-scale food-related projects in the community. The steering committee selection efforts together with the design and management of the program help ensure that ideas are brought forward, promising projects are selected that will be useful to the community, and applicants gain skills and expand their capacity for entrepreneurship. These outcomes all contribute to improved access to high-quality fresh food, and to food security. They also contribute to greater entrepreneurship and, ultimately, to community opportunities and community vitality.

One component of the minigrant program contributes to community development in a way

that does not operate through the funded minigrant projects: the management of the steering committee. This process is presented distinctly in the model as a mechanism for increasing personal growth and leadership for adults in the East New York community. This is consistent with the characterization of the steering committee's work in the quotes above. As was the case in BMA's work, ENYF! utilized the minigrant design freedom to develop a mechanism for serving larger organizational goals separately from the funding opportunity the minigrants provided.

Feeding Laramie Valley

FLV designed the minigrant program to create and test a novel funding mechanism, seeing the minigrant funding as "the first opportunity for FLV to exercise its desire to be a source of non-conventional funding to the community" (FLV Annual Report Year 1, 2012). The hand-selection of grantees and the conversation-based process of arriving at a viable, inspired project scope in the initial round of selection embodied a person-centered rather than project-centered approach. This was used to bring forward a diverse mix of leaders and emerging leaders who might never have trusted or participated in a traditional funding process and to craft projects that were truly aligned with their interests and possibilities. Prospective grantees were invited to propose a project that would be "connected in some way to exploring and/or supporting the idea of improved food access and equality, and will be of some benefit to the community (you can define the community as long as it's within Albany County)" (from "Minigrant Development for Community Food Projects," the invitation letter to prospective grantees). With this emphasis on their ideas and their sense of community, FLV's minigrant program design was consistent with the overall vision of FLV's work, described as "weaving together individual threads of desire for Albany County to have control over its food system through a unified, community based and led process of power and control equity" (FLV Annual Report Year 2, 2013).

The radical intention of having grantees turn around to become grantors continued the person-centered approach and was intended to ensure that the minigrant process "will be one that evolves through grant giving that simultaneously builds on feedback and guidance from the grant recipients and extends itself into each subsequent granting cycle" (FLV Annual Report Year 1, 2012). Several minigrantees reported in follow-up interviews in 2014 that they found the role of grantor to be appealing because it expanded their ability to support other community members and build connections with people. At the same time, they found it to be somewhat challenging. Finding projects and people that are not usually found is, by definition, difficult and took time. Finding a balance between supportive involvement and ceding control to the grantee was not always easy. Moreover, the power of the granting decision could be uncomfortable. In the words of one minigrantee, "Why should I be the one to decide who gets the money?" (personal comment at FLV minigrant recipients meeting, June 30, 2014).

The FLV Collaborative Pathway Model embeds both minigrant design (including the reversal of roles from grantee to grantor) and the distribution of funds for projects in a single activity (see the Appendix). This minigrant element leads to important outcomes, such as increased individual capacity to produce food and increased food production in the community. These outcomes are key contributors to decreased food insecurity in the county and a stronger community-driven food system. It also has effects that arise independent of project funding, effects that arise because the program is designed to ensure that the experience and knowledge of food insecure community members are valued, and that the process will contribute to "Softening lines between giver and receiver." Both of these are strategically critical outcomes in the overall model of FLV's work. As in the other models, the design and management of the minigrant program matter in ways that are distinct from the funds that are distributed in the community. This perspective is explicit in FLV's first annual report, "the [minigrant] program is as committed to structural and process integrity as it is to the actual implementation of any specific project" (FLV Annual Report Year 1, 2012).

Whole Community Project

WCP operated in a county and region with a large agricultural sector, and many active and well-established food system organizations and groups. Within that context the mission of WCP, as stated in the first annual report, was "to address those issues that perpetuate the burden of chronic health conditions, food insecurity, and low representation of communities of color and people from low-income households in decisions that affect the food system" (WCP Annual Report Year 1, 2012). The initial vision for the steering committee reflected these priorities:

> It is the opinion of the project director and the Community Organizer that a Steering Committee needs to be made up of folks with first-hand experience (or at least very deep understanding) of the challenges experienced by low income folks to meet and sustain basic needs, such as housing, healthy and dependable food access, as well as the impact of racism on food dignity, AND who have a good understanding of food systems and where interventions could significantly enhance a food system and food dignity. (WCP Annual Report Year 1, 2012)

As was also reported by ENYF! about the steering committee recruitment effort, WCP's community organizer observed that bringing people who have been excluded from a system into an active role in decision-making within that system raises challenges of unfamiliarity and lack of connection. That, combined with issues of limited time and financial compensation (including how to compensate individuals for their involvement and contributions without violating the terms of any government assistance that they might have been receiving) delayed the formation of a steering committee. In the interim, WCP used discretionary minigrants together with community researcher and animator stipends to support food system projects and begin to build the kind of capacity and availability that they sought for the minigrant steering committee. By the end of Year 3 when a minigrant selection committee was formed, it included desired areas of experience and expertise, with representation from current minigrant recipients and community members with experience of living with low income and/or food insecurity. The minigrant selection committee convened for one round of minigrant awards, which were issued early in Year 4. Remaining minigrant funds were distributed through an internal decision process by the community organizer, as they had been prior to the committee's formation (and indeed, though on a smaller scale, prior to the Food Dignity project itself). The Community Organizer identified potential minigrantees, encouraged and supported their work, and connected them to additional resources and people in the community. This individual support was also provided to minigrantees who received awards through the selection committee process.

In the collaborative pathway model for WCP's work, the minigrant provision of funds and the design of the minigrant program all work toward WCP's long-term goals of increasing the involvement of underrepresented community members in the food system through increased access to resources, entrepreneurship, employment, voice, and power in the food system. On-going individual, relationship-based support is key to all aspects of WCP's work, including supporting minigrantees by building individual capacity to explore possible food system interests and persist in working toward personal aspirations. In slight contrast to the other community organizations studied here, the use of minigrant program design remains "interior" to the project funding channel, in the sense that there are no design features that are clearly and explicitly presented as operating separately from the minigrant project funding and support for minigrantees. The goals of WCP's minigrant program are no less ambitious and important, but it appears the mechanism for working toward those goals operates through the funding of and support for community projects, and not also through independent channels, such as the the steering committee in ENYF!, the role reversal of grantees and grantors in FLV, or the defined roles for the two tribes in BMA's minigrant program

design. The difference is subtle in that all four programs clearly designed their minigrant programs for success in supporting community ideas and solutions, and all selected mechanisms and features that were aligned with community needs and organizational capacity.

The design summaries in Table 1 and the additional detail above highlight variation among the organizations' minigrant program designs. The timing of grant cycles and the specific goals of each program differed. The formality and structure of application processes varied (though all were intended to be accessible to community members and all included support for applicants in one form or another). Decision-making entities ranged from large committees that met once, to on-going working groups, to community organizers and single grantees becoming grantors. Follow-up mechanisms in some programs included group site visits to share information and support, and in other cases relied solely on individual written reports submitted to the community organizer. In each case, the design choices were consistent with organizational goals. BMA was especially interested in increasing food production, and the grant cycle was timed for the growing season. ENYF! used a relatively formal application format, which was intended to build community member's capacity to compete for other sources of local funding. FLV was interested in system change and designed a minigrant program that reversed standard grantmaking practices by focusing on individuals rather than projects and having grantees become grantors in the year following their own project. WCP used a structured application and selection committee process for one major round of grant giving but also relied heavily on one-on-one relationship building and networking to connect with underrepresented groups in the community in keeping with WCP's overarching mission. In these and other ways detailed above, the similarities and differences across programs can be seen to reflect organization-specific priorities and circumstances. Moreover, the internal coherence in all these programs and their individuality suggest that control over minigrant design was important in allowing the organizations to integrate their minigrant programs into their organization's work and contribute to fulfilling organizational goals. For at least three of the organizations, that design control also facilitated an innovative strategy in which design features in their own right served as valued mechanisms for advancing organizational goals through a channel that was separate from the minigrant project channel.

Minigrant Awards

Minigrant program results in terms of funded minigrant projects reflect a combination of the kinds of projects that were brought forward for consideration, the priorities of the community organizations and their minigrant programs, as well as the strength of the individual proposals and the perceived viability of the projects. Each of the four minigrant programs supported a diverse set of projects as described below.

Minigrant sizes and numbers

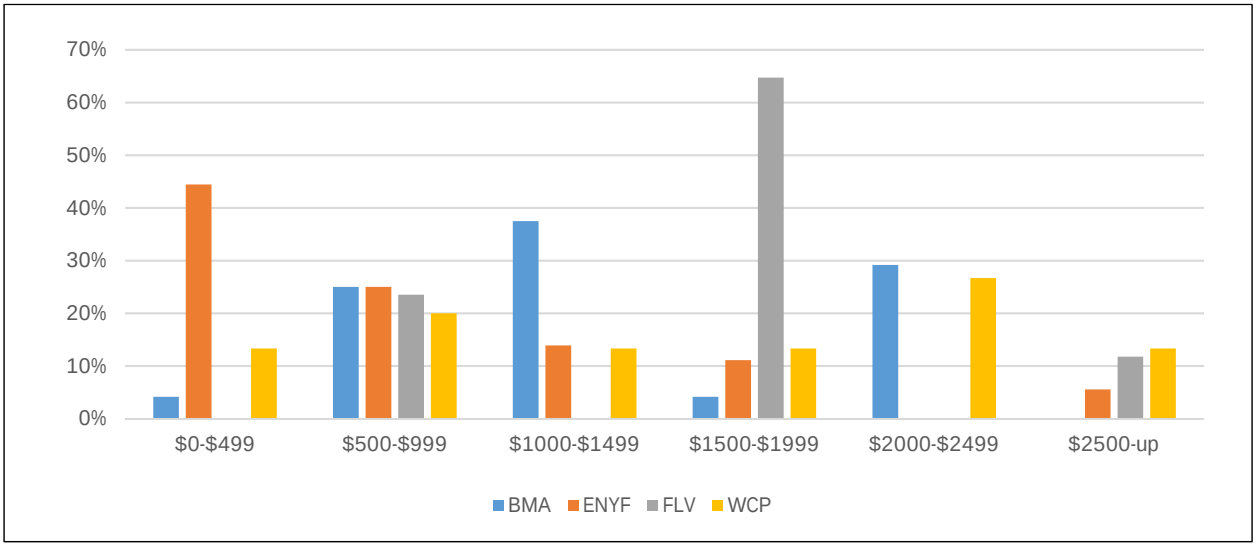
Collectively, these four community organizations distributed 92 minigrants over the course of the Food Dignity project. A snapshot of minigrant numbers and size ranges in each program is provided in Table 2. Chart 1 shows the pattern that emerged in each organization in terms of the range of sizes of individual minigrants they awarded.

None of the community organizations specified a minimum or maximum size for individual minigrant awards. FLV did set a fixed grant amount in its first round (US$1500), but the amounts in subsequent awards varied. Inevitably, minigrant award sizes reflect the combination of the nature and scope of projects proposed by

Table 2. Minigrant Counts and Size Ranges

Community Organization	Smallest (US$)	Largest (US$)	Total # grants
Blue Mountain Associates	$400	$2000	24
East New York Farms!	$140	$3,546	36
Feeding Laramie Valley	$500	$4,299	17
Whole Community Project	$156	$3,019	15

Chart 1. Percentage of Minigrants Issued in Each Size Range



community members and the community and organizational priorities in the selection process. In discussions at an early Food Dignity meeting, some community organizers questioned the potential impact of small grants, making the point that larger grants that would support more substantial projects, though there was also sentiment in favor of supporting more people and ideas by giving a greater number of smaller grants (Food Dignity project internal notes, December 2011). Table 2 and Chart 1 indicate that ENYF! gave out larger numbers of smaller grants, while FLV gave out fewer, generally larger grants. BMA and WCP tended to cover all size ranges somewhat more evenly. However, there is not enough information to draw conclusions about this as a strategic choice on the part of the community organizers.

Minigrant Project Types

Minigrant recipients proposed a wide variety of projects and desired outcomes. To explore potential patterns in the types of projects that were proposed, I categorized the 92 minigrants issued by these four community organizations according to project type. The level of detail available on projects varied. In some cases, only the project title and a brief description were available; in others, there were more detailed references to a project in multiple annual reports and minigrant summaries. Because it was difficult to distinguish consistently between, for example, a project that was solely for home food production, solely for community-destined food production, or involved both, some potentially interesting distinctions were necessarily subsumed into the broader categories presented in Table 3.

Projects were categorized in terms of the changes they were working to bring about, rather than the activities they were proposing to do to achieve those changes. This meant that, for example, season extension projects (greenhouses) were grouped with food production projects because all of them served to improve the availability of fresh produce. An alternative characterization scheme, one that focuses on the activity rather than the intended purpose(s), would also be a valid and useful approach. However given the diversity of contexts in which these four minigrant programs operated, it seemed more fruitful to look for commonalities and uniqueness in intended ends, rather than in the means to those ends.

The counts in Table 3 are conservative, as I erred on the side of not attributing a category unless it was explicit in the project information (for example, there were likely many more BMA-supported projects on the Wind River Reservation that resulted in increased community access to fresh food through sales of extra garden produce at the Wind River Tribal Farmers Market, since this was a general expectation of all minigrant

Table 3. Diverse and Multiple Purposes of Minigrant Projects

The column totals exceed the number of grants awarded by those organizations because grant projects often served multiple purposes.

Minigrant Project Purpose	BMA	ENYF!	FLV	WCP
Increase availability of fresh locally produced food (home & community)	22	8	12	1
Increase shared community capacity for food production and preparation	1	13	5	4
Increase interest in and access to fresh, healthy food (transportation, markets)	8	9		3
Increase availability of and capacity for disability-inclusive gardening			3	
Expand or strengthen local entrepreneurship in the food system	8	2	5	2
Increase the availability of culturally important crops	3	1		
Increase knowledge sharing resources (demonstration projects, materials)	4	4	6	1
Increase knowledge of gardening, food prep, nutrition, through workshops		19		4
Increase community networks and connections around health and/or well-being				6
Increase youth interest, knowledge, and/or opportunities in food and food systems		6		4

recipients, but the extent to which this was done was not always explicit in the annual report descriptions of individual projects.)

Not surprisingly, given the context of the Food Dignity grant and the missions of the community organizations, all the minigrant programs funded projects involving food production, expanding community capacity for food production, and increasing knowledge about food production, food preparation, and nutrition. All minigrant programs also funded projects specifically related to supporting entrepreneurship in the food system. Both ENYF! and WCP funded projects that specifically involved youth or families with children. FLV had several projects that specifically related to creating more ability-inclusive gardening opportunities. WCP was distinct in funding multiple projects that related to creating connections among community members and networks, organized around issues relating to health and nutrition. BMA and ENYF! were distinct in having projects that specifically focused on cultural foods and restoring cultural practices around food. This is consistent with their particular cultural and historical contexts.

To bring life to the broad categories in Table 3, Table 4 lists specific projects underlying those categories.

Outcomes Attributed to Minigrant Projects and Programs

As mentioned earlier, these minigrant projects were pilot projects for each of the minigrant recipients, and evolutionary evaluation principles indicate that it is not appropriate at such an early program lifecycle stage to try to assess causality or draw definitive conclusions about project impacts (Urban et al., 2014). However, we do have reports of outcomes and feedback on the minigrants provided by grantees and the community organizers in individual minigrant reports, organizational annual reports, and in-person interviews which give important insights into how these projects were perceived and valued internally. These are summarized below.

Blue Mountain Associates

The impacts attributed to the minigrant program by BMA leadership and steering committee members were wide-ranging, beginning with food produced but extending into community health, community relationships, and learning. Minigrantees "became steady vendors at the Tribal Farmers Market, as their crops produced more than their families, relatives, and friends could use" (BMA Annual Report Year 2, 2013). The increased availability of fresh food at the Farmers Market mattered to community members, "The community members who shopped at the Markets were so pleased to find all the fresh produce right at hand, and they took a lot of pride in the fact that it was their people who had accomplished this" (BMA Annual Report Year 3, 2014). Steering committee

Table 4. Funded Minigrant Projects for Each Organization

BMA	New or enlarged gardens, root cellars, and greenhouses; a free-range organic chicken farm for home and community food consumption; research on restoring the production of ceremonial tobacco; production of traditional varieties of Indian corn and traditional medicinal herbs; research on seed varieties; value-added salsa and other products; and diverse additions to the types of vendors and availability of fresh healthy food at the weekly seasonal farmers market.
ENYF!	Multiple garden projects and community gardening capacity in the form of tools, greenhouses, and climate-control equipment for greenhouses; a seed saving and sharing project to support culturally favored foods from the diverse communities in East New York and to promote cross-cultural connections; a van shuttle for seniors to provide access to the Farmers Market; a soup kitchen's purchases of fresh produce so that it could help increase healthy food consumption in the neighborhood; projects in after-school programs to increase youth interest in fresh foods by using a juicer or creating fresh healthy snacks; and a wide variety of cooking classes.
FLV	Educational signage and food information at a community garden; disability-accessible garden development; a submersible pump to improve the water supply for a food gardening and production project in a rural area constrained by severe water challenges; development of garden sharing projects creating new types of community gardens; development of two Community Yard Share gardens; miniature greenhouse demonstration projects; helping to establish a community garden in a part of Laramie with particularly high food insecurity; a special needs individual garden and community service project; infrastructure and equipment for an entrepreneurial turkey business; a poultry barn and several backyard chicken projects; first-person research on and sharing of information on how to improve accessibility and inclusion in food system programs and projects; and knowledge building and sharing through sustainable foods and leadership conferences.
WCP	Infrastructure and equipment for educational farming demonstration projects; community gardens; food distribution through a community-integrated organization in a rural area with high food insecurity; general and volunteer-focused support for a community market in a low-income part of town; an intergenerational gardening project; events and gatherings to build connections among people interested in health and well-being; family wellness programs including healthy eating and activity; food system entrepreneurship; knowledge-building around food-based natural health; and youth internships and apprenticeships to build skills for entrepreneurship, community engagement, and management.

members, BMA leadership, and minigrant recipients at a June 2014 site visit emphasized important spillover effects:

> Several people commented on how important the Farmers Market has become within the community in terms of food availability, healthier eating, strengthening connections in the community, and sharing knowledge. They also commented on benefits in terms of relations with those outside the Reservation who now come to the market and as a result get to know a bit more about the Reservation and how to get around, overcome stereotypes, and reduce barriers to interactions. ("Reflections on Food Dignity 'Minigrant Site Visit' to Wind River Reservation and Blue Mountain Associates," Internal Food Dignity report, July 2014).

The benefits attributed to the minigrant program are related to the program overall and the way it was designed and managed, rather than simply to the infusion of project funds. As noted earlier, the system of monthly potlatches at minigrant project site visits contributed to community-building and a sharing of ideas and knowledge. Other program features had impacts as well. As reported by BMA,

> The exciting thing about the Mini Grant projects was the learning process. So many people came in on their 3-month evaluations, handed in their proper paper work regarding accounting process and pictures of progress, and asked all kinds of questions—the simple process of putting in a garden, which looked so easy when parents and grandmothers had done it, they were surprised to find the amount of work and dedication it took to get the job done. (BMA Annual Report Year 2, 2013).

The minigrant discussion in the June 2014

meeting of the steering committee and minigrantees emphasized the larger impacts:

> This is how one member of the group summarized the overall effort of the minigrant program. She commented, and others concurred, that what is powerful here is that everyone in the group has strengths and shares their particular talents and abilities so that the whole group is strengthened. Individuals have diverse strengths in gardening and horticulture, as a Master Electrician, as Master Gardeners, in construction, in food preparation, in nutrition, and many other areas that benefit everyone in the group. The connections among them are a vital and powerful component of what is being "built" here, going well beyond the immediate food production projects. This ever-strengthening fabric within the group conveys a moving sense of sustainability and strength. As one member of the group commented, 'This isn't just building community, it's family.' ("Reflections on Food Dignity 'Minigrant Site Visit' to Wind River Reservation and Blue Mountain Associates", Internal Food Dignity report, July 2014)

East New York Farms!

The annual reports from ENYF! report numerous positive outcomes relating to food production, increased production capacity, increased awareness of food production and food system issues, new interest in healthier eating, and sharing of knowledge. There is also a striking focus on individual growth and transformation, with references to grantees who have gone on to receive funding from other sources, who have gone on to new roles as community educators, who have developed ongoing collaborations, or who have expanded their role in the community.

> I think an overall impact from this program is seeing more confident repeat grant applicants. More people have become independent and have searched out other grant sources in addition to ours. Many have shared that they have gotten the confidence to do so through our grant process. This has led to more gardeners, individuals, and schools being more resourceful. (ENYF! Food Dignity Final Report, 2016)

The reports also cite valued outcomes relating to the minigrant program overall, "…people feel comfortable sharing ideas with us. They know they can dream, and know that we will encourage them to be realistic about timeline and budget. This trust is not tangible, but is very important when doing community work" (ENYF! Annual Report Year 3, 2014). In the year following the end of the Food Dignity project funding, ENYF! received US$10,000 from another local funder to continue their minigrant program, which points to a positive valuation of this program in the community.

Feeding Laramie Valley

In follow-up interviews in late 2013 with FLV's first seven minigrant recipients, grantees cited numerous positive outcomes which were summarized by the interviewers as follows:

> Participants listed a number of positive effects on themselves, their family, and their community including: increased ability to share with others, more time for volunteering, pride, community education, enabling people to grow, enabling people to increase financial security, increased community interest, and increased communication and social network.…Other successes included increased free time, increased food production, providing lasting infrastructure, peace of mind, enabling people to help others, overcoming a lack of resources, increased knowledge, reduction of food production costs, and increased communication. (FLV Minigrant Themes, Food Dignity internal report, March 2014)

In the 2013 interviews, grantees particularly cited the benefits of having a process without a lot of stipulations, restrictions, or formal requirements because it freed them up to design and adjust as needed and focus on the project rather than the paperwork. Moreover, as one minigrant recipient put it simply, "It was nice to have my ideas valued."

In the words of the community organizer,

"…it has become very clear that a real investment in patience, time and personal relationship building with individual community members is key to successful outreach, access, and ultimately implementation of a minigrant for…community based people…who are not accustomed to being supported in making their community food project dreams come true" (FLV Annual Report Year 2, 2013). FLV's commitment to the minigrant program has continued beyond the Food Dignity project, as they are building the potential for a continuing minigrant program into all community food-related grants they write, including their recent successful USDA Community Food Project grant (G. Woodsum, personal communication, February 22, 2018).

Whole Community Project

Minigrant Final Reports and summaries of outcomes from WCP indicate diverse positive outcomes relating to increased community connections, friendships, and networks, access to new garden-related resources and knowledge, growing personal voice relating to health and community well-being, increased food access and affordability (in the words of one participant, "If it weren't for Healthy Tuesdays I wouldn't be able to afford my medicine"), increased volunteerism within a community where low income usually prevents participation, expanded and more successful community gardening, and more. In a commentary on the minigrant program overall, one grantee thanked the community organizer for "helping our communities understand the importance of being a part of the solution."

Conclusions and Further Questions

Given the diversity among the community organizations and the flexibility and autonomy they exercised in designing their minigrant programs (in contrast to other minigrant studies), the Food Dignity project offers an opportunity to explore a novel question: When community organizers design minigrant programs, what do they choose to build, and why? The more specific questions addressed within that are: What were the key features of the community-designed minigrant programs? What considerations influenced those designs? What similarities and differences were there among the minigrant programs, and to what are these differences attributable? What types of community minigrant projects were funded? What outcomes were reported for individual grants and for the minigrant programs overall? In answering these questions, this paper moves beyond the boundaries of a program-focused evaluation study and into the realm of exploratory applied research in seeking lessons for use in future minigrant programs.

The numerous benefits attributed to the projects funded by these community-designed minigrant programs support the kinds of observations that have prompted the adoption of minigrant programs in many settings described in the literature on minigrants. Community members have ideas about how to address community needs, and important benefits can follow from supporting and funding those ideas. All four of the community-designed programs discussed here paid particular attention to ensuring that minigrants would not just be "available" to community members without experience or expectations of getting funding for their ideas, but that the minigrant program would be inviting, supportive, and sensitive to historically excluded community members and that the invitation, selection, and follow-up processes would be attuned to the realities of life and challenges in the communities.

The principal findings here are that minigrant program designs differed across these four community organizations, and the patterns of difference are consistent with their organizational priorities in term of goals for community change and the situations and systemic issues affecting their communities. There are no singular "best practices" highlighted here; rather, there are principles of internal and community alignment that underscore the importance of having flexibility in design. The minigrants were valued both by the community organizers managing them and by minigrant recipients.

What particularly stands out about these minigrant programs is that the community organizers approached the design of their minigrant programs from a larger view of their potential contribution. Important as it is to fund and support ideas and solutions developed by those who are living with the challenges these organizations are working to

overcome, their strategic design decisions turned the minigrant program processes themselves into initiatives with outcomes. It's not that the idea that "design matters" is completely new; indeed, examples given in the literature review illustrate just this kind of awareness. What's innovative about the community-designed minigrant programs here is the way that community organizers used the design and management of their minigrant programs—not just the provision of minigrant funds—to further specific organizational goals. BMA designed their program not just to find and support good community food projects, but to build and repair long-strained relationships between the two tribes on the Wind River Indian Reservation and to strengthen community networks and mutual reliance. ENYF! recruited and supported steering committee members not just to ensure good minigrant selections, but as a leadership development opportunity for the individuals themselves. FLV's unusual design of having grantees become grantors deliberately shifted the familiar patterns of decision-making authority so that it was not just that community members' project ideas were valued but that they would gain experience and skills in decision-making roles.

A standard process and early outcome evaluation, such as initially envisioned for Food Dignity, treats minigrant programs as mechanisms for getting funds out to the community. That is certainly an important function. However, it overlooks the innovative and specific potential of the minigrant programs, by deliberately strategic, community-controlled design, to be instruments of change in and of themselves. The community organizers in Food Dignity saw the potential benefits of this approach and implemented it in their minigrant programs. This adds an entirely new basis for assessing minigrant programs.

Creating, administering, and managing a minigrant program was a time-intensive effort for the community organizers, other staff, and any steering committee members involved. Future minigrant programs should not underestimate what it takes to manage for success, particularly given the person-to-person approach that was characteristic of all the programs here. Beyond these costs, however, there are other questions to ask about how well a minigrant program fits a particular organization. DDF's competing demands as a brand new organization at the time Food Dignity started suggests that timing matters. Organizational readiness and the potential usefulness relative to larger goals of the organization also affect how feasible or appropriate a minigrant mechanism might be. The nature of the costs, tradeoffs, and potential value for organizations should be explored more thoroughly in future work.

Interesting and important tasks for future work would be to explore more deeply the design choices community minigrant program developers make, the alternatives they consider when contemplating a minigrant program, and why they choose the particular features they do. The analysis here has identified many strategic connections, but these could be explored more fully. It would also be interesting to learn how effective a change mechanism they consider minigrant programs to be, compared to the other strategies they are already using or want to use.

The innovative approaches to minigrant design and management adopted by these community organizations and the positive outcomes attributed to them within the communities suggest that we can think about minigrant programs in a larger way. The value cited for minigrant programs in the literature is typically stated in terms of the importance of supporting community members' solutions to community needs and problems. The work of the community organizations in the Food Dignity project enlarges that idea by showing that community design of minigrant programs may expand their value even further, providing a distinct addition to the tools available to community organizations for supporting desired change in their communities. 

Acknowledgments

The author is grateful to the action research team of Food Dignity and especially to the staff and leadership of the community organizations who designed, managed, and shared their insights about their minigrant programs in their communities.

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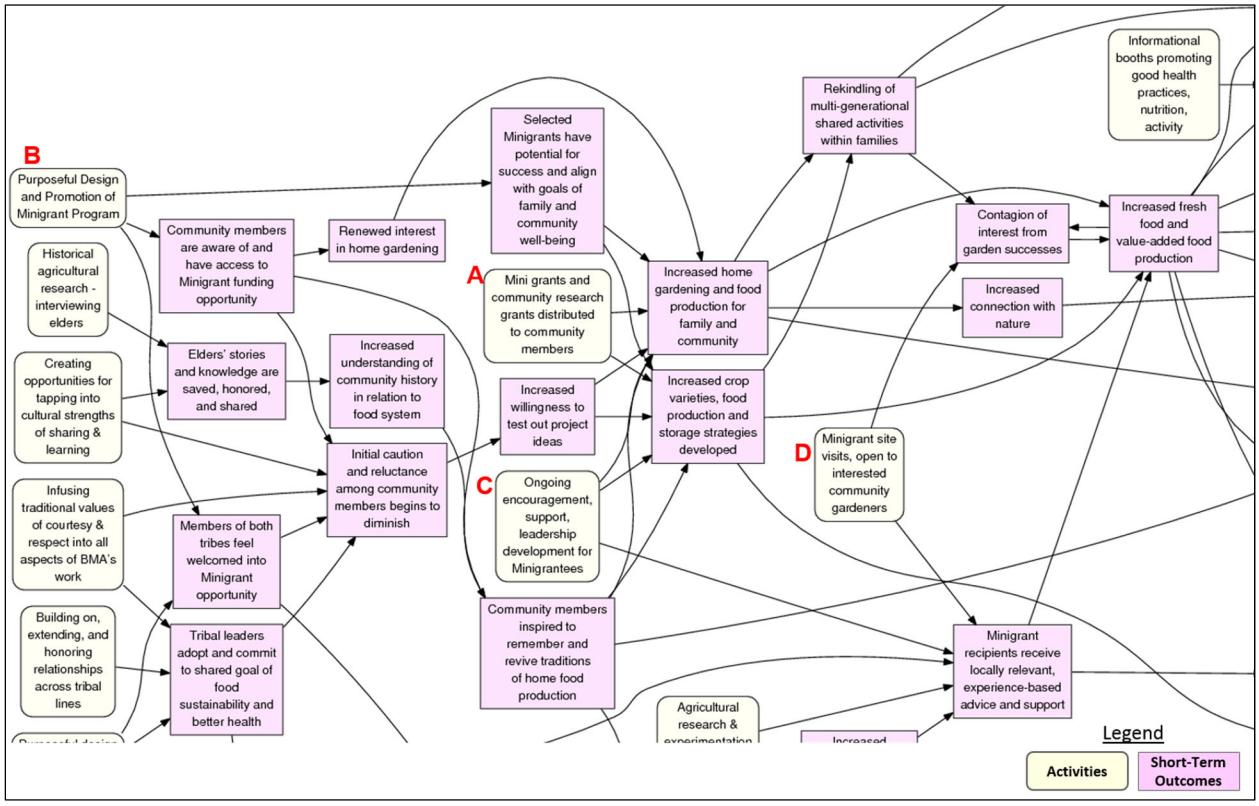
Appendix: Supplementary Evidence on Minigrant Program Strategies from the Community Organizations' Collaborative Pathway Models

The full collaborative pathway models for BMA, ENYF!, FLV, and WCP are available at https://www.fooddignity.org/collaborative-pathway-models. Each collaborative pathway model was developed in close collaboration and through an iterative process with the leaders of the community organizations, resulting in a graphical representation of the strategies and theories of change underlying their work (Hargraves & Denning, 2018, in this issue). As such, the minigrant-related parts of these models provide information about how the community organizers viewed the contributions of the minigrant programs in the larger context of their organization's overall work. This Appendix presents the subsection of each organization's model that covers their minigrant program. It also describes the contributions that each organization attributed to minigrant project funding and, separately, to overall minigrant program design and management.

Blue Mountain Associates

Figure A1. Subsection of Blue Mountain Associates (BMA)'s Collaborative Pathway Model Relating to Minigrants

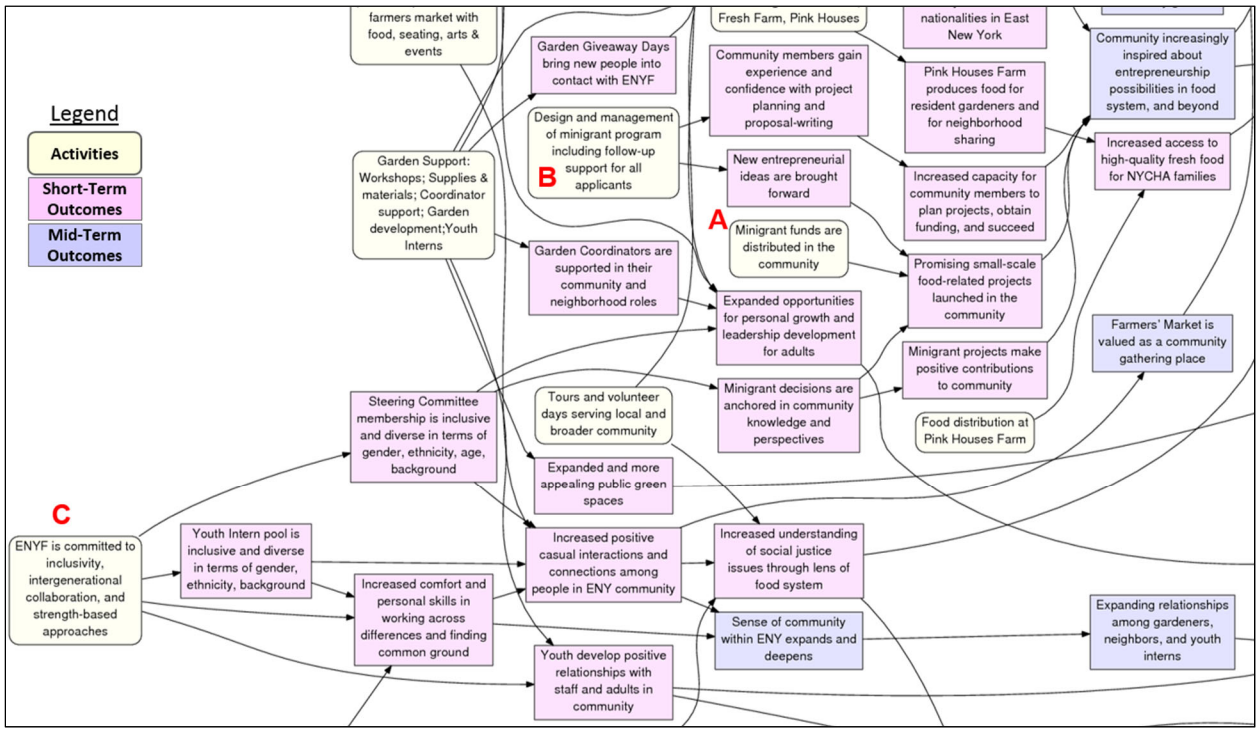


There are four distinct activities related to minigrants in BMA's model. One is about the funding provided by minigrants ("Mini grants and community research grants distributed to community members" [marked "A" in Figure A1]). The other three single out features of the minigrant program design and management. An activity titled "Purposeful design and promotion of minigrant program" (B) contributes to three short-term outcomes having to do with the potential for success and the alignment with goals relating to family and community well-being; community members being aware of and having access to minigrant funding; and members of

both tribes feeling "welcomed into minigrant opportunity." That last short-term outcome about the two tribes feeds into a midterm outcome about increased collaboration between the tribes, which in turn contributes to relationships within and beyond the reservation. The other two minigrant process–related activities are "Ongoing encouragement, support, leadership development for Minigrantees" (C), and "Minigrant site visits, open to interested community gardeners" (D). These two activities are seen as contributing to food production outcomes, increase in access to locally relevant knowledge, and contagion of interest.

East New York Farms!

Figure A2. Subsection of East New York Farms! (ENYF!)'s Collaborative Pathway Model Relating to Minigrants

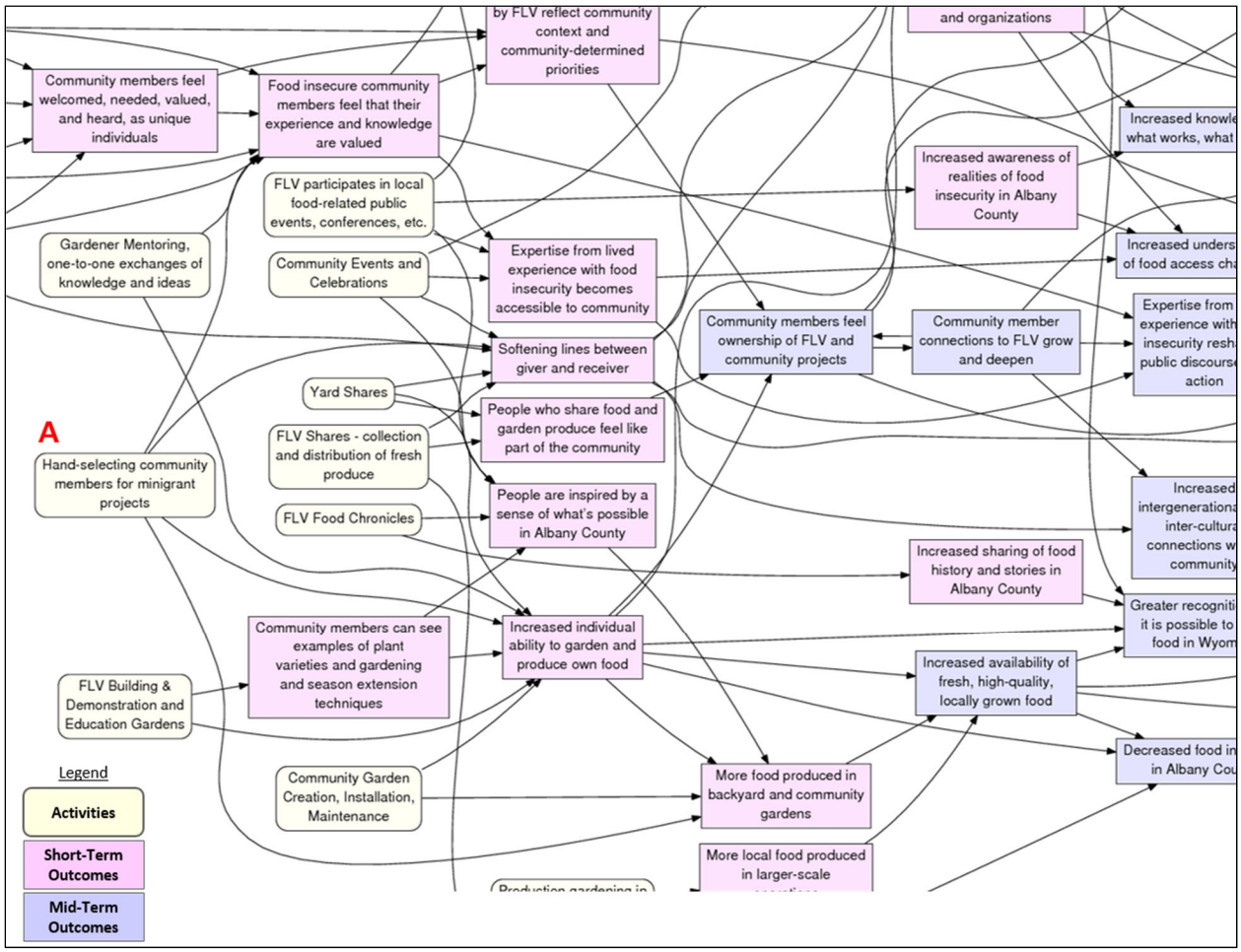


There are three elements relating to minigrants: One is an activity specifically about the funding, "Minigrant funds are distributed in the community" (marked "A" in Figure A2), which contributes to a short-term outcome of "Promising small-scale food-related projects launched in the community." This feeds, in turn, into a pathway about entrepreneurship and economic vitality. A second minigrant activity is about the minigrant process, "Design and management of minigrant program including follow-up support for all applicants" (B), which contributes to community members gaining "experience and confidence with project planning and proposal-writing." This feeds into building project management and funding skills, and on into the entrepreneurship and economic vitality outcomes. The third element related to the minigrant program has outcomes that operate, at least in part, separately from the effects associated with the funding of community minigrant projects. This separate effect is visible in a causal pathway that links ENYF!'s foundational philosophies about how they work with community members to outcomes about community leadership and interconnectedness. This thread can be seen originating at point C in Figure 2, with the activity "ENYF is committed to inclusivity, intergenerational collaboration, and strength-based approaches." This contributes to community

outcomes in several ways, one of which is to the short-term outcome about the steering committee composition. The steering committee helps by ensuring that "Minigrant decisions are anchored in community knowledge and perspectives," but is also seen as leading to the outcome of "Expanded opportunities for personal growth and leadership development for adults." This reflects the way that the supported steering committee work served an important organizational goal for ENYF!, separately from the funding of community food system projects.

Feeding Laramie Valley

Figure A3. Subsection of Feeding Laramie Valley (FLV)'s Collaborative Pathway Model Relating to Minigrants

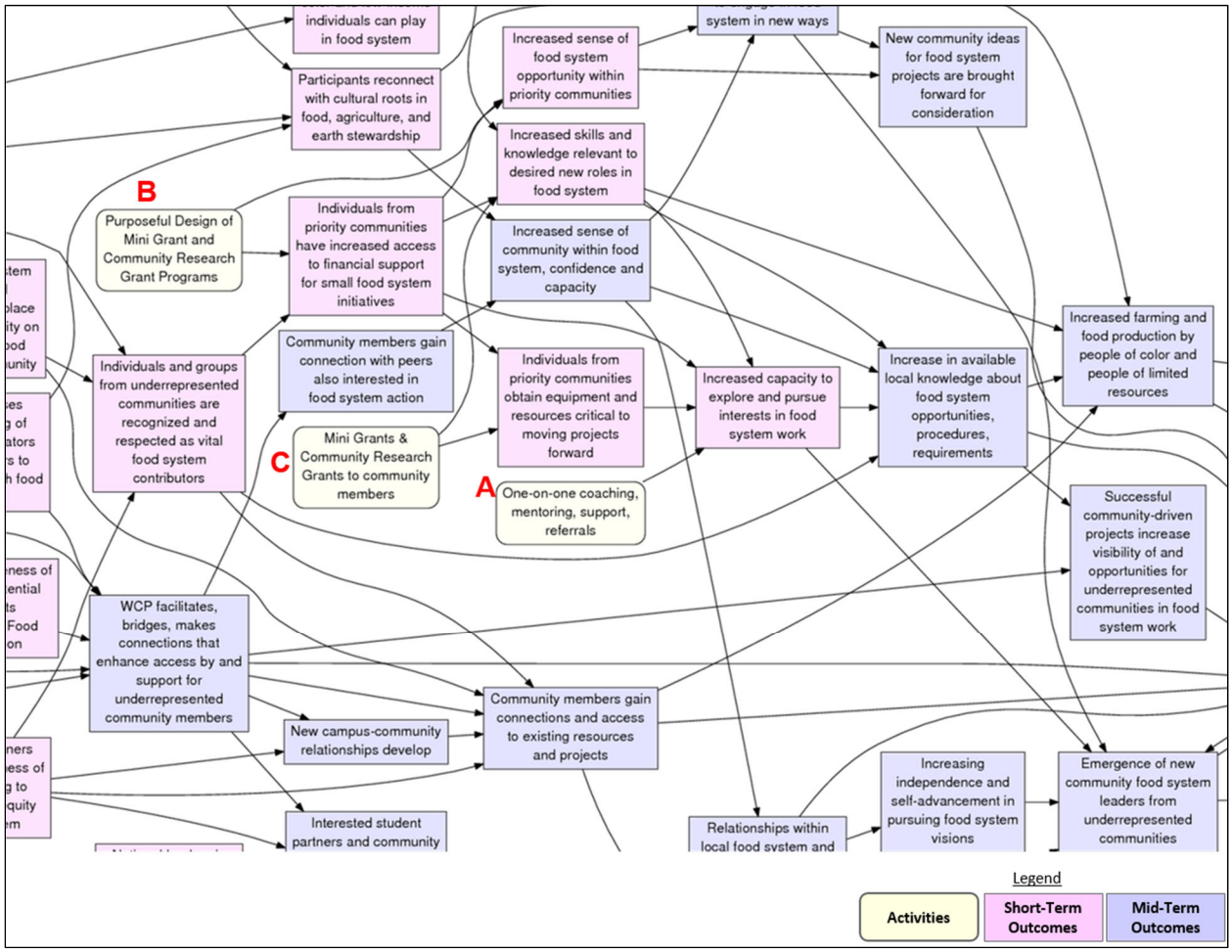


The FLV Collaborative Pathway Model has only one activity that specifically refers to the minigrant program, "Hand-selecting community members for minigrant projects" (marked as "A" in Figure A3). This single activity element implicitly embeds both minigrant design (including the reversal of roles from grantee to grantor) and the distribution of funds for projects. In the model it contributes to four short-term outcomes, two of which, in the lower portion of Figure A3, are about increased individual capacity to produce garden and produce food and increase food production. The other two short-term outcomes represent critical shifts for individuals and the community. These are, respectively, "Food insecure community members feel that their experience and knowledge are valued" and "Softening lines between giver and receiver." Both of these are

visible as strategically critical outcomes in the overall model of FLV's work. Both of them have multiple arrows leading into them, reflecting their importance as goals of much of FLV's work, and multiple arrows leading out from them, signifying their strategic importance for achieving FLV's larger ultimate goals. As in the other models, design and management matter in ways that are distinct from the minigrant impacts from project funding.

Whole Community Project

Figure A4. Subsection of Whole Community Project (WCP)'s Collaborative Pathway Model Relating to Minigrants



In the collaborative pathway model for WCP's work, individual, relationship-based support is reflected explicitly in one of the two minigrant design–related activities. The first, "One-on-one coaching, mentoring, support, referrals" (marked "A" in Figure A4), contributes to the short-term outcome of "Increased capacity to explore and pursue interests in food system work," which contributes, in turn, to increased local knowledge about "food system opportunities, procedures, requirements" and to an important midterm outcome of "Emergence of new community food system leaders from underrepresented communities." The second minigrant design–related activity is "Purposeful design of mini grant and community research grant programs" (B), which contributes to two short-term outcomes of increased "access to financial support for food

system initiatives" and increased "sense of food system opportunity" for priority communities (defined as "food insecure community members who have traditionally been underrepresented in food system work" [https://www.fooddignity.org/collaborative-pathway-models]). The funding of minigrant projects ("C" in Figure A4) is presented as contributing to short-term outcomes of having the skills, knowledge, equipment, and resources necessary for food system projects and roles. All these paths were important in WCP's overarching and long-term goals of increasing the involvement of underrepresented community members in the food system through increased access to resources, entrepreneurship, employment, voice, and power in the food system.

Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

"Ultimately about dignity": Social movement frames used by collaborators in the Food Dignity action-research project

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Submitted September 27, 2017 / Revised January 29 and February 12, 2018 / Accepted February 13, 2018 / Published online July 18, 2018

Citation: Gaechter, L., & Porter, C. M. (2018). "Ultimately about dignity": Social movement frames used by collaborators in the Food Dignity action-research project. *Journal of Agriculture, Food Systems, and Community Development, 8*(Suppl. 1), 147–166. https://doi.org/10.5304/jafscd.2018.08A.004

Abstract

Social movement theory suggests that effectively framing the cause of a problem (diagnostic framing), its solutions (prognostic framing), and reasons to support its solutions (motivational framing) is likely to be essential for reaching movement goals. In this paper, we apply social movement framing theory to empirically identify prognostic, diagnostic, and motivational frames in the growing food justice movement in the U.S. We use the case of the Food Dignity project, a five-year, U.S. Department of Agriculture (USDA)–funded, action and research collaboration between academics and leaders at five community-based food justice organizations. We coded multiple data sources, both public and internal to the project, to identify the strongest and most common diagnostic, prognostic, and motivational frames used by 25 individual collaborators in the Food Dignity project. Results suggest that the majority of diagnostic frames used by Food Dignity partners did not relate directly to food, but included instead insufficient resources, loss of place, degraded com-

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Funding Disclosure

Food Dignity (http://www.fooddignity.org) was funded by USDA National Institute of Food and Agriculture's Agriculture and Food Research Initiative Competitive Grant no. 2011-68004-30074.

Contributors and Supporting Agencies

Blue Mountain Associates; Feeding Laramie Valley; Whole Community Project; East New York Farms!; Dig Deep Farms; University of Wyoming; and the U.S. Department of Agriculture National Institute of Food and Agriculture.

Acknowledgements

We are grateful to the action research teams of Food Dignity.

munity, and constrained choice and responseability (Minkler, 1999) as causes of problems—though a broken food system also emerged as a causal frame. Similarly, solution framing included one overarching food-related strategy, which we labelled "great food." The other prognostic frames were reclaiming power, growing the local economy, strengthening community, fostering sustainable organizations, and networking. We did not find any motivational frames in the first round of semi-open coding. However, when we returned to reexamine the data with a hypothesis informed by our project experience beyond the textual data, we identified the motivational frame that we call *recompense*. Recompense suggests that those who have benefited from our current food systems should now work toward justice for those who sacrificed, usually unwillingly, to create them. This frame was mostly used indirectly and by community-based (rather than academic) partners in the project. Identifying these food justice diagnostic, prognostic, and motivational frames may help movement leaders to more explicitly examine and employ them and is an essential step for future research in assessing their effectiveness for creating a just, sustainable and healthy food system.

Keywords
Social Movement Framing; Social Movement Frames; Food Dignity; Sustainability; Food Justice; Diagnostic Framing; Prognostic Framing; Motivational Framing; Just Food System; Structural Oppression; Racism; Community Food Security; Food Sovereignty;

Introduction

Thousands of people and organizations align themselves with the community, national, and/or international food justice movement. One scholar defines this movement as "a budding social movement premised on ideologies that critique the structural oppression responsible for many injustices throughout the agrifood system" (Sbicca, 2012, p. 455).

Social movement theory suggests that effectively framing the cause of a problem (diagnostic framing), its solutions (prognostic framing), and the reasons to support its solutions (motivational framing) is likely essential for reaching the movement's goals. Little empirical examination of the social movement framing employed within the food justice movement has been conducted. However, social movement theory suggests that the way in which movement actors frame the problems they are trying to solve affects how successful they are in doing so (Buechler, 2000; Martin, 2015; Snow & Benford, 1988). Thus, identifying the social movement frames that food justice leaders use is a first step in assessing and improving the frames' effectiveness. This study identifies the diagnostic, prognostic, and motivational frames used by individual and organizational partners in a food justice action-research partnership called Food Dignity.

Food Dignity is a participatory education, extension, and research project, funded from 2011 to 2016 by a US$5 million USDA National Institute of Food and Agriculture's Agriculture and Food Research Initiative grant (including a no-cost extension to early 2018). Its primary research objective was to "identify, develop, and evaluate scalable and equitable strategies for organising sustainable community food systems to ensure food security" (Porter, Herrera, Marshall, & Woodsum, 2014; spelling is British from the original). Food Dignity's organizational partners include five community-based organizations (CBOs) that lead and support community food justice work, in addition to academic partners assisting CBOs with project research.

The five CBOs are Blue Mountain Associates (BMA) in Wind River Indian Reservation, Wyoming; Feeding Laramie Valley (FLV) in Laramie, Wyoming; Whole Community Project (WCP) in Ithaca, New York; East New York Farms! (ENYF) in Brooklyn, New York; and Dig Deep Farms (DDF) in the unincorporated areas of Ashland and Cherryland in the Bay area of California. The academic partners are primarily at University of Wyoming (UW) and Cornell University, along with Ithaca College and University of California, Davis. In addition, the leader of the umbrella organization for FLV, Action Resources International, played a project wide role as community-university liaison. An introduction to the work of each partner

organization is available on the project website (http://www.fooddignity.org). Most of the partners in the Food Dignity project, both community-based and academic-based, align themselves explicitly with the food justice movement (Bradley & Herrera, 2016).

Literature Review

A *social movement* can be defined as "collective forms of protest or activism that aim to affect some kind of transformation in existing structures of power" (Martin, 2015, p. 1). *Frames* are linguistic tools that package messages in ways that shape their meanings (Bateson, 1972; Goffman, 1974/1986). Much in the same way a window frame shapes one's view and a frame around a painting influences one's perception of the painting, social movement frames influence both what messages audiences receive and how they perceive them. For example, one "window frame" on viewing food security suggests that food needs to stay cheap so poor people can afford it. Another is that full-time work should pay living wages that enable people to pay the real costs of healthy food. The first frame puts food prices in view and wages out of view; the second includes both wages and food prices. Likewise, vocabulary and phrasing can influence the meaning of similar messages. For example, in "all people deserve access to food" vs. "access to food is a human right," the former invites the reader to view the message that everyone should have enough food through a moral frame, and the latter offers this message through a legal frame.

Social movement scholars have identified a trio of frame types that movement leaders and members use to further their causes (McCammon, Muse, Newman, & Terrell, 2007; McVeigh, Myers, & Sikkink, 2004; Snow & Benford, 1988):

- *Diagnostic* frames implicate or explain causes of problems the movement is addressing.
- *Prognostic* frames imply or suggest solutions to those problems.
- *Motivational* frames aim to persuade people to join or contribute to a movement.

Well-constructed diagnostic, prognostic, and motivational frames are theorized to lead to participant mobilization (Snow & Benford, 1988) and movement success (Buechler, 2000; Martin, 2015).

The small body of empirical research studying the impacts of social movement framing offers some evidence for causal links between framing and movement success or failure. As outlined below, this literature examines the success of framing in advocacy for homelessness prevention (Cress & Snow, 2000), recruitment into the Ku Klux Klan (McVeigh, Myers, & Sikkink, 2004), and women's efforts to gain access to serve on juries (McCammon, Muse, Newman, & Terrell, 2007).

Framing in Homelessness Prevention

Cress and Snow (2000) evaluated the success of framing among social movement organizations devoted to confronting homelessness. To do so, they conducted retrospective case studies of 15 such organizations to determine the importance of six theorized contributors to social movement success (viable organizations, sympathetic city council allies, existence of a city agency to address homelessness, disruptive tactics, articulate and specific diagnostic frames, articulate and specific prognostic frames). Using qualitative comparative analysis, they found that the organization's viability and the presence of articulate, specific diagnostic and prognostic frames were the only three necessary conditions to achieving a significant impact—defined as accomplishing at least two out of three predetermined outcomes. Furthermore, they stated that "articulate and focused framing activity comes more closely than any of the other conditions to constituting a necessary condition for attainment of the outcomes in question" (Cress & Snow, 2000, p. 1100). The authors hypothesize that frames may be necessary conditions for success because frames are used to secure other conditions for success, including city support, allies, and viability (Cress & Snow, 2000).

Framing in Ku Klux Klan Recruitment

McVeigh et al. (2004) similarly attempted to verify the efficacy of frames, but did so by testing hypothesized outcomes against actual outcomes in a study of Ku Klux Klan (KKK) membership in Indiana in the 1920s. The authors note that KKK frames are anti-immigrant, anti-Catholic, anti-

African American, and anti-free trade. They hypothesized that, if these frames were effective, KKK membership would be most concentrated in Indiana counties where the highest percent of immigrants, Catholics, or African Americans lived—that is, counties in which animosity among white, native-born Protestants was hypothesized to be highest. They also thought that counties that were most dependent on agriculture would offer the highest percentages of KKK recruits, given that farmers had little to gain and much to lose from free trade. The authors found that KKK membership was, indeed, positively correlated with all the demographic characteristics targeted by typical KKK framing except for Protestantism—perhaps due to unreliable census data on religion. These correlations offer evidence that anti-immigrant, racial, and free trade framing was effective in aiding the Klan's recruitment efforts (McVeigh et al., 2004).

Framing in Women's Access to Jury Service

Finally, McCammon et al. (2007) provided an additional quantitative assessment of the importance of framing in movement success. These authors coded frames that were used to promote the right of women to sit on juries in 15 U.S. states between 1913 and 1966. Using logistic regressions, they tested hypothesized correlations between the use of these frames and the success of policy change, as moderated by dominant cultural contexts. All years in which women did not win the right to sit on their respective state's juries were considered failures, and the year that the law did pass in that state was considered a success. Their findings indicate that:

- Frames that tapped into *general* hegemonic discourse (language of what is considered "normal") were not positively correlated with outcomes. For example, emphasizing dominantly accepted differences between men and women did not lead to women gaining access to juries.
- Capitalizing on *legal* hegemonic discourse was positively correlated with successful changes in juror statutes (e.g., the use of jurying as a citizen's duty).
- Consistently rebutting opposition frames (i.e., having the last word) was positively correlated with the passage of women juror laws.
- Frames that made use of a disruption in hegemonic discourse (e.g., the outbreak of WWI and WWII provided new opportunities for framing women as supporting the war effort by filling "men's roles" like jurors) were correlated with success (McCammon et al., 2007).

As can be gleaned from the above discussion, the body of empirical evidence for the impact that framing has on social movement success is small, but existing results support its importance.

Framing in Food Justice and Related Movements

An even smaller body of social movement literature examines food movement frames, although not for causal inferences. One scholar has examined overall framing of "food sovereignty" (defined here as a radical and structural transformation of the global food system toward serving the needs of all people) and "community food security" (defined here as working within existing structures to ensure adequate community access to food) on the websites of 46 U.S.-based organizations in comparison and contrast with international use (Fairbairn, 2012). She concluded that "the type of political action recommended by U.S. organizations is certainly tame compared to that undertaken by some of their international counterparts—I could not find a single call to commit civil disobedience" (Fairbairn, 2012, p. 224). She also identified a perhaps problematic conflation of food localization and food sovereignty. Food localization, Fairbairn (2012) notes, originally simply meant eating food grown within one's own, self-defined community. She found, though, that this term has accumulated meanings associated with, for example, fairly traded or organically raised food, regardless of its origin.

Based on years of participant observation, another scholar uses broad social movement theories for defining what constitutes a movement to assess if there is such a thing as a "local food movement." Her conclusion was positive, finding that the movement offers "a new cosmology (or

paradigm) of food production, distribution, and consumption" that includes "remarkable (but not unprecedented) use of pleasure to move political analyses forward" (Starr, 2010).

In a study that examines more explicitly the role of social movement framing theory in the food justice movement, Sbicca (2012) examined who does the framing of food justice via a descriptive case study with the People's Grocery, a food justice CBO in West Oakland, California. The author found that organizational leaders consistently used anti-oppression diagnostic and prognostic framings of food justice. Interns of the People's Grocery, however, were less connected to those frames, and community members generally did not take part in the framing process at all.

At a more macro level, without using systematic text analysis methods, another paper examined consensus, or lack thereof, in frames used in hunger and malnutrition, community food security, and intentionally disruptive agricultural protest work (Mooney & Hunt, 2009). Mooney and Hunt noted that prognostic framing, at least, differs within and between these arenas, and they closed with a call for more research on their diagnostic, prognostic, and motivational framing.

With this paper, we begin to answer that call with a project using empirical data coding and analysis to identify and characterize the diagnostic, prognostic, and motivational frames used by the individuals and organizations partnering in the Food Dignity project. Explicitly articulating these frames, as we do in this paper, is one important step toward (1) aiding movement actors in intentionally honing, shifting, or amplifying their framing; (2) assessing framing effectiveness for reaching movement goals; (3) facilitating discussion, debate, and ultimately ownership of movement framing by those most impacted by unjust food systems; and (4) identifying areas that might be ripe for deepening collaboration and coordination with other social movements.

Methods

In this section we outline our methods for case and participant selection, data collection and selection, and analysis.

In the analysis, we identify the individual project partners working with the five CBOs (and the community-university liaison) as "community." We identify those working for one of the four university and college partner institutions, including graduate students and staff, as "academic." The "we" used here represents the two academic co-authors. Gaechter was a masters student at the University of Wyoming (UW) from 2014 to 2016. Her studies were funded by Food Dignity and this work draws from her thesis research. Porter was Gaechter's thesis chair at UW and is the project director and principal investigator of the Food Dignity project.

Case Selection

The Food Dignity project offers a rich case for an in-depth qualitative analysis of social movement framing in the food justice movement. A diverse range of critics sees the project as a potential vanguard for community-academic collaboration in food, justice, and food justice. Both activists and academics have called the project "groundbreaking" (Aarons, 2012; Cabbil, 2012; Chappell, 2013). In 2014, the project won the Community-Campus Partnerships for Health Award for its "extraordinary" and "outstanding" work in this realm (Community-Campus Partnerships for Health, 2014). In addition, since it is also a research project, Food Dignity offers a large "buffet" of rich and descriptive data for analysis. With nine organizations and about three dozen people collaborating on food justice action research, it is an atypical case—one that is valuable for its unique rather than representative qualities (Flyvbjerg, 2006). At the same time, the five CBO partners in the project are arguably broadly and roughly representative of community-based, community-led organizational work for food justice in the U.S.: they are urban, suburban, and rural; they are led by and serve people of diverse backgrounds; and their goals range from meeting basic nutritional needs to dismantling oppressive systems. Thus we believe that Food Dignity supplies a useful case for empirically identifying framing strategies within the U.S. community food justice movement.

Perspectives and Participants

In this study, we examined frames used by the five

community organizations partnering in Food Dignity and 25 individual community and academic members of the Food Dignity team. These 25 individual members either attended the final meeting of project partners in early 2016, produced a first-person video story in 2015, or did both (15 of them). With the exception of Gaechter, who attended the final meeting as a note-taker, no one who met one or both of these criteria was excluded from our analysis.

Our 25 individual participants consisted of 17 community-based and nine academic-based partners, including one person whose frame use is considered here under both "bases" because his role included both community and academic work over the course the project. Of the community partners, 10 publicly identify as people of color (half female, half male), six do not (three female and three male), and one male partner's public racial identity is unknown. Of the nine academic-based partners, two identify as people of color (one female, one male). The remaining seven include two male and five female academics (including Porter) who do not identify as people of color. None of the participants publicly identified as a gender other than female or male. These participant numbers are too small to draw any conclusions by associating movement framing use with certain demographics. We still identify, however, each data source cited in the results section by organizational affiliation (community or academic), race (of color or not) and gender (female or male) because of the important role that demographics likely play in movement framing (Sbicca, 2012; Slocum, 2011).

Data Collection and Selection

To identify the social movement frames used in the Food Dignity project, we selected and analyzed six kinds of Food Dignity data sources: (1) Gaechter's participation and observation with field notes, (2) collaborative pathway models produced with each of the five CBOs, (3) 16 first-person digital stories and their transcripts, (4) a project video about making those stories and its transcript, (5) meeting notes, and (6) text on the *home* and *about* pages of the Food Dignity and CBO partner websites. More details on each are provided below. We selected these six sources from a much larger body of data collected by, with, and from partners over the five years (plus two no-cost extension years) of project funding. Our goals in making selections of which sources to analyze, largely via coding, for this framing analysis included:

- To represent the most current and most developed framing in use, we chose sources that were collected or created in 2014 or later;
- To analyze framing in work intentionally created for public audiences, we selected several sources—the websites, collaborative pathway models, and videos—that are highly developed products;
- To capture individual collaborator voices in both internal and public communication, we included the videos, meeting notes, and participation and observation data; and
- To capture organizational framing used by the CBOs in a more collective manner, we chose to analyze the websites, project video, and the five collaborative pathway models.

In total, these sources represent 23 text files containing 25 individual voices and, in the case of the collaborative pathway models and websites, public voices of the five CBOs. Together, these sources compose the most developed and intentional framing of food work within the catalogue of Food Dignity data combined with the richest records of internal discussions among project partners (Porter, 2018). We find that this set of data represents the major framing themes used by individual and organizational partners in the latter years of the Food Dignity project, based on our participation and observation as well as review of this manuscript by other partners.

Participation and observation

Gaechter conducted formal participation and observation with Food Dignity partners in three instances: volunteering with CBO partner FLV in 2014, serving as note-taker at a Union of Concerned Scientists meeting on food equity with three other Food Dignity collaborators (including Porter) in June 2015, and taking notes at the final, four-day,

all-team project meeting in January 2016. Both her field notes and meeting notes were consulted and coded during textual analysis.

Additional participation and observation that informs our analysis, but is not included in the text coding analysis described, includes Gaechter serving as formal note-taker for all-day research planning meetings of the four-member leadership team responsible for steering work in the final, no-cost-extension years of the project. She took notes for the meetings in May 2016 and again in January 2017. Porter has been participating in and observing Food Dignity since inventing the plan for the project with collaborators in mid-2010. In addition to being one of the 25 individual "subjects" of this study, her experience and history in the project informed and influenced data interpretation.

Collaborative pathway models

Collaborative pathway modeling is a participatory method for articulating theories of change underlying an organization's programs by linking each activity to expected outcomes. The final model, with some parallels to detailed and rigorous logic modeling, connects every activity or initiative to actual or desired short-, medium-, and long-term outcomes. Two Food Dignity team members worked closely with each CBO partner in Food Dignity to co-develop a model of its program activities and expected outcomes (Hargraves & Denning, 2018, in this issue). In this study, we included in our analysis the text in each of the five Food Dignity collaborative pathway models, one representing each CBO's work. Because the models explicitly link action to expected outcomes, they offer rich data on prognostic frames. We exported the text within the models from the modeling software[1] and included it in the coding analysis described below.

Digital story videos and documentary

Over the course of a three-day workshop in February 2015, with help from professional video story coaches from StoryCenter, four academic partners and 12 community partners each created a narrated digital story (Food Dignity, 2015). Their "assignment" was to create a 2-to-3 minute, first-person story about their journeys to community food work (A. Hill, personal communication, January 12, 2015). StoryCenter also collaborated with Food Dignity to compile a 15-minute mini-documentary on the process of creating these digital stories called *Tracing the Paths: Telling Stories of Food Dignity* (Luotto, 2015). We viewed and transcribed the 16 digital stories and the minidocumentary for analysis.

Websites

We used the *home* or *about* pages from the Food Dignity website and four of the five partner CBOs to find respective missions and visions. We then used the mission or vision to explicitly identify the problem each CBO aims to help resolve, as listed in the first results section. For the fifth CBO, which did not have its own website, we used the text provided for its partner page on the Food Dignity website.

Notes from final Food Dignity team meeting

In the final team meeting of Food Dignity project collaborators, held in early 2016, 26 people (including Gaechter and Porter) spent four days discussing what they had accomplished and learned over our five years together and what we should share "with the world" as results. Both authors and other participants took turns making detailed notes during group discussions. Note-takers aimed to capture the nuance of what each speaker shared, including some "live" transcriptions of exact wording, indicated with quotation marks. The result was 43 typed, single-spaced pages of notes. These were included in the coding analysis described below.

Data Analysis

In consultation with Porter, Gaechter analyzed the data above following Miles and Huberman's (1994) four-stage process:

1. *Noting themes:* We qualitatively reviewed all data sources described above and noted our initial observations about themes and questions.
2. *Reducing data according to research questions:*

[1] http://www.evaluationnetway.com

Using software (ATLAS.ti GmbH, 2008), Gaechter coded the textual data noted above, organizing what Miles and Huberman (1994) called themes specifically into diagnostic, prognostic, and/or motivational framing categories. She also inductively developed initial codes for subthemes in each of these three categories. In this way, "theme" became synonymous with frame type (diagnostic, prognostic, or motivational), and "subtheme" became synonymous with frame. Porter reviewed and agreed with first author's coding, adding only a small handful of additional passages coded as representing these frames and suggesting additional frames within identified themes.

3. *Displaying data in relevant categories:* We exported all the coded text quotes from the data set into diagnostic, prognostic, and/or motivational framing categories, with quotations also identified by frame.
4. *Identifying and analyzing themes within each category:* Gaechter re-examined the coded passages and refined her frames analysis within each of the three overarching social movement framing categories. We then developed the methods described below to assess their strength.

After naming the problem each CBO was addressing, by inverting its vision or mission statements into problem statements, we then identified and assessed the strength of diagnostic, prognostic, and motivational frames as detailed below.

Identifying strength of diagnostic frames

After coding, we chose to focus our analyses on the diagnostic frames that were "strongest" by virtue of being both frequent (total number of passages using a particular diagnostic frame) and common (appearing across multiple data sources). Post-hoc, having adjusted for the total quantity of passages coded as "diagnostic" frames, we developed the following criteria to determine which frames were the "strongest":

1. *Frequent* = diagnostic frames that were represented by 10 or more coded quotations. (This cut-point was inductively set, in that the diagnostic frames emerged as represented in either 10 or more coded passages, or by six or fewer.)

AND

2. *Common* = frame appears in five or more individual text files. (Development of this cut-point was informed by this level of commonality being consistent with dominant frames we perceived and noted—during our much larger body of participation and observation data—as salient across many organizations and individuals collaborating in the Food Dignity project).

Identifying strength of prognostic frames

The collaborative pathway model developed with each CBO explicitly identifies its strategies for accomplishing its mission. Thus we deemed any prognostic frame that appears in the long-term outcomes of three or more of the five models as "strong" in our analysis, even if it was not otherwise especially frequent or common. We also quantified the overall frequency of each prognostic frame in the collaborative pathway models in activities and outcomes (short-, mid-, and long-term). We additionally counted a prognostic frame as "strong" if it appeared in 30 or more coded passages, even if it did not appear in the long-term outcomes of three or more collaborative pathway models. This cut-point is higher than the 10 for diagnostic frequency above because the collaborative pathway model data set yielded so many prognostic quotations. As with diagnostic frame frequency, this cut-point is also informed by a post-hoc gap noted between frame frequency.

Identifying motivational frames

No motivational frames emerged during the data reduction or display stages (Miles & Huberman, 1994) of our analysis. During participation and observation, however, Gaechter noted that Food Dignity partners do explain (and have explained to both authors) why we, and why our society at large,

should act on the diagnostic and prognostic frames they present. Based on this observation, we reviewed our field notes, and Porter selectively reviewed additional data such as meeting notes and team emails to further develop the characterization of this motivational frame. Then, to build a description of the motivational frame that emerged from this process using the data set selected for analysis in this study, we re-coded digital story and video transcripts, collaborative pathway model texts, and meeting notes (Merriam, 2009).

The results section below describes the strongest frames within diagnostic and prognostic framing categories as well as the single, and more implicit, motivational frame employed by partners in the Food Dignity project.

Who is framing

In the examples provided to illustrate each frame, we identify who is employing that frame by organizational affiliation (community or academic), racial identity (of color or not), and gender identity (female or male) in our group of 25 individual Food Dignity partners.[2] Our population is too small to analyze the data meaningfully through a demographics lens, but we nonetheless chose to provide it for descriptive purposes.

Checking our analysis

In member checks with three community partners (all females, one of whom publicly identifies as a person of color), one partner who served as both an academic and community partner (male person of color), and three additional academic partners (all female, none is a person of color), participants indicated that our findings shared below are consistent with their experience.

Results

Food Dignity partners clearly define the problems they are working to address and offer many explanations as to why we have these problems (diagnostic frames) and what we should do to address them (prognostic frames). Eleven specific diagnostic and prognostic frames emerged as "strong" according to our criteria above. Only one specific motivational frame was found in the data sources we analyzed, and we identified it only via the deductive analysis explained above. We describe each specific frame in detail below, and Table 1 summarizes each frame and characterizes its strength in terms of frequency and commonality.

In addition to naming summary demographics of individual speakers, we identify the data source for each example used in the results (where "story(ies)" = first person digital story or stories, "documentary" = *Tracing the Paths: Telling Stories of Food Dignity*, "model(s)" = collaborative pathway model(s), and "notes" = meeting notes taken during final Food Dignity meeting).

Problems Food Dignity Partners Are Working to Address

The primary problems Food Dignity partner CBOs are trying to address are listed below. These are inversions of each organization's mission or vision statement:

- Unmet health and human services needs (BMA, n.d.)
- Insufficient access to healthy food and jobs (DDF, n.d.)
- Food injustice (ENYF, 2010)
- Food insecurity and an inequitable, unjust, and unsustainable food system (FLV, n.d.)
- Ill health of our children and youth (WCP at Food Dignity, n.d.)
- Community knowledge for how to address unsustainable community food systems leading to food insecurity is unacknowledged or unrecognized by institutions and agencies (Food Dignity, n.d.).

Addressing these problems can be considered the goal of the social movement framing used by the CBOs and Food Dignity partners, as identified below.

[2] The racial and gender identities derive from how the partners have self-identified over the course of the project. The use of "not a person of color" to categorize those who identify as white is our own moniker, selected intentionally as the inverse of the more commonly used category "non-white." (Our category name centers people of color as the norm; "non-white" centers Caucasians as the reference population.)

Table 1. The Strongest Diagnostic, Prognostic, and Motivational Social Movement Frames used by Food Dignity Academic and Community-based Partners

Diagnostic Frames	Meaning - *The problems identified in CBO mission or vision statements exist because (of) …*	Strength
Insufficient Resources	- individuals' and organizations' lack access to resources. - resources are intentionally withheld from community organizations. - a lack or withholding of resources prevents community leaders from being fully effective.	Frequency: 29 Commonality: 5 (notes, documentary, 2 stories, 1 model)
Broken Food System	- insufficient access to (healthy) food, including through barriers to growing one's own food.	Frequency: 19 Commonality: 8 (3 stories, documentary, notes, 3 models)
Loss of Place	- loss of place through geographic relocation. - loss of place due to a change in social context such as a change in employment or demographic changes to one's neighborhood.	Frequency: 16 Commonality: 8 (5 stories, 2 models, notes)
Degraded Community	- poverty with little to no local economy or employment opportunities. - neglect and/or abandonment of neighborhoods. - lack of options for youth. - unsafe environments.	Frequency: 14 Commonality: 7 (4 stories, 3 models)
Constrained Choice and Response-ability	- historical and lifetime trauma limiting personal capacity to struggle against oppressive circumstances. - systems that (intentionally) limit individual options and/or choice.	Frequency: 10 Commonality: 6 (3 stories, notes, documentary, 1 model)
Prognostic Frames	Meaning - *To address the problems we should…*	Strength
Reclaiming Power	- help local communities retake control of their food system. - recognize and develop community leadership, including youth. - connect communities with decision-makers. - reclaim community and indigenous knowledge.	In all 5 models as long-term outcomes. Frequency: 59 Commonality: 9 (all 5 models, appearing in a total of 49 short-, mid-, and long-term outcomes; 2 stories, notes, documentary)
Local Economy	- improve the local (food) economy and create jobs.	In 4 out of the 5 models as long-term outcomes. Frequency: 30 Commonality: 5 (4 models in 29 outcomes, 1 story)
Strong Community	- create a strong, socially connected, and safe community in which people are proud to live.	In 4 models as long-term outcomes. Frequency: 18 Commonality: 6 (4 models in 16 outcomes, 1 story, notes)
Great Food	- plant gardens. - (help people) grow (and share) food. - increase consumption of healthy food. - provide education on healthy eating and growing food. - increase and share food and agricultural knowledge locally, especially community knowledge. - build food production infrastructure. - use food as medicine and for healing. - create place through food. - increase (good) food access, security, justice, and sovereignty.	In all 5 models as long-term outcomes. Frequency: 127 Commonality: 17 (in documentary, 10 stories, 5 models in 79 outcomes, notes)

Table 1 continued on next page

Table 1 continued

Sustainable Organization	- build sustainable organizations that represent community needs with adequate funding streams, community support, strategic planning, infrastructure, capacity, successful programs, brand recognition, and staff support to attract, engage, and retain employees.	In 4 models as long-term outcomes. Frequency: 50 Commonality: 5 (in 4 models as 43 outcomes and one activity, notes)
Networks	- build cross-sector relationships with peers, movement leaders, agencies, decision-makers, universities and local food businesses.	In 1 model as long-term outcome. Frequency: 48 Commonality: 6 (in 5 models as 35 outcomes and one activity, notes)
Motivational Frame	Meaning - *It is important to address the identified problems because…*	Strength
Recompense	- over generations some have been stripped of power, agency, and choice in order to create greater power and profit for others. It is therefore not charity for privileged people to serve marginalized people in their work, but only the partial repayment of an enormous debt.	Frequency: 18 Commonality: 4 (in notes, 2 stories, 1 partner website)

Five Diagnostic Frames

Based on our test criteria, combining frequency and commonality, five strong diagnostic frames emerged from our analysis: insufficient resources, broken food system, loss of place, degraded community, and constrained choice and responseability. We describe each below. See also Table 1 for a summary of these five diagnostic frames and the strength of their appearance in our data set.

1. Insufficient resources

CBO partners in Food Dignity noted working in communities where both organizations and individuals suffer as a result of limited access to resources. Time, money, knowledge, and infrastructure were identified as resources in these contexts. The resource of food was also mentioned; it was mentioned so frequently that we include those results in a separate category, below.

With descriptions of being "stretched thin" and of "exhausted resources," community partners articulated struggles regarding funding, time, and overextended staff (not a person of color, male, community; notes). On an individual level, one partner shared a personal story about her brother. Speaking to inadequate social support for people with disabilities, she explained, "He had tried to take care of himself. He had been growing veggies on his patio... But trying to live on disability after a work-related injury made it impossible for him to eat well no matter how many tomatoes he produced" (person of color, female, community; story [Sequeira, 2015]).

Community partners felt strongly that academic institutions enjoyed access to unduly large means in comparison to what is made available to CBOs. Most of these assets ultimately stemmed from funding and included universities having abundant staffing, operational support, amassed savings, and employee benefit packages, at least in contrast with CBO resources. As an example, one partner noted, "…for academics, consulting is part of what they're paid to do. Grassroots organizations don't have enough money to build that in" (not a person of color, female, community; notes). Community-based partners shared frustration at the specific discrepancy within Food Dignity wherein the USDA paid 22% unrestricted indirect costs to university partners in the project, but disallowed the 10% indirect costs proposed to be paid to the CBOs as part of their subawards for their Food Dignity work (see Porter & Wechsler, 2018). This skewed resource distribution, leading to insufficient resources for CBOs in favor of academic institutions, also included decision-making power. As one community partner explained to the group, "I don't like the word 'allowed.' Don't restrict. Just let me do what it is I do—not, 'you're allowed to do that'" (not a person of color, female, community; notes).

Discussions of inadequate and denied resources often culminated in the lack of support available to community leaders. The following examples summarize this aspect of the Insufficient

Resources diagnostic frame:

- "I'm in Food Dignity, but I'm not living in dignity. How is that? Have we talked about that? I'm doing work on this, but I can't afford to buy healthy, organic food" (person of color, female, community; notes).
- "The people most qualified to do the work may not be the best people at Excel and HR.…How do we bridge this gap for people? The leaders who are bridging those worlds are in the cross-hairs all the time" (not a person of color, female, academic; notes).
- "Think of all the capacity academics are given because we value their skills. What kind of package like that is there for grassroots organizers…and when the system breaks down, academics are forgiven in ways that we are never forgiven" (not a person of color, female, community; notes).

2. Broken food system

The broken food system frame encompasses the diagnoses of poor access to food and lack of control over production. Lack of access to food, and often specifically healthy food, is commonly identified as a cause of problems that CBOs and the Food Dignity collaboration are working to solve. Participants most often discussed access to food being limited by either geographic or monetary constraints. One community partner described his neighborhood environment saying, "We moved back to our housing projects and there was still no grocery stores, no fresh produce, no decent food for the community" (person of color, male, community; story [Rucker, 2015]). Another offered her experience with monetary barriers preventing access to adequate food: "kids in schools…that don't have enough access to food…they can't think, learn, until they get something to eat" (not a person of color, female, community; notes). The additional frame, encompassing an inability to grow one's own food thus leading to food access problems, is summarized by the explanation, "[We] were originally Great Plains Indians, with hunter-gatherer lifestyles and diets based on natural foods. Growing conditions are challenging. Accessible food now is dominated by external food suppliers and highly processed foods, fast food outlets, etc." (BMA, Sutter, Hargraves, & Denning, 2017).

3. Loss of place

Relocation is at the root of many problems according to partners in Food Dignity. Community members have experienced loss of place historically, especially through European colonizers forcing Native Americans onto reservations and enslaving Africans and their descendants. Some community-based partners have also experienced relocation in their own lifetimes by moving to new communities, emigrating from their native countries, and being incarcerated. One participant, who expressed a strong wish to regain a sense of belonging, explains, "I grew up in South Brooklyn, New York, raised in the city projects. My mom was from Alabama and my father was an immigrant from Malaysia. People were always assuming I was Puerto Rican or Dominican, or something else" (person of color, female, community; story [Sequeira, 2015]).

Food Dignity participants also described losing a sense of place due to a change in social context, especially via a change in professional position. "As soon as my position shifted," recounted one community partner, "it felt very different, very weird. I didn't want to be seen as, 'oh she's the director now. She has power now'" (person of color, female, community; notes). One participant named this phenomenon a "third space," one occupied by community leaders who are intermediaries between marginalization and power, who walk-the-line between activist and sell-out (person of color, female, community; notes).

4. Degraded community

Community-based participants describe the degradation of their communities in a variety of ways. Poverty and limited economic opportunities were commonly cited as sources of problems. Some community-based Food Dignity partners also depicted their neighborhoods as abandoned and in states of disrepair. These factors lead to communities that are unsafe and that lack stimulating options for children and youth. Several of these phenomena are encompassed in the portrayal of one community partner's return home as an adult:

"It was still a working-class community just with a lot less work. There's less stuff for kids to do there, fewer safe, healthy, and fun places for them to go. There are fewer small businesses in the area. There were more people living on the edge and more crime" (not a person of color, male, community; story [Neideffer, 2015]).

5. Constrained choice and response-ability

The final emergent diagnostic frame was how often individual choice and ability to respond and to thrive in the face of challenges are constrained by circumstances beyond an individual's control. For example, one partner noted, "it's not the money or the help that is the concern or the problem. [It's the] other things you have to deal with in life that hinder you when you want to go forward. Sometimes things go so deep down you just can't go forward" (person of color, male, community; notes). In this case, the speaker referred to a personal history of trauma and tragedy, one tightly linked with and caused by historical trauma and systemic oppression. Said another way, "people cannot handle that continuous stream of tragedies" (person of color, female, community; notes). Several partners specifically cited historical trauma and systems that limit agency, creating "odds that you and I could not have conceived" (person of color, woman, community; story [Daftary-Steel, 2015]). In the mini-documentary, two community partners mentioned explicitly how these systems constrain choice. One said, "not everyone feels empowered to make those choices, make the healthier choices... It's not that everyone just wanted a bodega on the corner. It's systematic how, how it ended up that way" (person of color, male, community; documentary). Another confirmed, "if you don't have the knowledge or you don't have the resources it doesn't matter how much choice you want to make. You can't make that choice" (person of color, female, community; documentary).

Six Prognostic Frames

Here we describe the six identified prognostic frames that met our strength criteria: reclaiming power, local economy, strong community, great food, sustainable organization, and networks. These frames regarding how to resolve food justice-related problems are described below. They are also listed in Table 1 with notes on the relative strength of each frame.

1. Reclaiming power

All five community partner organizations listed reclaiming power, or helping community members reclaim power, as long-term outcomes in their collaborative pathway models (Hargraves, Denning, BMA, DDF, ENYF, FLV & WCP, 2017). The inclusion of reclaiming power in long-term outcomes indicates that these CBOs find the frame to be important, and its ubiquity further speaks to its strength. This reclaiming power frame appeared in three main forms: food sovereignty work, support for and development of community leaders, and connecting communities with and as decision makers. We illustrate the multifaceted aspect of reclaiming power by citing one relevant long-term outcome from each of the CBO's collaborative pathway models:

- "Reclaiming, restoring, and developing food sovereignty on our reservation" (BMA et al., 2017).
- "Enfranchising marginalized members of community" (DDF, Neideffer, Hargraves, & Denning, 2017).
- "Greater fulfillment of personal and leadership potential for youth and adults" (ENYF, Vigil, Hargraves, & Denning, 2017).
- "Increased involvement, voice, and power of previously marginalized, food insecure individuals and households" (FLV, Woodsum, Hargraves, & Denning, 2017).
- "Increased representation and power of underrepresented groups in local food system decision-making" (WCP, Sequeira, Hargraves, & Denning, 2017).

2. Local economy

Increasing local economic opportunities in and outside of the food system were offered as a means for addressing the identified problems in the long-term outcomes of four of five collaborative pathway models. Below is one example of a growing the local economy prognostic frame from each of

these four in the form of desired long-term outcomes:

- "Increased economic vitality of Wind River Indian Reservation" (BMA et al., 2017)
- "Viable, sustainable network of food-producing and supply-chain enterprises in Alameda County" (DDF et al., 2017).
- "Greater community-driven economic vitality" (ENYF et al., 2017).
- "Increased entrepreneurship and employment in food system for underrepresented community members" (WCP et al., 2017).

Perhaps offering a complimentary, yet also potentially contradictory frame, one CBO's collaborative pathway model did not speak to an improved economy in the sense of more businesses, greater employment, or production and supply. Instead, its model envisions a "shift in community paradigm around sharing and giving the best" (FLV et al., 2017). While "sharing and giving" resources could be considered economic activity, this phrasing is itself a reframing of a capitalistic and monetized concept of economics in a North American context.

3. Strong community

When it comes to prescribing a strong community to address social problems, participants value community features such as support for residents, social opportunities, and safety. Feelings and perceptions are also valued, as the CBO partners in Food Dignity prioritize people feeling pride in their communities. Together, these components of the prognostic theme we call strengthening community are represented as long-term outcomes in four of the five collaborative pathway models:

- "Increased sense of community strength" (BMA et al., 2017).
- "Sustainable, vibrant, healthy community in Alameda County" (DDF et al., 2017).
- "East New York is a community people are proud of and enjoy living in" (ENYF et al., 2017).
- "Increased community connections, sense of belonging, worth, and possibility" (WCP et al., 2017).

As one community partner put it, "the more lines you weave through there, the stronger it is… Creating these tightly woven lines is creating community" (not a person of color, male, community; notes).

4. Great food

The great food frame is the most common of all the prognostic frames, appearing in the greatest diversity of data source types (see Table 1). This prognostic frame offers food production, sharing, and eating, as well as the sharing of food-related knowledge, as part of the solution to problems that Food Dignity partners and the project itself are trying to address. This frame derives its name from the conclusion of a digital story produced by the director of DDF, who is currently a captain in the Alameda County Sheriff's Department in California. Summarizing how DDF was improving lives in order to reduce crime by employing former inmates and local youth while increasing healthy food access in his community, the deputy explained, "Most importantly, we're making great food. To me that is great police work" (not a person of color, male, community; story [Neideffer, 2015]).

Food access, justice, and sovereignty appear as ends in and of themselves, including in the long term outcomes of all five collaborative pathway models. For many in the Food Dignity project, food also offers a means by which to accomplish other goals, including health and healing, personal change, and social change. For instance, one academic partner explained of the prisoner re-entry farm-training program mentioned above, "For most of them, learning to farm was a piece of trying to change their lives" (not a person of color, female, academic; story [Bradley, 2015]). As if in answer to the loss of place diagnostic frame, one community partner shared, "I needed roots so I planted a garden" (not a person of color, female, community; story [Dunning, 2015]). Sharing knowledge about how to produce and prepare food was also part of this theme; for example, one urban farmer said, "Now I am able to share all I have learned about farming in the last four and half years with my old friends from my housing projects. People are able to help each other out and

grow their own food" (person of color, male, community, story [Rucker, 2015]). A colleague noted, "I'm teaching my family about eating healthy and how to grow our own food" (male, community, story [Silva, 2015]).

5. Sustainable organization

In their collaborative pathway models, four of the five CBOs partnering in Food Dignity emphasized the importance of creating sustainable organizations.[3] According to partners, many things are required for a sustainable organization, including adequate funding streams, community support, strategic planning, infrastructure, sufficient capacity, successful programs, brand recognition, and staff support to attract, engage, and retain employees. The Food Dignity focus on organizational sustainability includes continuing to learn and improve, such as the medium-term goal in one collaborative pathway model: to gain "increased knowledge of what works, what doesn't" (FLV et al., 2017). The CBOs also stressed the importance of growing responsibly in the sense of being true to community needs (e.g. "evolve[ing] in alignment with emerging community understanding" [FLV et al., 2017]) and the organizational mission (e.g. "sustainable changes that align with its mission" [ENYF et al., 2017]).

6. Networks

Networking emerged as an important part of solution framing in terms of its ability to expand capacity through collaboration and knowledge transfer and by offering a sense of solidarity. Referring to an international conference she had attended, one partner remarked, "there are other parts of the world coping, who understand what I'm going through…The problems are so big, but so is the movement. You don't feel alone" (person of color, female, community; notes). Partners stressed the value in communicating and working with other nonprofits and businesses, as well as universities, agencies, and decision-makers. Community partners also framed connecting with individual community members as a solution. Similarly, part of the networking frame relates to building community leaders through relationships, as in WCP's collaborative pathway model outcome, "national leaders in grassroots food justice work make connections with local individuals interested in food system work" (WCP et al., 2017).

One Motivational Frame

Through our work with Food Dignity, we identified one frame for motivating food justice action: recompense. This frame is singular and overarching. As illustrated above, partners employed the described diagnostic and prognostic frames both internally and publicly. By contrast, explicit use of this motivational frame for the food justice work was employed only internally, among Food Dignity partners. Initially only community partners used the recompense frame, often as an explanation to academic partners, and community partners continued to be its primary users throughout the project.

Recompense

The recompense frame that community partners used in Food Dignity suggests that those who have been systematically granted social privileges should recognize that it is their responsibility to use that privilege to bear the cost of "lifting up" those on whose backs the U.S. food system has been built. To become motivated by this recompense frame is not to accept individual blame nor assess guilt, but to recognize unearned, structural privileges—including those our society apportions by race, class and gender. This framing further asks for acknowledgment that privileges have been extracted through oppression and that equal treatment, by itself, cannot erase the inequities resulting from generations of some benefiting at the expense of others. According to the recompense framing of Food Dignity partners, redress and reparations are required if we are to create an equitable society.

In other words, Food Dignity partners' answer

[3] The one CBO that did not include this sustainable organization prognostic framing in its long-term outcomes was housed under a cooperative extension office, which ended its support for that CBO with the end of the Food Dignity partnership. In addition, another community partner has identified one of the Food Dignity project's greatest failures as not planning and providing adequately for supporting the CBOs in making their work sustainable.

to the question, "why should I care about ending inequality in the food system?" is that our dominant food system in the U.S. was built on stolen land with stolen people and systematically supports the health of some and degrades that of others.

Food Dignity partners rarely used this recompense framing explicitly, but instead embedded it as implicit within diagnostic and prognostic frames. For example, one partner noted, "before slavery African people had a strong connection to the land. That connection was broken on the backs of slaves in the plantations. The spirit of love for the land was turned into shame and pain, and many of us now reject the land instead of honoring our connection to it" (person of color, male, community; story [Brangman, 2015]). Here, this partner's powerful melding of the relocation diagnostic frame and the great food prognostic frame combine as an implicit invitation to understand the premise of a recompense motivational frame.

Reclaiming indigenous and first-person expertise also fuels the recompense frame. For example, in an explicit use of this frame (less common than implicit uses), one partner shared her experience of her community's knowledge being stolen by academics. She explained, "I don't know how many times I've read articles of PhD folks, 'look what we found out!' Yeah, my mom told me that so many times… It hurts my soul and my heart that this is 'new knowledge' when it really isn't. This is a huge part of dignity, and Food Dignity. Reclaiming where this knowledge really comes from. Need to say it, be explicit about it. Own it" (person of color, female, community; notes).

Though historical trauma and systemic oppression form the premise of the recompense frame, its motivating inverse is the enormous potential for progress if the call to redress these injustices is heeded. For example, as one community partner explained, "for people to grow their own food, you can't get any more dignity than that. We've been robbed of it by supermarkets, food stamps. The most healing thing I've ever seen" [referencing people growing their own food] (person of color, male, community; notes). Here, he implicitly introduced the recompense frame by offering the imperative that we should facilitate people growing their own food as one way to restore dignity to those from whom it has been robbed. As another partner observed, "None of the technical work will matter or succeed without the healing" (not a person of color, female, academic; notes).

Discussion

Our results indicate that Food Dignity partners aim to address problems that are prominently, but not entirely, related to food. Only one of the five strong diagnostic frames that emerged was directly related to food (broken food system), suggesting that participants largely attribute food problems to underlying causes related to limited resources, loss of place and/or loss of sense of belonging, degraded communities, and constrained choices. Similarly, prognostic frames suggest addressing the identified problems through several methods that do not necessarily involve food: reclaiming the power of marginalized people, (re)building local economies, creating strong communities and sustainable organizations, and building networks. The great food frame, however, also was strongly employed as a prognostic frame, including a broad range of specific solutions, from planting gardens to using food as a catalyst for achieving other goals.

We also found that Food Dignity partners employed diagnostic and prognostic frames much more commonly and explicitly than motivational frames. In addition, the one motivational frame identified—recompense—was employed explicitly only internally (not publicly) and mostly by community partners.

As in movements for environmental justice (see for example Bullard, Johnson, & Torres, 2011) and analyses of structural violence (Galtung, 1969), the uses outlined here of diagnostic, prognostic, and motivational frames by food justice actors in Food Dignity identify visible problems (such as food insecurity) as symptoms of deeper systemic and often historical societal issues of inequity. Like activists in related movements, Food Dignity partners understand and employ food-related strategies in this broader strucutral context.

As diagnostic framing applied to movements in general, Cress and Snow (2000) found that articulately assigning specific blame for a problem is a necessary condition for successful social movements. This finding, however, may apply best when

blame is attributable to a much smaller segment of the population than in the case of food system injustice issues. We hypothesize that the recompense frame, which targets motivating people with systemic privilege (such as academic, male, and/or white partners in Food Dignity), carries risks of backfiring if not employed strategically with audiences primed to hear it. As described by one food justice activist, "anyone can give charity and feel good about themselves, but giving justice to someone who demands it, that is harder to accept" (Longoria, Schlosser, Keshari, Fish, & Rawal, 2014). Our personal experience in the project suggests that many of the community partners in Food Dignity generously and strategically worked over the seven years of the partnership to help many of the academic, male, and white partners understand, and become motivated by, this frame. We do know that it came to motivate each of us based on the individual ways in which we carry privilege and oppression.

McCammon et al.'s (2007) study offers additional potential guidelines for effective framing. Explicitly rebutting opposing frames—those that conflict with goals of the food justice movement—may improve the efficacy of strategic framing. An example of an opposing frame as identified by a community partner is, "the City would have you think, 'We're okay, Walmart's donating food" (not a person of color, female, community; notes), suggesting that food-insecure people simply need more donated food, not changes to the food system. According to McCammon et al. (2007), employing direct diagnostic or prognostic rebuttals about why donations from Walmart are insufficient may help foster food movement goals.

Another promising strategic framing strategy offered in the literature is that adapting food justice frames to make connections with disruptive events in society will increase a movement's chances for success (McCammon et al., 2007). For example, rising discontent with relationships between police departments and African American communities, general calls to resist threats to U.S. democracy, and concerns about the future of public lands are all issues that might offer opportunities onto which one can "hook" some forms of food justice strategic framing.

Sbicca (2012) posits that effective frames should "resonate among [food justice] activists" (p. 463) to be consistent with the values of the movement. Our identified speaker demographics suggest that community, rather than academic, partners dominantly use the strongest frames in Food Dignity and that partners across races and two genders use these frames (see Strength column of Table 1). In other words, the strong frames used by Food Dignity partners not only resonate with, but were generated by, food justice activists, many of whom have personal experience with food injustice. Now the Food Dignity collaboration must amplify these strategic food justice frames. These are the voices that must be heeded if the food justice movement is to succeed where others have failed in reaching their goals (Slocum, 2011). This investigation of social movement framing in the Food Dignity partnership may help address the call for a way of identifying and developing diagnostic, prognostic, and motivational frames "premised on an open understanding of [food justice] that are then integrated into movement-building efforts" (Sbicca, 2012, p. 464).

Further studies should focus on understanding the impact of these framings on food justice outcomes, including by using empirical methods such as those established in McCammon et al. (2007) and by identifying arenas of overlap with other movements that may be ripe for collaboration. Also, per the relative timidity of food movement framings mentioned in the literature review, trialing the effectiveness of more radical and oppositional framing may be worth conducting.

Since people learn best from contextualized examples (Flyvbjerg, 2006), it is our hope that this study can offer valuable information to activists wishing to strengthen the clarity and potency of social movement framing in food justice and beyond.

Conclusion

Effective framing is an influential part of building a successful social movement (Cress & Snow, 2000; McCammon et al., 2007; McVeigh et al., 2004), and explicitly identifying food justice movement framing is a key step toward both honing and evaluating these framing strategies. Using the case of

the Food Dignity project and partnership, our results here are among the first to identify diagnostic, prognostic, and motivational frames used in the food justice movement.

Food Dignity community partners consistently diagnosed causes of food injustice as inequitable and insufficient resource distribution, a food system that fails to provide sufficient access to healthy food, dislocation, degraded communities, and systemic constraints on choice and individual capacity to respond. Solution frames included reclaiming power, growing local economies, strengthening communities, growing and sharing great food, sustaining CBOs, and networking in the movement. Partners employed one thematic motivational frame of recompense, mostly implicitly and mostly in house among project partners. We also observe that Food Dignity community partners were active in creating and utilizing the frames noted.

Past empirical work on effective social movement framing suggests that Food Dignity partners may have room to use more direct motivational frames publicly, to rebut opposing frames more explicitly, and possibly to point more specifically to those who are complicit in the problems they identify. However, whether these lessons from other contexts apply within the food justice movement is a decision best left to front-line activists.

In keeping with Sbicca's (2012) case study with People's Grocery, most of the food justice frames used by Food Dignity project partners point to the root of the problem as systemic social oppression. Solution frames do include producing and sharing great food, but that is only one small part of the solution. As an academic-based partner noted in her digital story, the community-based partner who inspired the name of the entire Food Dignity project said that "the work is ultimately about dignity" (Sequeira in Porter, 2015).

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Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Growing our own: Characterizing food production strategies with five U.S. community-based food justice organizations

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Submitted March 30, 2017 / Revised July 24, September 11, and November 13, 2017 / Accepted November 15, 2017 / Published online June 18, 2018

Citation: Porter, C. M. (2018). Growing our own: Characterizing food production strategies with five U.S. community-based food justice organizations. *Journal of Agriculture, Food Systems, and Community Development*, *8*(Suppl. 1), 167–185. https://doi.org/10.5304/jafscd.2018.08A.001

Abstract

Community-based organizations (CBOs) leading the U.S. food justice movement have helped expand community food production. Understanding the nature of this work is one key to being able to more effectively support and expand it. The literature, however, contains little scholarly work characterizing production-related practices of food justice CBOs. To help fill that gap, this paper draws from participatory action research with five CBOs to identify and characterize their community food production activities and goals.

This research was conducted over five years, during a project called Food Dignity, using three main methods: digital storytelling; collaborative pathway modeling; and conventional case study methods that included interviews, participation and observation, and document analysis. These data sets were examined to identify what production activities the CBOs support and why they undertake them.

Results suggest that the CBOs invest in community food production in eight main ways. Five are directly related to food. Listed roughly in decreasing order of intensity and frequency of the activities, these are (1) growing vegetables and fruits, (2) supporting community gardens, (3) supporting individual gardeners, (4) supporting local farmers, and (5) fostering other kinds of food production. Additionally, three crosscutting strategies underpin all the CBOs' work, including community food production: (6) connecting people and organizations, (7) promoting community food

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Blue Mountain Associates; Feeding Laramie Valley; Whole Community Project; East New York Farms!; Dig Deep Farms; and the USDA National Institute of Food and Agriculture.

Funding Disclosure

Food Dignity (http://www.fooddignity.org) was supported by Agriculture and Food Research Initiative Competitive Grant no. 2011-68004-30074 from the U.S. Department of Agriculture's National Institute of Food and Agriculture.

systems, and (8) integrating their activities with community (as opposed to food) at the center. The CBOs' goals for these activities are transformational, including achieving community-led and sustainable food security, health, and economic equity.

The CBOs' crosscutting activities and long-term goals point to supporting and assessing outcomes that include food production and access but are also nonfood related, such as leadership development and feelings of belonging or ownership. Their wide range of food production activities and social change goals need more support for expansion, trial and error, documentation, and assessment. In particular, intentionally supporting food justice CBOs in their crosscutting strategies, which are foundational and yet less visible and underfunded, may multiply the range and reach of their impacts.

Keywords
Home Gardens; Community Gardens; Community Farms; Public Health; Community Food Systems; Community Food Production; Food Justice; Community-based Organizations; Community-based Participatory Research (CBPR); Food Dignity

Introduction

The United States is a wealthy nation with more than enough food to supply the needs of all its residents (Food and Agriculture Organization of the United Nations [FAO], 2002; Hiza & Bente, 2007). However, in 2015, 12.7% of households in the U.S. were food-insecure, and about a fifth of American children were growing up in households that were uncertain they will have enough to eat every day (Coleman-Jensen, Rabbitt, Gregory, & Singh, 2016). This problem of inequity is one of many problems in the U.S. food system that the food justice movement aims to help resolve (Sbicca, 2012), by localizing healthy food production, among other things. With immediate goals that might include sharing healthy food, selling such food at low cost, equipping people with production and job skills, and/or providing opportunities for income generation (Daftary-Steel, Herrera, & Porter, 2016), many CBOs leading the U.S. food justice movement have been working to expand community food production.

Little scholarly work about production-related practices of individual CBOs, much less multiple ones, has been published. However, understanding the nature and purposes of this community food production work is foundational for knowing how to best support it, for informing strategy with evaluation, and for beginning to estimate its current and potential array of yields. To help build that foundation, this paper draws from over five years of action research with five such CBOs to identify and characterize their community food production activities. The research questions this paper addresses are: (1) how do these five CBOs support community food production work? and (2) what their goals are for that work?

We conducted this research as part of the Food Dignity project. Food Dignity was a five-year effort (2011–2016) to document, support, understand, and partially assess food system sustainability and security strategies employed by five CBOs in the U.S.: Blue Mountain Associates (BMA) in the Wind River Indian Reservation; Feeding Laramie Valley (FLV) in Laramie, Wyoming; Whole Community Project (WCP) in Ithaca, New York; East New York Farms! (ENYF!) in Brooklyn, New York; and Dig Deep Farms (DDF) in the unincorporated areas of Ashland and Cherryland in the San Francisco Bay Area of California. I was the principal investigator and lead academic collaborator in Food Dignity.[1]

In this paper, I use the phrase "community food production" to mean micro- and small-scale

[1] In this paper, my use of "we" denotes the larger Food Dignity co-investigation team, particularly those named in Table 1. Some of the data I analyzed for this paper are codified knowledge products in their own right, particularly digital stories and collaborative pathway models, authored by other co-investigators, as cited. Our work was conducted as participatory action research, or community-based participatory research (CBPR). However, the research questions I ask of this multiproject data set and the analysis and conclusions here are my own. Thus, though I have checked my data uses, interpretations, and conclusions with co-investigators, and though this draws extensively on the wisdom, expertise, and work of others as cited, I am responsible for this work as sole author.

work to produce food, especially, but not only, fruits and vegetables, for hyperlocal consumption—whether in the producers' own households or in the immediate geographic community—via share or sale. The production being "community-based" means the food work is done for, by, and with community members to self-provision and/or to reach explicit food justice goals (as opposed to solely as a business). All the CBO community food production work described in this paper is community-based.

Literature Review

Support of community-based food production is a social change strategy used in the U.S. community food movement that is striving for community food security, sustainability, justice, and sovereignty (Broad, 2016; Saul & Curtis, 2013; Winne, 2008, 2010). Enabling people to grow some of their own food in home and community gardens has become a fixture of that work, and of some obesity prevention initiatives (Gatto, Martinez, Spruijt-Metz, & Davis, 2017; Lawson, 2005; Zanko, Hill, Estabrooks, Niewolny, & Zoellner, 2014). Supporting food gardening and other forms of community food production may take society a step closer toward food justice and food security, including because that enables consumers to also become producers (Allen, 1999). Although, as Allen notes, ensuring households have enough to eat every day should be the work of "a non-retractable governmental safety net" (Allen, 1999, p.117), the work of the food justice movement includes building food systems where fewer people need to use such a net.

Certainly, interest in gardening has been growing in the U.S. (Taylor & Lovell, 2014). Today, over a third of U.S. households grow at least some of their own food, even if only herbs on a windowsill. From 2008 to 2013, the number of gardening households increased by 17% overall, driven largely by a 63% increase among the millennial generation (National Gardening Association, 2014).

As summarized below, a rapidly growing body of literature demonstrates a trio of positive outcomes from community production via home and community gardening in improving health, producing meaningful amounts of food, and providing ecosystem services.

In health benefits, a recent meta-analysis of 22 quantitative studies suggests that gardening has significantly positive effects on physical, mental and—especially for community gardens—social health (Soga, Gaston, & Yamaura, 2017). Additional studies that were not included in the meta-analysis, mainly because they used observational and/or qualitative research designs, suggest health benefits of gardening may also include increased fruit and vegetable intake (Alaimo, Packnett, Miles, & Kruger, 2008; Armstrong, 2000; Litt, Soobader, Turbin, Hale, Buchenau, & Marshall, 2011; Meinen, Friese, Wright, & Carrel, 2012; Twiss, Dickinson, Duma, Kleinman, Paulsen, & Rilveria, 2003), reduced food insecurity (Baker, Motton, Seiler, Duggan, & Brownson, 2013; Bushamuka, de Pee, Talukder, Kiess, Panagides, Taher, & Bloem, 2005; Corrigan, 2011; Stroink & Nelson, 2009), and increased social capital (Alaimo, Reischl, & Allen, 2010; Armstrong, 2000; Twiss et al., 2003).

Gardens also yield meaningful amounts of food. The average yield rate across eight studies that have quantified harvests in home and community gardens is 0.6 lbs/ft^2 (2.93 kg/m^2) of growing space (author calculations from Algert, Baameur, & Renvall, 2014; CoDyre, Fraser, & Landman, 2015; Conk & Porter, 2016; Gittleman, Jordan, & Brelsford, 2012; Pourias, Duchemin, & Aubry, 2015; Smith & Harrington, 2014; Vitiello & Nairn, 2009; Vitiello, Nairn, Grisso, & Swistak, 2010). This approaches the yield rate of 0.67 lbs/ft^2 (3.27 kg/m^2) estimated to be typical of vegetable farms (Seufert, Ramankutty, & Foley, 2012).

Community food production also provides "ecosystem services," that is, benefits that people obtain from ecosystems (Millennium Ecosystem Assessment, 2005, pp. 1–2). These include "provisioning" services, such as of food and health, as described above. "Regulating" ecosystems services that gardens and community farms provide include preserving biodiversity, cycling nutrients, and enhancing water quality (Calvet-Mir, Gómez-Baggethun, & Reyes-García, 2012; Cohen & Reynolds, 2015; Cohen, Reynolds, & Sanghvi, 2012). Social and cultural services provided by community food production appear to include building social capital and self-efficacy (Firth, Maye, & Pearson, 2011; Litt et al., 2011; Ober

Allen, Alaimo, Elam, & Perry, 2008) and cultural connection and continuity (Companion, 2016). Also, increasingly, community gardening is being recognized as a promising social change strategy (Altman et al., 2014; Hou, Johnson, & Lawson, 2009; Nettle, 2014; Pudup, 2008).

This trio of health, harvest, and ecosystem service benefits of community food production suggests that better understanding production practices offers a rich and valuable arena for further action research to support and learn from this work.

Another, much smaller body of research considers the processes and practices of CBOs that support community food production, especially in community gardens. Some research has focused on operational processes and technical lessons for founding and managing community gardens through interviews and/or surveys with stakeholders across multiple gardens (e.g., Armstrong, 2000; Drake & Lawson, 2015; Saldivar-Tanaka & Krasny, 2004) or via case studies with individual community gardens (e.g., Thrasher, 2016).

Most relevant to the research question in this paper, about how and why food justice CBOs in the U.S. support community food production, are the few case studies with CBOs and community garden projects that focus on CBOs' goals and how they work to reach them. Case studies with six urban community gardens in Seattle suggest that, if intentionally designed for these ends, such projects can promote individual empowerment, community connectedness, and regional networking (Hou, Johnson, & Lawson, 2009). The Five Borough Farm action and research project has been cataloguing these and other outcomes—including those in health, harvest, and ecosystem services catagories reviewed above—from urban agriculture projects in New York City (Altman et al., 2014; Cohen, Reynolds, & Sanghvi, 2012). Finally, three case studies with three different food justice CBOs document anti-oppression ideology that underpins each CBO's mission and drives its activities. These studies were with the People's Grocery in Oakland, California (Sbicca, 2012), Community Services Unlimited in Los Angeles, California (Broad, 2016) and the Detroit Black Community Food Security Network in Michigan (White, 2011). Each of these organizations intentionally frames how local histories of oppression shape their communities. Each also uses food, including food production, as a way to help community members provide for themselves while connecting with one another and growing power in order to reshape their communities.

The research presented here substantiates and expands upon this literature by being the first to characterize the activities, strategies, and drivers of multiple U.S.-based food justice CBOs in fostering hyperlocal, community-based food production.

Methods

Results in this paper derive from research conducted as part of the Food Dignity action, research and education project. Food Dignity was funded over five years with nearly US$5 million from the USDA's National Institute of Food and Agriculture. It began in 2011 as a partnership between the University of Wyoming, Cornell University, and five food justice CBOs (BMA, FLV, WCP, ENYF! and DDF). When sketching the design for this project in 2010, I invited each of these CBOs to collaborate. I issued these invitations with an intent to maximize variation in geographic, institutional, historical, and community contexts, while also attending to practical travel considerations. Each accepted my invitation and then participated in co-designing our action research. Table 1 provides introductory information about each CBO.

I derived the findings in this paper about CBO food production activities and goals by applying a production-specific lens to the extensive case study data and development that anchor our research methods in Food Dignity.

The methods and data I used in this research are:

- *Extensively using conventional case study approaches* (Yin, 2009), including conducting about 200 stakeholder interviews, extensive insider and outsider participation and observation, and primary and secondary document analysis. These overall methods are described in detail elsewhere (Porter, 2018a). Having frequently read and re-read these materials over the course of the

Table 1. Summary Characteristics of the Food Justice CBO Partners[a] in Food Dignity

	Dig Deep Farms (DDF)	Blue Mountain Associates, Inc. (BMA)	Feeding Laramie Valley (FLV)	Whole Community Project (WCP)	East New York Farms! (ENYF!)
Umbrella 501(c)(3) organization	Deputy Sherriff's Activities League (DSAL)	BMA is incorporated directly	Action Resources International (ARI)	Cornell Cooperative Extension of Tompkins County	United Community Centers
Location	Ashland/Cherryland areas, Alameda County, CA	Ft. Washakie, Wind River Indian Reservation, WY	Laramie, Albany County, WY	Ithaca, Tompkins County, NY	East New York, Brooklyn, NY
Founding year	2010	2003; in Wind River since 2008, started food work in 2010	2009	2006 (ended in 2016)	1998
# year-round employees in early 2015[b]	Approx. 10, some with shared DSAL responsibilities	2 part-time	2 full-time (including ARI responsibilities) + varying part time	1 full-time	7 full-time
Main co-investigators	Capt. Marty Neideffer, Hilary Bass, Mike Silva, Pac Rucker, Rashaad Butler (& Hank Herrera until 2013)	Dr. Virginia Sutter, Jim Sutter, Etheleen Potter	Gayle Woodsum, Lina Dunning, Reece Owens	E. Jemila Sequeira, Damon Brangman, Monica Arambulo	Sarita Daftary-Steel, Daryl Marshall, David Vigil
Mission	Provide access to healthy food and jobs in our community where access to both has historically been limited	Provide quality programming and professional expertise to help meet the health and human services needs of the rural and urban communities of Indian Country	Community based, designed and led work for sustainable food security and an equitable, just and sustainable food system in Albany County, Wyoming (vision)	Facilitate a collaborative effort of organizations and individuals to support the health and well-being of everyone in Tompkins County; be a place of dialog and action for all the communities that make up Tompkins County	Organize youth and adults to address food justice in our community by promoting local sustainable agriculture and community-led economic development
Website	http://digdeepfarms.com	http://bluemountainassociates.com	http://feedinglaramievalley.org	https://www.fooddignity.org/whole-community-project	http://eastnewyorkfarms.org

[a] The other partners, in addition to these five CBOs, were the University of Wyoming, Cornell University, and Action Resources International. Ithaca College and the University of California, Davis, also collaborated.

[b] The CBOs engage, hire, support, and/or mentor additional people as volunteers, interns, temporary workers, seasonal employees, and project-specific leaders. For example, ENYF! mentors 20 to 30 youth interns each year, BMA engages summer market managers, FLV hires interns and VISTA associates, DDF supervises interns placed via criminal justice partnerships, and WCP supported (financially and otherwise) multiple community leaders in specific projects each year.

project, I started this research by sketching lists of the production-related activities that each CBO does. I then re-read my own and other co-investigators' field notes; interview transcripts that contained any variation of the word "garden," "farm," or "product"; and annual reports supplied by each CBO about their Food Dignity–related work, to catalogue and characterize the scope of these activities. Finally, I grouped activities by type, yielding the eight categories presented in the results.

- *Consulting the Food Dignity Collaborative Pathway Models* that were developed with each CBO. Collaborative pathway modeling is a form of participatory inductive program modeling for surfacing and articulating theories of change underlying a CBO's programs and change initiatives (Hargraves & Denning, 2018, in this issue). The resulting models present the CBOs' activities and link each activity, via a spaghetti-like web of arrows, to short-, medium-, and long-term outcomes. Pathway model contents correspond to columns in conventional logic models but add detailed connectivity between activities and outcomes. The five CBO collaborative pathway models are available online (Hargraves & Denning, 2017). In the analysis for this paper, I simply used the models as designed, tying each production activity to the goals each CBO has for it by tracing the arrows.

- *Relistening to first-person digital stories*. During a 2015 workshop with the organization now called StoryCenter, 12 community partners and four academic partners each produced a roughly two-minute story about her or his journey to food justice and Food Dignity work. The full playlist is available online (Food Dignity, 2015). For this research, I relistened to the 12 community investigator-authored stories, and reread transcripts of them, to identify themes of food production activities and outcomes.

- *Reviewing records of minigrants that the CBOs awarded* to members of their communities. Part of the scope of work and subaward that each CBO led and managed as part of the Food Dignity partnership was to develop, implement, support, and track a minigrant program that supported community member proposals for improving their local food system. At the time of this study, I had up-to-date records of 86 minigrant projects awarded by the five CBOs, representing a total of just over US$110,000 in awards. I re-reviewed these to identify which were related to community food production and then to characterize the focus of each production-related project. The results below include summaries of what kinds of production projects CBOs supported with these minigrant funds.

The results reported below emerged from these multiple qualitative methods, re-applied or analyzed through the narrow lenses of characterizing the food production activities and goals of the five CBOs.

Results

Each of the five CBOs (BMA, FLV, WCP, ENYF, and DDF) has heavily invested in supporting community food production. For example, 65% of funded minigrant projects (i.e., 56 of the 86 analyzed, and approximately as a percentage of total dollars awarded) were invested in food production, including four production-related education projects. The average production-related award was US$1,339. Amounts ranged from US$156 for a beekeeping education project in Ithaca, New York, to US$4,299 for materials and labor to convert a large home yard into a production garden and then grow produce for the Laramie community.

This section summarizes the main production and production-support activities led by each CBO, which I characterize in eight categories. Five are relatively discrete food production strategies: producing vegetables and fruits, supporting community gardening, supporting individual gardeners, supporting farmers, and supporting other kinds of food production. Of these five, growing food is the most resource-intensive in terms of the quantity of labor, land, and material inputs required. The other three are crosscutting strategies that underpin all the work the CBOs do: connecting, mentoring, and networking; promoting food justice; and integrating all activities around community and people (as opposed to around food and food systems). The leaders of the CBOs invest much of their time in this complex trio of strategies, which demand great skill, expertise, and practical wisdom.

In each category below, I describe the production work led by each CBO roughly in order of how centrally that work features in the

organization's activities, with the most prominent work mentioned first. I use present tense whenever the activities are ongoing at the time of this writing.

In the final section of these results, I characterize these eight activities, especially the three crosscutting ones, in the context of the CBOs' long-term goals.

1. Producing vegetables and fruits to sell and share

All but one of the five CBOs have produced vegetables and fruits to sell or to share in their communities. Three (DDF, ENYF, and FLV) systematically grow food. As outlined later, the CBOs engage in three crosscutting activities to garner, grow, and develop the substantial resources required to produce food. This especially includes gaining access to land (usually public) at low or no ongoing direct cost to the organization.

Producing and locally selling food is **DDF**'s core activity. Of the five CBOs participating in Food Dignity, DDF manages by far the most production land and, based in California, enjoys the longest growing season. Since its founding in 2010 with several small and scattered sites, DDF has expanded and consolidated into 8 acres (3 hectares) on three farms: the small and original Firehouse Farm near their offices in unincorporated Cherryland/Ashland, the nearby Pacific Apparel lot with raised beds and a greenhouse, and City View Farm. City View is within the gates of a juvenile detention facility in San Leandro. After resolving multiyear struggles with sheep getting into the fields, water supplies, and hillside planting, City View is now DDF's biggest farm and includes a successful orchard. DDF sells its harvests via a community supported agriculture operation (CSA) and, as of 2014, at DDF farm stands.

ENYF!'s first public activity was a farm and garden stand in 1998. By 2000, it had converted a half-acre (0.2 ha) lot next to its host organization's building (United Community Centers, or UCC) into the UCC Youth Farm. UCC staff and community members had been slowly cleaning up the lot since 1995. Harvests are sold at the ENYF! Saturday market and Wednesday farm stand. In 2015, in collaboration with a local public housing community, ENYF! also co-founded the half-acre Pink Houses Community Farm that shares harvests with residents.

FLV, in part to expand supply for the fresh-food sharing program it had started in 2009, first began growing food in community garden plots and private home yards of supportive community members in 2011. Once they leased their first office space in a historic Laramie city park building in 2013, FLV also planted 550 ft^2 (51 m^2) around the building; it built a hoop house in 2014. In 2016, the organization also began growing food at the Feeding Laramie Valley Farm in a one-acre (0.4 ha) field, including another new hoop house, at the local county fairgrounds.

BMA became directly involved in food-related work in 2010, including by piloting a fruit tree orchard and hoop house on Tribal farmland with support from a specialty crops grant. However, the former succumbed to loose cattle (mirroring herbivore challenges DDF faced at City View before installing an electric fence) and the latter to high winds.

BMA and FLV both currently seek to establish multi-acre community farms, and DDF continues to expand production areas. Threats to land access has meant that ENYF! has focused on protectingits existing production land in East New York, in addition to its expansion work, such as with the Pink Houses collaboration. **WCP**, having had only one staff member year-round, is the one CBO of the five that did not produce food directly.

2. Supporting community gardening

Four of the five CBOs (all but DDF) have been heavily involved in founding and/or supporting community gardens where individuals from the area can grow their own food at very low or even no cost, share growing skills and knowledge, and create and maintain green spaces in their neighborhoods. For example, 20 of the 56 minigrants awarded for food production projects went to support community-based gardening work, including home-yard–based gardens for community use, a demonstration garden, and several season-extension investments. In addition, as described in this and the next section, some of the CBOs provide formal opportunities for gardeners to share or sell their harvests.

ENYF! founded Hands & Heart Garden in 2006 on an abandoned lot, with support from the New York City housing department and the GreenThumb program of the city parks department. Today, with continued support from ENYF, 30 gardeners grow food there, mostly for their households and in part to supply diverse produce options at ENYF! market stands. Gardeners whom ENYF! supports are encouraged to sell some of their harvest at the market if they have enough. To facilitate this, ENYF! youth interns staff a "Shared Table" where growers can sell their harvests without needing to host their own stand. Gardeners can even invite the interns to harvest and deliver produce to the market on their behalf. Depending on their labor contributions, 40–80% of the proceeds return to the grower. Since 2013, ENYF! has also been experimenting with a new growing space with several of its most prolific growers to supply the market and for senior growers to mentor youth. ENYF! also collaborates with organizers of 25 of the neighborhood's other community gardens (of which East New York has more than any other New York City neighborhood). This has included providing technical and material support and assisting some individual gardeners.

Starting in 2009, **WCP** played the central role in founding the Gardens 4 Humanity network of community members aiming to promote empowerment through urban gardening and local farm connections. Projects have included support for communal growing spaces at a community center and at a church, and help with founding new community gardens with three public housing complexes. WCP also extensively supported one community leader in establishing an intergenerational gardening project at an Ithaca, NY, senior housing complex and another leader in expanding a community garden in a rural village near Ithaca (Dryden, NY).

In Laramie, in 2010, **FLV** helped Laramie Rivers Conservation District to develop the first community garden in a city-run park. FLV then managed the garden for its first seven years, with 16 member gardeners. In 2015, FLV also began planning with community members for another city park garden on Laramie's west side, which is underserved with public infrastructure and does not have a grocery store. It expects to break ground soon.

DDF started as an idea discussed among a small group of people in 2009, some of whom wanted to focus on gardening. However, inspired in part by Van Jones's work (2009), DDF ended up focusing on professional farming instead as a job-creation and crime-prevention strategy.

In the dry and highly rural communities of Wind River Indian Reservation, several community garden projects have been founded, floundered, and failed over the years. **BMA** supported one community leader with a minigrant in an attempt to resurrect one of those projects in 2011, but this was unsuccessful due to both water access and travel distance challenges. BMA has focused its gardening support on home gardeners, taking advantage of the fact that most families have plenty of land and sufficient water access at home, often with extended families able to provide the mix of labor and expertise needed to garden.

3. Supporting individual gardeners

The same four CBOs (BMA, FLV, ENYF, and WCP) have also invested heavily in supporting individual gardeners in their communities, beyond their community garden–level work, including by providing supplies, technical assistance, labor assistance, and education. For example, 20 of the minigrant awards analyzed went to support establishing or expanding home gardens to enable families to self-provision, share with community members, and/or diversify and expand produce supplies at local markets. These ranged from one US$400 minigrant to establish a new small home plot up to a few US$2,000 awards made for establishing large gardens (e.g., quarter acre or 0.10 ha) and greenhouses.

Since 2011, with minigrants supported via Food Dignity and then as part of an expanding food justice research partnership with me, **BMA** has provided 70 families with the supplies, labor, and technical support to create and grow new home food gardens. Between 2018 and 2020, they plan to support another 70 families in installing new home gardens as part of a project we call Growing Resilience, funded by the National Institutes of Health (Blue Mountain Associates et al.,

2017). Similarly, **FLV** has fully supported about 35 households in Laramie in establishing new home food gardens. FLV has also helped dozens more with supplies, technical advice, and moral support provided through home visits (including me, when I was about to give up on trying to make anything grow at an elevation of 7200 ft. (2,195 m) in Wyoming) and hundreds more in public workshops and events that it organizes. In the nearly 20 years since its founding, **ENYF!** increasingly has supported home gardeners by hosting community-led workshops, sharing supplies such as trellising nets and cover crop seeds, and pairing ENYF! youth interns with older gardeners to share labor, skills, and stories. ENYF! supports about 20 home gardeners each year with the internship-matching and 150 to 200 more with workshops and material-sharing (in addition to supporting gardeners tending individual plots at community gardens). **WCP** supported improving access to gardening in communities struggling with low incomes, largely via the Gardens 4 Health network mentioned above. This network has continued even though WCP has not. In addition to supporting development of community gardens at the public housing locations mentioned earlier, the network has helped several people create gardens at their homes. **DDF**, as described above, focuses on community farming rather than gardening. However, it does also aim to foster home food production via example and through some public education activities, as outlined in its collaborative pathway model (DDF, Neideffer, Hargraves, & Denning, 2017).

4. Supporting local farmers

WCP was the only one of the five CBOs who devoted substantial time to farmer support. After expanding from a project focused on childhood obesity prevention to one more broadly focused on food justice in 2008, WCP focused on helping to diversify who has opportunities to farm. This work included supporting local farmers of color, including at Roots Rising Farm and Rocky Acres Community Farm, and collaborating with Groundswell, a local farm incubator. This was part of an explicit goal in WCP's collaborative pathway model of "increased farming and food production by people of color and people of limited resources" (WCP, Sequeira, Hargraves & Denning, 2017). WCP was the only CBO to award a minigrant to a vegetable farm, providing US$2,000 to build a greenhouse for both production and community education activities.

The other four CBOs support local farms by purchasing from them or by providing sales venues by hosting farmers markets. **DDF** supplements its CSA shares and farm-stand offerings with purchases from other local, organic farms as needed through a distributor called Veritable Vegetable. **FLV** fundraises to buy from local producers, in addition to taking donations, to supply its FLV Shares distribution programs. **ENYF!** and **BMA** host farmers markets with low farmer vendor fees (US$40 and US$6 per market, respectively, in 2016, and half that for gardeners and other smaller vendors) so that local and regional producers can sell their harvests in those communities.

5. Supporting other kinds of community food production

As a much less central activity, the CBOs have supported community members in producing food beyond fruits and vegetables. This has been mainly through providing financial support via minigrants. CBOs made nine awards in this area, almost entirely to support bee or poultry husbandry. CBOs have also provided avenues to sell resulting food products, such as honey and eggs, and/or helped with other kinds of food production via technical support and education. Unlike in the previous four sections, the activities described here are a nearly complete catalogue rather than an array of representative examples.

BMA helped a family expand its flock of chickens to yield eggs beyond its family members' own consumption needs to sell at the Tribal farmers market. **FLV** enabled a household to improve and expand the conditions for a small turkey-raising operation. **ENYF!** has supported a local beekeeper in not only expanding her production but, with minigrant funding, in teaching others how to establish their own hives and providing community access to a honey extractor. East New Yorkers can also sell their honey and other homemade value-added products (that are legal for public sale under health codes), such as hot sauces,

at the intern-staffed Shared Table mentioned above. **DDF** has experimented in the past with honey production, and once briefly considered trying goat husbandry, although it has decided to focus on produce production for now. DDF has also been exploring options for making value-added products from its fruit and vegetable harvests and for catering. **WCP**, in activities entwined with the mentoring described below, provided market-research support for a local farmer to expand his microbusiness in selling juices made from his harvests.

6. Connecting (networking, convening and mentoring)

Leaders in **all five CBOs** invested substantial time in foundational strategic activities that few funders pay for, measure, or count: networking, convening, and mentoring. These connecting activities enable all their other work, including—although not only—when they result in formal partnerships and collaborations. For the smallest of the CBOs, particularly WCP, the dominant approach for effecting food system change is helping to enable others to lead programs and projects.

In the case of community food production, networking is particularly important to securing and keeping access to land; every instance of securing land for food production for all five CBOs resulted from their broad, intentional, and constant networking. For example, when **DDF** leaders invited an academic Food Dignity co-investigator to help them document and characterize their network, they provided her a list of 150 individual contacts across over 60 organizations with whom they had collaborated during their first five years of operation. These networks are how they obtained access to the 8 acres of land for their production operations.

Mentoring work includes **ENYF!'s** long-standing youth internship program (Daftary-Steel, 2015) and **FLV**'s internship programs, which support the CBOs' production capacity while passing on expertise in growing produce. **BMA** convenes the gardeners it supports to share experience and seeds. **WCP** invested heavily in mentoring and professional development with grassroots community leaders, including, for example, by supporting a community garden organizer in developing her permaculture expertise. **DDF** joined a regional farmer field school for its farmers' professional development (Meek et al., 2017).

This constant and intentional connecting has also sometimes fostered food production beyond securing land access and skill development. For example, in August 2009, **WCP** convened several community leaders to discuss a funding opportunity for racial healing and equity efforts. Though the group eventually decided not to apply, at that meeting two of the participants met for the first time and discovered that they shared a dream of helping to connect youth to farming and—across race, class, and geographic lines—to one another. By 2010, in collaboration with many others and with further support from WCP, they founded the Youth Farm Project. The Youth Farm began in partnership with local family farms and now manages its own 10 acres (4 ha), with half in production each season.

7. Promoting (advocating; reframing; and documenting, generating, and sharing knowledge)

As with the connecting activities, leaders in **all five CBOs** also invest heavily in activities to generate, maintain, and expand public support, including policy and funder support, for equitable food systems and social equity. As with the connecting activities described above, promoting activities support and enable all the others, including securing access to land for food production.

Some of this has focused on documenting processes and outcomes of their current activities, such as producing the pathway models used in this research, quantifying food harvests, and—in new projects in Wyoming—assessing health impacts of food gardening. Some has been via education, with all five CBOs having hosted formal visiting groups, such as from schools and universities, and also scores of informal visitors, in addition to hosting or cohosting workshops, film nights, celebration events, and other food justice gatherings. Some of this work has been documenting the food (in)justice histories in their communities and using multiple forms of disseminating that knowledge and framing. For example, see the redlining

discussion in (Daftary-Steel & Gervais, 2015), digital stories produced by several CBO-based Food Dignity co-investigators (Brangman, 2015; Neideffer, 2015; Sequeira, 2015), and comments by other Food Dignity partners in a minidocumentary about producing those stories (Luotto, 2015).

To illustrate the breadth of the CBOs' promotional activities, here is an additional example from each. One reason **ENYF!** agreed to partner in the Food Dignity project was its interest in documenting food production quantities. They wanted to collect this data to illustrate one of the many ways their work benefits East New York. As land pressures have increased, they also have joined and helped form increasingly formal advocacy partnerships, including the Coalition for Community Advancement in 2015. **FLV** has worked extensively with local government to secure public acres for scaling up community food production, using results from our harvest quantification research (Conk & Porter, 2016) to prove that significant production is possible even in Laramie's short growing season. This data was helpful in securing the acre for the Feeding Laramie Valley farm. In a broader policy example, the director of **WCP** joined in discussions to form a county food policy council by convening a series of Community Food Security Dialogues in 2010 where the idea first gained traction. In 2015, she was elected to serve as a member of the first council. **DDF**, as a local government CBO collaboration, has reframed Alameda County criminal justice as crime prevention and restorative justice work, with job creation through food production being one strategy. Its work earned DDF the California State Association of Counties innovation award in 2014. **BMA**, the first Tribal-led CBO doing food work in Wind River, has put food sovereignty on the map with the Northern Arapaho and Eastern Shoshone nations, both with the Tribal governments and the people.

8. Integrating food system work around people and community (not around food)

As an academic who studies food systems, I tend to use a lens that focuses on food, including with the food production analysis in this paper. However, the **leaders of all five CBOs** center their focus on people and communities, not food, and they each integrate their food system work around that. For example, the way all five organizations articulate the historical and current systemic contexts of current food injustice, as described above, put community at the center of their work, rather than food.

In another example of this people-rather-than-food focus, **FLV** names one arm of its work *FLV Shares*, where the goal is to enable people to "share the best of what southeastern Wyoming has to offer" with one another, whether that be fresh food, land for food production, knowledge, money, mentorship, and/or labor. In other words, the organizing principle for these activities is sharing within the community, rather than food. Further illustrations of this integration around investing in community are embedded in the final results section below, which also outlines *why* these five food justice CBOs support community food production in these eight ways.

Why grow our own? Transformation

These CBOs support community-based food production in these eight ways, especially the last three crosscutting ways, to achieve not only food security, but also sovereignty (La Via Campesina, 2010). This includes striving for individual and collective health, power, pride, strength, and sense of belonging. For example, long-term goals that the CBOs articulate in their collaborative pathway models include "reclaiming, restoring, and developing food sovereignty on our reservation" (BMA, Sutter, Hargraves, & Denning, 2017); a "stronger, healthier, more just, and sustainable community" (ENYF, Vigil, Hargraves, & Denning, 2017); "increased collaborative efforts and leadership development in the community, strengthened community fabric" (DDF et al., 2017); "increased representation and power of underrepresented groups in local food system decision-making" (WCP et al., 2017); and "increased community connections, sense of belonging, worth and possibility" (FLV, Woodsum, Hargraves, & Denning, 2017). A transformative short-term goal named for FLV Shares activities mentioned above is "softening lines between giver and receiver" (FLV, Woodsum, Hargraves, & Denning, 2017).

In two of the communities, the CBOs support community food production to restore and share culturally and spiritually important foods. BMA in Wind River Indian Reservation is helping community members restore traditional varieties of Indian corn and re-establish chokecherries. As noted in their collaborative pathway model, BMA is intentionally supporting gardeners so that "traditional foods and ways are brought into current community life" (BMA et al., 2017). Gardeners supported by ENYF! in Brooklyn grow culturally important foods such as callaloo, long beans, and bitter gourd. As their pathway model notes, this forms part of that CBO's intentional support to increase "production of specialty crops valued by diverse nationalities in East New York" (ENYF! et al., 2017).

All five CBOs partners support food production to "grow" people and community. Both WCP and ENYF! intentionally build intergenerational, mutually beneficial relationships by matching teens with local elders who provide mentorship while receiving help with their gardening (Brangman, 2017; Daftary-Steel & Gervais, 2015). FLV works with food-insecure communities who define their fresh food access needs and help FLV design their programs for growing, buying, and, accepting donations of local, fresh fruits and vegetables. This provides access to, as FLV founder Gayle Woodsum puts it, "the best of what we have," while demonstrating a dignity-promoting ethic of "we" as an alternative to a charity stance of "we" give to "them" (FLV et al., 2017; see also Poppendieck, 1998). One of DDF's long-term goals is to "create hope, break bonds of dependency, build self-reliance (transformed individual lives)" (DDF et al., 2017). As midterm outcomes, BMA strives for "increased friendships and socializing between people on and off the reservation," (BMA et. al, 2017) and WCP for "emergence of new community food system leaders from underrepresented communities" (WCP et al., 2017).

However, frontline leaders in this CBO work also know that home and community-scale food production offers only one, important but insufficient, strategy for healing and transformation in the face of systemic disinvestments, poverty, and racism (Daftary-Steel, Herrera, & Porter, 2016). For example, the community organizer who led WCP from 2008 to 2016 shares the story of her brother's declining health and early death in her digital story:

> He had tried to take care of himself. He had been growing veggies on his patio in Brooklyn before it was cool to be sustainable. But trying to live on disability after work-related injury made it impossible for him to eat well, no matter how many tomatoes he produced. (Sequeira, 2015, 1:39–1:58)

Another of the storytellers, a farmer at DDF, tells of growing up in Oakland housing projects with no access to fresh food, then learning to farm in Ashland/Cherryland at DDF and returning to live in the same housing. This farmer (storyteller) notes that he can now share his food production knowledge with his community, but that his Oakland neighborhood still has no access to fresh food (Rucker, 2015).

Both the potential and the limits of individuals producing food on their own are also illustrated in the digital story told by a leader who works with BMA. She describes planting cucumbers for her young nephew, who asked her to make pickles (Potter, 2015). However, since he ate every cucumber fresh as soon as it was ripe on the vine, she had to tell him that meant no homemade pickles that year. He asked, "we can grow some again next year, right, aunty?" She assured him, "Yes, we can" (Potter, 2015).

Discussion

This paper describes how and why five U.S. food justice CBOs support community food production as part of their larger work to improve the equity and sustainability of their local food systems, and to foster health and transformation. Their main activities specific to food production involve both directly producing food—mostly vegetables and some fruits—and supporting others in producing food, especially in home and community gardens. Each CBO also supports local farmers, mostly in minor ways. None produces food directly via animal husbandry, though some have supported

community members who do so. Foraging and gleaning were not part of their activities during the time of the Food Dignity collaboration. As articulated in their collaborative pathway models, all of the CBOs choose and organize their activities with and for their communities.

In addition, all five CBOs have devoted substantial resources to three crosscutting strategies that underpin all the work they do: (1) connecting and mentoring people and organizations; (2) promoting community food systems; and (3) integrating their strategies with community (versus food) at the center. In other words, they do community organizing for social justice. Their production activities are part of social change strategies for reaching transformational goals.

If viewing this social change work within the "warrior, builder and weaver" categories of food system resistance, reconstruction, and connection work outlined by one group of food system activist and scholars (Stevenson, Ruhf, Lezberg, & Clancy, 2007, p. 33), these organizations invest most heavily in building local food alternatives with, by, and for their communities and in local weaving work for strengthening and deepening civic engagement and connectedness. Their explicit "warrior" work is less frequent and tends towards hyperlocal mobilizing to foster or to protect their building work, in particular regarding land access for food production.

Another way of illuminating the social change work of the CBOs is to view it through the food regime and food movement framework developed by Holt-Giménez and Shattuck, which categorizes food system approaches by the politics underlying the work. They outline the range of options from neoliberal or reformist on the "corporate food regime" side, to progressive or radical on the "food movements" side (2011, p. 117). In this framework, the long-term goals and the organizing activities of the CBOs range from progressive to radical in striving for food justice and food sovereignty.

Because the empirical literature about the work of CBO support for community food production is so thin, this paper adds substantially to it by simply categorizing and characterizing activities and goals in CBOs' production work. These findings are consistent with the themes of empowerment, connectedness, and networking found in Seattle community garden projects, for example (Hou, Johnson, & Lawson, 2009), and with the anti-oppression approaches of the food justice CBOs People's Grocery, Community Services Unlimited, and Detroit Black Community Food Security Network (Broad, 2016; Sbicca, 2012; White, 2011).

Two implications of this work include: (1) in spite of having limited and mostly insecure resources, these CBOs lead and facilitate a wide range of food system activities in food production and beyond in their communities; and (2) since such CBOs are leading localization of food systems in the U.S., conducting more collaborative research to help understand, learn from, evaluate, and inform their work is important for fostering community food justice and food security.

In addition, less conclusively, another implication is that a food-focused lens that academics tend to apply (as I do in this paper to examine production) in understanding or assessing CBO food justice work may unduly limit the depth and accuracy of the view if used alone. In particular, it risks underestimating the core but less visible crosscutting strategies these CBOs take to transform their communities through food system work. If funders, evaluators, and other external stakeholders in these transformations do not see this organizing work, they will neither credit nor support it. Yet this crosscutting work in connecting, promoting, and integrating underpins and enables the more visible CBO activities, such as producing food. This is obvious to the CBO leaders, but often less so to outsiders. Consider, for example, a reflection from a community food system funder who was at first impatient in the face of what she realized was "largely invisible development" of relationships, networks, and mentoring, noting that she realized, "it takes time to develop this web—two to three years minimum and unless it is supported it grows weaker" (Feenstra, 2002, pp. 104–105).

Future Research

Three important research questions within the frame of CBO support for community food production that this research does *not* address include: (1) what are the outcomes of these CBO

production support activities? (2) how and how much are these outcomes distributed within a community? And (3) how much do the CBO support strategies and the community contexts shape these outcomes?

For example, in outcomes, what impacts does gardening have on food security? The quality of the evidence cited in the introduction is low, and none of the nearly two dozen garden studies included in a meta-analysis of quantitative health results included food security outcomes (Soga et al., 2017). This is a question we aim to help answer in the five-year trial with BMA and others, once it concludes in 2020 (Blue Mountain Associates et. al., 2017). I also outline outcomes from home and community gardening that we found in Food Dignity and related action research elsewhere in this issue (Porter, 2018b).

In distribution of outcomes, who benefits most from these production support activities? When I sent drafts of this paper to Food Dignity collaborators for review, Sequeira, the former director of WCP, noted:

> I suggest that you elaborate more on how systemic racism and economic disadvantage thwart the possible advantages gardening can have in the lives of low-income communities and communities of color. Such a discussion could be framed within the context of limited choices for low-income households to garden —limited availability of environmentally safe places to grow, restrictions of the use of water needed to garden, limited educational venues for people to conveniently access resources, support and technical help and of course, the lack of policies that allocate safe and unused land for community use (e.g., land trusts). (E. J. Sequeira, personal communication, January 6, 2017)

In the literature, results from extensive household survey data in Ohio underline Sequeira's observations about space and income constraints creating barriers to home gardening (Schupp, Som Castellano, Sharp, & Bean, 2016). The extensive home and community gardening support that four of the five CBO partners in Food Dignity provide aim to help overcome both barriers, including with minigrants and with the full financial and technical support that FLV and BMA have been able to offer in the gardens-for-health trials that emerged as a next step from the Food Dignity collaboration. Also, all five organizations work intentionally to reduce disparities. However, the research reported here does not assess these important questions of distribution of benefits (Hallsworth & Wong, 2015) nor the classist and racist contexts of the CBOs' work (Hilchey, 2015).

Finally, how can the reach and the outcomes of such food justice–oriented community food production work best be supported? And what are its limits? (Hallsworth & Wong, 2013). The growing body of evidence that supports that food gardening offers substantial yields of multiple kinds, while empowering consumers to also be producers, suggests that their work deserves more explicit public policy and technical support. The CBOs investing in increasing community food production in community farms, most notably FLV, BMA, and DDF, are interested in conducting future action research to support and inform that work. In addition, supporting and assessing outcomes from the crosscutting, community-organizing strategies employed by the CBOs and assessing their impacts on outcomes—as opposed to outcomes from programs that narrowly focus on direct production activities—is an arena ripe for further research. We could not assess this in our work because all five CBO partners in Food Dignity did take such organizing approaches.

Conclusion

The community-based food production activities of these five CBOs focused mostly on producing vegetables and fruits directly for sharing or selling locally and on supporting community gardens and individual gardeners. To a lesser extent, they were involved in supporting other forms of food production, such as honey, eggs, or added-value processing, and in supporting local farmers. Using community organizing strategies, they connect, promote, and integrate all of the production and other food justice work they do to reach transformational goals of community-led food security, public health, and equity.

The three crosscutting activities by each CBO—connecting people and organizations, promoting community food systems, and integrating their activities with community (as opposed to food) at the center—feature deeply and broadly in all aspects of their work. The foundational and lynchpin roles of these activities in enabling production and other direct food system work became clear to outsider partners only through years of this action-research partnership, aided by the collaborative pathway modeling process. We hypothesize that making direct investments in these crosscutting activities will translate into multiplying the range and reach of outcomes in the CBOs' hyperlocal community food production and other food system work. We and others should support and evaluate such strategies in future action research collaborations. Collaborative pathway modelling offers a framework for grounding such evaluation in the specificity, integrated complexity, and comprehensiveness of the goals of the work of these CBOs (Hargraves & Denning, 2018, in this issue).

In her digital story mentioned above, Potter assured her nephew that they could grow more cucumbers next year. The premise and the promise of the CBO-led food production work characterized here is that the more extensive and integrated our "we" is, then the more we can grow this year, next year, and for generations to come. Together we could all, perhaps, eat fresh cucumbers now and have pickles for later, too.

Acknowledgments

I would like to thank the action research teams of Food Dignity and Growing Resilience, including gardener-researchers of Team GROW and Elisabeth "Livy" Lewis, and especially the community-based researchers and leaders at each CBO who reviewed my use of our work here. Thanks also to Monica Hargraves and Cecilia Denning for their Collaborative Pathway Model work and for reviewing and advising on my use of those here.

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Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

What gardens grow: Outcomes from home and community gardens supported by community-based food justice organizations

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Submitted March 30, 2017 / Revised July 24, September 11, and November 13, 2017 / Accepted November 15, 2017 / Published online June 18, 2018

Citation: Porter, C. M. (2018). Growing our own: Characterizing food-production strategies with five U.S. community-based food justice organizations. *Journal of Agriculture, Food Systems, and Community Development*, *8*(Suppl. 1), 187–205. https://doi.org/10.5304/jafscd.2018.08A.002

Abstract

Supporting home and community gardening is a core activity of many community-based organizations (CBOs) that are leading the food justice movement in the U.S. Using mixed methods across multiple action-research studies with five food justice CBOs, this paper documents myriad layers of benefits that gardening yields.

Our participatory methods included conducting extensive case studies with five CBOs over five years; quantifying food harvests with 33 gardeners in Laramie, Wyoming, and surveying them about other gardening outcomes (20 responded); and conducting feasibility studies for assessing health impacts of gardening with two of the five CBOs, both in Wyoming.

Analyses of these diverse data yielded four categories of gardening benefits: (1) improving health; (2) producing quality food in nutritionally meaningful quantities; (3) providing cultural services; and (4) fostering healing and transformation.

Examining these results together illustrates a breadth of health, food, and cultural ecosystem

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Funding Disclosure

Food Dignity (http://www.fooddignity.org) is supported by Agriculture and Food Research Initiative Competitive Grant no. 2011-68004-30074 from the USDA National Institute of Food and Agriculture. The Growing Resilience pilots are supported by grants from the National Institute of General Medical Sciences (8 P20 GM103432-12) from the National Institutes of Health. The full Growing Resilience project (http://www.growingresilience.org) is supported by the National Heart Lung and Blood Institute and the National Institute of General Medical Sciences (R01 HL126666-01) from the National Institutes of Health.

services, and social change yields of home and community food gardening in these communities. It also points to the need to support CBOs in enabling household food production and to future research questions about what CBO strategies most enhance access to and benefits of gardening, especially in communities most hurt by racism and/or insufficient access to fresh food.

Keywords
Home Gardens; Community Gardens; Public Health; Community Food Systems; Community Food Production; Food Justice; Community-based Organizations (CBOs); Community-based Participatory Research (CBPR); Food Dignity

Introduction

Food gardening has become a mainstay of community-based food security, food justice and even obesity prevention initiatives in the United States (Gatto, Martinez, Spruijt-Metz, & Davis, 2017; Gonzalez, Potteiger, Bellows, Weissman, & Mees, 2016; Lawson, 2005; Saul & Curtis, 2013; Zanko, Hill, Estabrooks, Niewolny, & Zoellner, 2014). In addition, gardening has becoming increasingly popular overall in the U.S. For example, the Five Borough Farm project in New York City documented 700 community food gardens and farms in the city in 2011; then, in a second canvas three years later, they identified over 900 (Altman et al., 2014). Similarly, a National Gardening Association study found that household gardening increased by 17% over five years (2008–2013), including by 38% among lower-income households (≤US$35,000). Also, given the 63% increase in gardening among millennials, public interest in gardening seems unlikely to abate soon (National Gardening Association, 2014).

Given that a growing body of research suggests food gardening may offer a partial solution towards tackling a few of our most wicked social problems in the U.S.—including chronic disease, food insecurity, socioeconomic inequity, and shrinking social ties—this growth of food gardening in the U.S. is arguably a welcome trend and one potentially worthy of public support and investment. This paper briefly reviews the evidence base about the benefits of food gardening. It then shares results from research generated over five years via a wide range of mixed and participatory methods with five U.S. food-justice oriented, community-based organizations (CBOs), to answer the following research question: what was the range, quality and quantity of gardening outcomes in these communities, with support from these five CBOs?

As the first study in the U.S. to use multiple methods over multiple years with multiple communities and CBOs to document multiple forms of gardening yields, this research contributes an uniquely rich breadth and depth of data and analysis to the benefits-of-gardening literature.

Literature Review

Growing literature about benefits of home and community gardening suggests that gardening improves health, produces meaningful amounts of food, and provides multiple forms of ecosystem services. A smaller body of work, observational or occasionally theoretical, also considers the role of gardening in social change.

Health

Health benefits of gardening, that have been suggested by a mostly observational body of work, have included increasing fruit and vegetable intake (Alaimo, Packnett, Miles, & Kruger, 2008; Armstrong, 2000; Litt et al., 2011; Meinen, Friese, Wright, & Carrel, 2012; Twiss et al., 2003), fostering physical activity (Armstrong, 2000; Draper & Freedman, 2010; Park, Shoemaker, & Haub, 2009), reducing food insecurity (Baker, Motton, Seiler, Duggan, & Brownson, 2013; Corrigan, 2011; Stroink & Nelson, 2009), improving metal health (Austin, Johnston, & Morgan, 2006; Brown & Jameton, 2000; van den Berg, van Winsum-Westra, de Vries, & van Dillen, 2010; Wakefield, Yeudall, Taron, Reynolds, & Skinner, 2007), improving body mass index (Utter, Denny, & Dyson, 2016; Zick, Smith, Kowaleski-Jones, Uno, & Merrill, 2013), and increasing social capital (Alaimo, Reischl, & Allen, 2010; Armstrong, 2000; Twiss et al., 2003).

The quality of this evidence base is mixed. Few studies of health impacts of home and community gardening have control groups and we found none with randomized control groups. However,

evidence should be available by 2022 from three randomized controlled trials in the U.S. that are currently recruiting. One is assessing health impacts of community gardens (University of University of Colorado at Boulder, Michigan State University, Colorado School of Public Health, University of South Carolina, Colorado State University, & Denver Urban Gardens, 2017). Two are assessing home food gardens (University of Wyoming et al., 2016; University of Alabama at Birmingham, Auburn University, & National Cancer Institute, 2016). (Note: the Growing Resilience trial emerged from the feasibility pilot studies reported in this paper.)

In the meantime, a recent meta-analysis of quantitative results from 22 garden studies confirms most of the health outcomes described above (Soga, Gaston, & Yamaura, 2017), with the notable exception of garden impacts on food insecurity, which was not examined in the included studies.

Food

Though the literature above has provided only weak evidence about impacts of gardening on food security, a growing body of harvest quantification research suggests that gardeners harvest nutritionally and economically meaningful amounts of food (Algert, Baameur, & Renvall, 2014; Algert, Diekmann, Renvall, & Gray, 2016; CoDyre, Fraser, & Landman, 2015; Gittleman, Jordan, & Brelsford, 2012; Pourias, Duchemin, & Aubry, 2015; Smith & Harrington, 2014; Vitiello & Nairn, 2009; Vitiello, Nairn, Grisso, & Swistak, 2010). Also, a survey with 66 New York City gardeners found that gardens were the primary or secondary produce source for 90% of respondents who were food insecure (n=19), versus for 71% of the 47 gardeners who were food secure (Gregory, Leslie, & Drinkwater, 2016).

Overall, these findings indicate that it is plausible that successful food gardening would improve food security by provisioning nutritional meaningful quantities of food. Also, obviously, gardening yields a particular kind of food: fruits and vegetables. U.S. adults of all socioeconomic groups eat much less of these foods than recommended (Guenther, Dodd, Reedy, & Krebs-Smith, 2006), and to those struggling with low incomes (and some living in communities predominantly of color report price) availability and quality serve as barriers to consumption (Haynes-Maslow, Parsons, Wheeler, & Leone, 2013; Yeh et al., 2008). Successfully growing produce at home could help overcome some economic and geographic barriers to fresh vegetables or fruits.

Other Ecosystem Services

Gardening provides ecosystem services, that is, benefits that people obtain from ecosystems, such as fiber, water filtering, and enjoyment (Millennium Ecosystem Assessment, 2005). These ecosystem services include "provisioning" benefits, in providing food and health outcomes described above.

Evidence suggests that gardening also yields "regulating" ecosystem services, via increasing climate and water quality, supporting soil formation, fostering nutrient cycling, and sustaining biodiversity (Altman et al., 2014; Calvet-Mir, Gómez-Baggethun, & Reyes-García, 2012; Cohen & Reynolds, 2015; Cohen, Reynolds, & Sanghvi, 2012).

The third set of ecosystem services that gardens provide are cultural (including spiritual), social, and recreational services. Growing food, including culturally relevant foods, has helped some communities maintain cultural connection and continuity (Companion, 2016; Hartwig & Mason, 2016). Several garden studies have found that participating in community gardens especially, has helped to build social capital and connectedness, self-efficacy, and civic engagement (Firth, Maye, & Pearson, 2011; Hartwig & Mason, 2016; Litt et al., 2011; Ober Allen, Alaimo, Elam, & Perry, 2008). For example, one case study with an urban gardening program found that it provided a, "social bridge to build community cohesion" (Gonzalez et al., 2016, p. 107). One scholar, examining the history of gardening in the U.S. and two community garden cases in San Fransico, suggests that such, "organized gardening projects," serve to, "cultivate specific kinds of citizen-subjects" (Pudup, 2008). Pudup's paper points to a fourth category of gardening outcomes, i.e., shaping society and promoting social change work (while also noting that such cultural services are not always inherently positive; see also Glover,

2004). The cultural ecosystem services that gardens yield might be seen as both foundations for and contributions to ways gardening also might foster social change.

Social Change

Organizers and organizations in the U.S. food justice movement (Bradley & Herrera, 2016; Sbicca, 2012) extensively employ home and community gardening as part of anti-oppression and other transformational strategies for creating equity, health, sustainability, and/or food sovereignty (Broad, 2016; White, 2011a, 2011b, 2017; Winne, 2008, 2010). Others have also linked propagating seeds with promoting social change (Follmann & Viehoff, 2015; McKay, 2011; Nettle, 2014). This includes empowerment outcomes identified in case studies with Seattle community gardens (Hou, Johnson, & Lawson, 2009) and the Five Borough Farm action research project documenting benefits of community-based food production for, "making New York City a healthier and more socially connected, economically secure, and environmentally sustainable city" (Cohen, Reynolds, & Sanghvi, 2012, p. 9).

Of the four categories of gardening yields discussed here—health, food, cultural ecosystem services, and social change—social change outcomes are the widest reaching and also the most challenging to systematically identify, attribute, and assess. The aforementioned health, food, and cultural "services" from gardening plausibly enable and contribute to such larger social change. Indeed, in their analysis of case studies with four community garden groups in London, United Kingdom, two scholars find that these organized gardening projects foster, "prefigurative social change," based on a shared practice of gardening rather than on strategic intention, "opening up new possibilities for being, seeing and doing" (Guerlain & Campbell, 2016, p. 220).

The research presented here adds to the garden outcome literature described above by examining results from a group of related studies using multiple research methods to identify and characterize yields from home and community gardening.

Methods

This work originated with Food Dignity, a five-year action-research project about food system sustainability and security strategies employed by five food justice CBOs in the U.S. These CBO partners were Blue Mountain Associates (BMA) on Wind River Indian Reservation; Feeding Laramie Valley (FLV) in Laramie, Wyoming; Whole Community Project (WCP) in Ithaca, New York; East New York Farms! (ENYF) in Brooklyn, New York; and Dig Deep Farms (DDF) in the unincorporated areas of Ashland and Cherryland in the San Francisco Bay area of California.

Results in this paper derive from Food Dignity and other collaborative action-research projects conducted with these five CBOs between 2011 and 2016. As described in more detail below, we used a wide array of methods in three relatively distinct but related research endeavors:

(1) Developing deep case studies, or rigorous stories, with and about the work of each of the five CBOs partners in Food Dignity.
(2) Quantifying garden yields via gardener-researchers weighing every harvest and assessing other forms of outcomes via surveys with the gardeners. This was a sub-project of Food Dignity conducted in partnership with FLV. We called it "Team GROW."
(3) Implementing controlled trial feasibility pilot studies to assess the health impacts of gardens with FLV and BMA. We called these pilots "Growing Resilience."

I was the project director and principal investigator for all of these studies.

Food Dignity Case Study Methods

The main research method in Food Dignity is rigorous storytelling, or deep case studies, to document the context, history, and practices of the five CBO collaborators. Our methods included conventional case study approaches (Yin, 2009). We conducted 150 stakeholder interviews, over five years of insider and outsider participation and observation, and extensive primary and secondary document analysis. We created collaborative

pathway models with each CBO, which illustrate the theories of change underlying a CBO's activities by linking them to expected outcomes (Hargraves & Denning, 2017). We also produced first-person digital stories about our journeys to food justice and Food Dignity work, 12 of which were created by CBO partners (Food Dignity, 2015).

For this research, I sifted back through this enormous data set to identify outcomes from gardening. I coded the five CBO collaborative pathway models and the transcripts of the 12 community-authored digital stories for gardening-related themes, extracting every mention of the word "garden" and its variations for further analysis. I focused particularly on these because they are products in their own right, which CBO partners in Food Dignity have used to codify their work. I also electronically searched for variations on the word "garden" to identify all potentially relevant passages from our collection of interview transcripts and our field notes from participation and observation. I then analyzed these passages for instances of outcomes, desired or achieved, in association with home or community gardening. Ultimately, I grouped these outcomes into the four themes identified in the results section. Food Dignity co-investigators in each of the five CBOs have reviewed and approved the findings reported here.

Team GROW Garden Harvest Measures and Survey

Team GROW (Gardener Researchers of Wyoming) formed a subset of the Food Dignity research with FLV. In 2012, FLV convened five experienced gardeners to ask what garden-related research questions they had. This resulted in the Team GROW endeavor to quantify food production in Laramie home and community garden plots. Between 2012 and 2014, a total of 33 gardening households tending 39 unique plots weighed and recorded each of their garden harvests. Their records included whether they ate, stored, or shared the harvest.

After the pilot year, FLV recruited 31 participants (including three households repeating from 2012) for the 2013 season, actively seeking diversity both in demographics and gardening expertise. In 2014, only gardeners who participated in 2012 and/or 2013 were invited to participate again. Twelve gardeners tending 14 plots measured their harvests again in the 2014 growing season.

In 2015, we also surveyed the gardener-researchers about other outcomes of their gardening. The outcome questions in the survey, listed in Table 1, drew from the garden literature reviewed above and from the input of Team GROW members during annual planning and celebration meetings. We also asked a parallel set of questions about their motivations for gardening. FLV invited all Team GROW gardeners who had participated in any year, whom they could still reach (n=28 out of the 33 households), to take the survey. Twenty responded.

Core results from the harvest data are reported elsewhere (Conk & Porter, 2016). In this study, I provide additional outcome detail from that data and analyze results from the 2015 survey.

Growing Resilience Controlled Trial Feasibility Pilots

By 2012, FLV and BMA had found more community interest in food gardening than they could support with their Food Dignity sub-award funding alone. Building on this interest, the observational literature, and early reports in our case study work about health benefits of gardening, we secured additional funding for a two-site feasibility study to assess health impacts of new home gardens. The research here reports results from these pilots, conducted in 2013. We used a controlled trial design and were guided by a community-university steering committee in each place. We called the pilots *Growing Resilience*.

We recruited 21 households with 29 adult participants total, across the two communities. Nine households with 10 participants were in Laramie, Wyoming, where three people in three households were controls and seven people in six households gardened. In Wind River Indian Reservation, BMA, and tribal health organization, partners recruited 12 households with 19 adults. Eight households were randomized to gardening and four to serve as controls. Thus, in total, one third of the households (14) received garden installation and support from FLV or BMA in 2013. The remaining seven households served as

Table 1. Team GROW Survey Responses to the Question "To what extent does your food gardening actually result in these outcomes (regardless of whether or not they are motivating factors for you)?"

Results below denote the percent of respondents and (number of respondents) for each "extent" rank. Items are listed in decreasing order of respondent ranking (by the sum of "to a moderate extent" or higher answers).

	Not at all	To some extent	To a moderate extent	To a great extent	To a very great extent	*Respondent total #*
Strongest rated outcomes ↑						
I taught my kids about gardening (leave blank if you do not have children at home)	0%	0%	0%	50%	50%	*4*
I felt productive	0%	0%	30%	40%	30%	*20*
I had better quality food	0%	5%	5%	50%	40%	*20*
I grew food that I knew was safe	0%	5%	25%	20%	50%	*20*
I shared food with others	5%	5%	35%	30%	25%	*20*
I experienced leisure or pleasure	5%	5%	15%	30%	45%	*20*
I was more self-sufficient	0%	16%	26%	16%	42%	*19*
I spent time outdoors	0%	10%	20%	35%	35%	*20*
I reduced my stress	10%	10%	25%	20%	35%	*20*
I increased my physical activity	0%	25%	25%	20%	30%	*20*
I improved my health	0%	25%	25%	30%	20%	*20*
I saved money on food	5%	25%	40%	20%	10%	*20*
I met other community members	5%	35%	15%	25%	20%	*20*
I ensured my household had enough to eat	15%	30%	25%	15%	15%	*20*
↓ Weakest rated outcomes						

control households (some of whom received garden support the following year). Each CBO recruited these households from their personal and professional networks among those interested in gardening but who did not have a home or community food garden in the past year.

With each adult participant, we sought to measure height and weight, administer a validated quality-of-life survey that assesses mental and physical health (SF-12® Health Survey version 2), and assess hand strength before gardening began (in May 2013) and then at the tail end of the gardening season (in September). The survey included an open-ended opportunity for comment. We were able to gather complete pre- and post-data with all 10 adult participants in Laramie. In Wind River, we collected pre- and post data-for one control adult and six gardening adults; we have only one data point for the remaining 12 participating adults.[1]

We also held focus groups in late 2013, one in

[1] Based on this experience, we completely redesigned our data-gathering approach in the full-scale Growing Resilience randomized controlled trial currently underway in Wind River Indian Reservation (University of Wyoming et al., 2016). Instead of scheduling data-gathering appointments with participants at their homes, households came to a central data-gathering location, with transportation provided as needed and stipends provided. The project also now includes more substantial partnerships with the tribal health organizations involved than during the feasibility pilot. So far, in our first two years of the full-scale study, we have had excellent participant retention and return rates.

Wyoming and one on the reservation, which included representatives from 12 of the 21 participating households. In each group, one person from the University of Wyoming facilitated the group while another took detailed notes that approximated transcription.

For this study, I coded the open-ended survey responses and the focus group notes for outcomes of gardening. In addition, though the sample sizes were much too small to draw any quantitative conclusions, I share some of the pre- and post-results in an anecdotal way.

Results

By examining the gardening outcome results from the mix of research methods described above, I identified four categories of benefits from food gardening: (1) improving individual health; (2) producing healthy food; (3) providing cultural ecosystem services in recreation, culture and social networks; and (4) fostering healing and transformation.

1. Gardens for health

Results from the research projects described here corroborate the growing evidence base that suggests gardening improves health and wellness for gardeners. For example, in the focus groups and post-season surveys conducted as part of the feasibility pilots on health impacts of gardens, new gardening participants in Laramie and on Wind River Indian Reservation reported four types of health benefits:

- *Reduction in medication use for chronic health issues* (e.g., "My blood pressure went down. I'm taking less meds"; "My doctor took me off my anti-depressants… it really made a difference for my depression and my pain levels… taking fewer painkillers.")
- *Deepened and widened family and social networks* (e.g., "It connected the neighborhood. It became our little mini-community"; "It brought the family closer—everyone wanted to see what was coming from the garden. They'd all be around the kitchen when we were cooking.")
- *Improved emotional health* (e.g., "It gave me routine and a purpose to be outside in the sunshine. It calmed me"; "It's just fun. I put my swing right by the garden.")
- *Improved access to fruits and vegetables* (e.g., "I love fruits and vegetables, but can't afford it… this is something I can afford"; "It provided more fresh stuff for our family… that really helped our diet.")

Quantitatively, while the pilot sample was not even close to being powered to detect significant differences, the Laramie pre- and post-data we gathered with all seven gardening and three control adults *might* possibly indicate the gardeners could *possibly* enjoy better outcomes than controls in BMI, hand strength, and mental health. For example, the three control participants gained an average of 4.67lbs. (2.11kg), with a mean BMI increase of 0.57 kg/m^2. The seven gardeners gained 1.14lbs. (1.52kg) on average, with a 0.2 BMI increase. On the 100-point, 12-item Short Form Health Survey (SF-12) scale for mental health, gardeners improved by seven points on average and controls decreased by one point on average. We have found similar directional (but again, nonsignificant) trends in a second pilot design year with another 10 households in Laramie 2016 (unpublished data), and these results are consistent with the gardens-and-health research reviewed in the introduction. However, our samples were much too small for these numbers to suggest more than the need for further research. We are currently assessing these and other health outcome questions in an RCT with BMA and other partners on Wind River Indian Reservation (Growing Resilience in Wind River Indian Reservation (GR), 2017).

In Team GROW, all 20 gardener-researchers (the Laramie gardeners who had quantified their food harvests) who responded to a survey about the outcomes they experienced from gardening, reported that gardening benefited their health to at least "some extent." (See Table 1 for full survey results about gardening outcomes.) In addition, their top ranked outcome from gardening was "feeling productive."

In addition, community-based coinvestigators and participants in the Food Dignity project have described more systemic and community-level yields of gardening that are related to health. I share these in the healing and transformation section below.

2. Gardens for high-quality food

Our research indicates that gardeners produce nutritionally relevant quantities of food. In addition, gardeners highly value the quality of the food they produce.

In the Team GROW research, home and community gardeners measured the quantities of food they were growing between 2012 and 2014 in Laramie, Wyoming. Results indicate that the average plot was 253ft² (23.5m²) and yielded an average of 128lbs. (58.06kg) f food, or 0.51lbs. (0.23kg) per square foot. The average vegetable harvest was enough to supply two adults with the daily U.S. Department of Agriculture-recommended amount of vegetables for four and a half months (Conk & Porter 2016). This is in spite of Laramie having a challenging high-altitude, windy and semi-arid growing climate (designated as USDA zone 4b, the toughest growing zone in the continental U.S.).

Variation in productivity rates between Team GROW gardeners was enormous. For example, in the 2014 season, harvest rates varied nearly 10-fold between plots (by 967%, ranging from 0.12 to 1.16 lb./ft² [0.59 to 5.66 kg/m²]). Within-gardener yield variation, from season to season in the same plot, was much lower, though still substantial, at 39% on average (calculated from the 12 gardeners who participated in more than one season). At the top end, the gardener with the highest yield rate by weight grew 247lbs. (112.04 kg) of food in a 120ft² (11.15m²) community garden plot (2.06 lbs./ft² [10.06 kg/m²], in 2012). The harvest with the highest economic value, in total and per square foot, was US$2,599 worth of produce (calculated at Laramie Farmers' Market prices) from a 391ft² home garden (US$6.64/ft², in 2013). This included 145lbs. (65.77kg) of cucumbers valued at US$362 and 255lbs. (115.67kg) of tomatoes valued at US$1,274. Of total harvests recorded by the 31 gardeners participating that season, this particular gardener raised two-thirds of the cucumbers and 35% of the total tomatoes. Also, that year, at the other end of productivity, six gardeners—nearly 20% of the participants that season—had harvest rates under 0.2 lbs./ft² (0.98kg/m²).

Quantity aside, producing high *quality* food was a highly valued outcome among gardeners. The Team GROW members who took the survey reported having better quality food and food they know is safe, as two of the four top-ranked outcomes from gardening (see Table 1). In another set of questions about their motivations for gardening in that survey, which mirrored the outcome questions, having better quality food emerged as their top-ranked reason for gardening. Similarly, in interviews and during site visits, gardeners working with the four CBO partners in Food Dignity that support gardens (ENYF, WCP, BMA, and FLV) also mentioned the importance of gardening in yielding quality food. For example, a gardener in eastern New York noted, "all the vegetables, I think, are sweeter," from her garden than what she can buy in the store. Several people in Wind River discussed how growing their own food helped to avoid "chemicals" in store-bought food. One noted, "the supermarket carrots don't have hardly any taste but if you taste one that you grow yourself, it's just like the difference between night and day." Also, in three of the four communities (with the exception being Ithaca), at least some of the interviewees noted that growing their own food was the best, and sometimes the only, way to get high quality produce.

Even people new to gardening via the Growing Resilience feasibility pilots, who had small gardens (about 80 ft² [7.43m²] with BMA and 15-30 ft² [1.39-2.79m²] with FLV, in accordance with steering committee advice and gardener preferences) and struggled with multiple growing challenges, felt that their gardens gave them meaningful amounts of food. For example, in addition to the comments cited above about improved access to fruits and vegetables, participants reported that "it gave me fresh vegetables for my family that I grew and saved me money" and "I can reduce my food cost." As one ENYF gardener who was looking forward to retiring put it, "the main reason for it is the quality of the food and if you're retired, you're

not going to have the income, so financially it's going to help. You're not going to have to buy all those foods."

3. Gardens for "cultural ecosystem services"

The sections above report health and food provisioning ecosystem services provided by gardens. This section focuses on "cultural ecosystem services" that gardens may provide through recreation, continuation and expansion of cultural and spiritual traditions, and development or deepening community networks.

Growing recreation and aesthetic enjoyment. Gardeners connected with these action research projects talk about gardening, at least in part, as recreation. Growing Resilience gardeners described the pleasure their gardens gave them, saying, for example, "walking down those steps, digging in the dirt, having a great time watering, watching the bees, I'm just in love with those silly bees. I kept my yard cleaner too." Another noted that gardening is "something you have to do, but you don't feel like you have to." In the survey of Team GROW gardeners, 19 out of 20 said they experienced "leisure or pleasure" from gardening to at least some extent (Table 1).

In addition, the community gardens and other public food growing spaces supported by the CBOs draw not only gardeners, but also garden and farm visitors who watch the produce develop over the season, enjoy the flowers, and/or learn about the foods people grow. For example, a visitor to FLV said she had walked by their building regularly just to monitor the progress of pumpkins being grown to share with the Laramie community, and appeared to be a little disappointed when they were harvested. FLV, DDF and ENYF in particular, regularly receive formal requests for tours and, collectively, host hundreds of visitors each year who want to admire and learn from their work.

Growing culture and spirit. BMA on Wind River Indian Reservation is helping community members restore traditional varieties of Indian corn and reestablish chokecherries. Gardeners supported by ENYF in Brooklyn grow culturally important foods such as callaloo, long beans, bitter gourd, and hot bonnet peppers. Gardeners in both places help anchor local farmers markets, providing not only fresh produce in general, but diverse varieties that would not otherwise be available for purchase. One gardener who sells at the ENYF market noted that "things that sell like hot bread in the market is callaloo. You cannot plant enough callaloo." These outcomes include, not only maintaining cultural food traditions, but also sharing them. For example, through their Food Dignity connections, a Jamaican gardener in East New York grew Indian corn from Wind River seeds. Some gardeners in the feasibility pilot studies about gardening appreciated learning about vegetables that were new to them, one saying, "who would have thought I would fall in love with bok choy?"

Growing people and relationships. Gardeners report sharing and exchange harvests, labor, and knowledge with their communities. This sharing is likely one of the core means by which gardening deepens social networks and connections.

In Team GROW, the gardener-researchers, who tracked whether they ate, stored, or shared each harvest, shared 30% of what they grew with others (Conk & Porter, 2016). Those who responded to the survey also reported "sharing food with others" as both a motivation for and an outcome of gardening (Table 1).

In interviews, many gardeners talked about sharing food, exchanging knowledge, and offering and receiving physical assistance with gardening labor. Several described, not just what they gave, but also what they receive by sharing. For example, one experienced gardener said that inspiring and mentoring people to grow their own food, "just makes me feel so good." She also noted the physical help she gets when people come to visit her garden, noting, "I wish that I'd had more people come out. One thing that helps me, is I can't do all the physical stuff very well anymore, but it passes [knowledge] on and I like to pass on my passion." Another person reported that someone who shared her land for growing food for the community felt, "glad that she could provide something. She doesn't have a lot of resources but she has this yard so she was glad that she could use that yard to

benefit others and to have that be a resource." Some gardeners in the feasibility pilots reported with pride, being consulted about gardening; for example, "I had people asking me, how do you do this? What did you use? I'm the expert on raised gardens now, of my friends."

Some gardeners in the feasibility studies who struggled with depression, physical movement limitations, or both, reported that their new gardens gave them a reason to get up in the morning, noting, "it got me on a better sleep schedule" and "it got me out of bed." When one person in the Laramie, Wyoming focus group said that, "I spent more time outside than I ever have," another replied, "wasn't that neat?" and a third confirmed "me too!" They talked about children coming over to point out new growth or study bugs in the gardens, and friends and neighbors coming over to eat from their gardens or even just to admire them; for example, "my friends came over, and sat on the patio and looked at the garden while we ate. People just really liked it. It was pleasant. We had lunch, we picked fresh basil, made sandwiches."

Also, several gardeners most involved with the Ithaca, Wind River Reservation and Laramie-based CBOs (WCP, BMA and FLV, respectively) have described the local collaboration teams in these action-research projects as feeling like family. One of the Team GROW gardener-researchers said that the project had connected her with "my people." All but one of the Team GROW survey respondents noted that meeting other community members was at least a partial outcome from their gardening.

An organizer on Wind River Indian Reservation describes how gardening also helps to educate children (Potter, 2015), which illustrates results from the small subset of Team GROW survey respondents (4 out of 20) who had children at home, who unanimously ranked teaching their children as an outcome from gardening (Table 1). Both WCP and ENYF intentionally build intergenerational relationships by matching teens with local elders who provide mentorship while receiving help with their gardening (Brangman, 2017; Daftary-Steel & Gervais, 2015).

These "cultural ecosystem services" create foundations for and contribute to the last category of outcomes from gardening found in this study: individual and community healing, and transformation.

4. Gardens for healing and transformation

The five CBOs collaborating in these food system action research projects both report and aspire to individual and collective healing and transformation with their communities. They intentionally design their community food growing and growing support activities to help reach these goals (Porter, 2018a, this issue), as articulated in their collaborative pathway models (Hargraves & Denning, 2017). They also particularly aim to support people and communities who suffer the most and offer expertise derived from lived experience with food injustice and food insecurity.

BMA and FLV partnered in the feasibility pilots as part of intentionally using home gardens as a strategy for helping people on Wind River Indian Reservation and in Laramie, Wyoming, increase control of their lives and their physical health. A gardener supported by FLV said, "I never would have attempted a garden without this. It wasn't a possibility. Without this, it would have never happened." Another also said, "I never would have had a garden. I wouldn't have gardened at all without this project." A third mentioned she could not get down on her knees to tend her garden, so it was the raised boxes that FLV provided that made it possible for her to grow food. More broadly, at the start of the Growing Resilience pilots, the head of a tribal health organization collaborating with BMA and me said he approved of the gardening project idea, because, "we need to put health back into the hands of the people." Similarly, an expert gardener working with ENYF noted that she and other gardeners feel that, "growing, sharing and selling fresh food, growing stuff and selling it to the community, it's making the community healthier. It's making us, me, mentally healthier, because people see that this comes from the heart, it's going here."

Achievement of such transformative outcomes is challenging to assess or attribute, but the results from these action-research projects do illustrate some examples of how gardening and other forms of community food production have contributed to fostering health and transformation.

Several of the digital stories composed by some Food Dignity partners to share their individual journeys in food justice work vividly illustrate these themes of growing food for healing and transformation. For example, two men who worked as farmers at DDF entitled their stories, "Fresh Start," and, "My New Life," with each describing how growing food offered pathways away from jail or prison (Rucker, 2015; Silva, 2015). The availability of these paths was no accident; their boss, a captain in the Alameda County Sherriff's Department who co-founded DDF, entitled his story, "When Good Food Makes for Good Policing" (Neideffer, 2015).

Some gardeners have planted to regain control of their health and to heal. One gardener began growing her own food to recover her health after becoming highly chemical sensitive from exposure to pesticides (Dunning & Owens, 2016). Another says she planted gardens to take root, more figuratively, in a new community (Dunning, 2015). One participant in the feasibility pilot about health impacts of gardens reported that gardening saved her life. Several gardeners on Wind River Indian Reservation talked about growing their own food to take control over their diabetes and to prevent their children from being diagnosed by building healthy lifestyles, in addition to providing well for their families overall.

For some, gardening also appeared as a gateway to improving their communities and increasing personal influence. One young DDF farmer, in conversation with me, marveled at the power he had to physically change his community after being part of transforming a corner lot from an eyesore into a beautiful and productive garden. A person who became a gardener with help from FLV via the feasibility pilot, later went to his first city council meeting to support providing public land for a proposed FLV community farm. While there, earlier in the agenda, he spoke powerfully in favor of locating a recreation facility on the west side of Laramie, which is literally and figuratively on the other side of the tracks from the city center. Similarly, that was also my first Laramie city council meeting, and though there to support the farm proposal, I also spoke up on an earlier agenda item, in favor of aquifer protection. In this way, our involvement with FLV also led us to become more active citizens, and to speak up in this formal policy-making setting. Leaders at ENYF talk about people in their communities dedicated to growing food to take back empty lots, beautify their worlds, and feed their neighbors (Daftary-Steel, 2015; Marshall, 2015; Vigil, 2015). Others describe how growing food contains transformational lessons about having, "the grace to receive" (Dunning 2015) and heeding calls for environmental healing (Brangman, 2015). Other stories are about viewing, acting, and being in our world in a transformed way (Daftary-Steel, 2015), including, as another storyteller concludes, "once you start to see the potential in the people and the place, you can't help but look for that everywhere you go" (Vigil 2015).

Discussion

Results from this research confirm and expand upon previous work showing that benefits of food gardening include: improving individual health; producing nutritionally meaningful amounts of quality food; providing cultural ecosystem services in recreation, culture and social networks; and fostering healing and transformation. This array of positive outcomes suggests that supporting home and community food gardening offers an effective public health and sustainable community development strategy.

Understanding more about why and how gardening produces these outcomes, and for and with whom, would inform how to best deepen and broaden these and other positive impacts. To begin outlining future action and research agendas in this arena, I draw from the results presented in this paper and from previous research to discuss potential mechanisms.

Health, Food, and Gardening

For some of the individual health benefits associated with gardening, mechanisms that likely produce them seem obvious. For example, being physically active and reducing sedentary time are known to improve overall wellbeing (Kohl et al., 2012; Warburton, Nicol, & Bredin, 2006) and gardening inherently entails activity. The link between producing vegetables and increased access to and consumption of them seems transparent.

Spending time outside is known to improve mental health and gardening requires being outdoors (Ryan, Weinstein, Bernstein, Brown, Mistretta, & Gagné, 2010). In addition, several gardeners here reported that their gardens draw them to sit outside even when not actively gardening. Why being outside improves emotional health is less certain, though one plausible mechanism is that sun exposure improves vitamin D levels, while inadequate levels are associated with depression (Penckofer, Kouba, Byrn, & Estwing Ferrans, 2010). An additional theory involves exposure to mood-improving microbes that are common in soil (Reber et al., 2016), which may more easily transfer to humans via gardened foods than via store-bought foods (Bryce, 2013).

The power conveyed by becoming a producer, as opposed to only a consumer, may also improve well-being; self-determination theory suggests that feelings of autonomy and control contribute to health (Deci & Ryan, 2008). Also, gardeners report feeling productive, which is associated with a higher quality of life (Kim, 2013; Litt, Schmiege, Hale, Buchenau, & Sancar, 2015), especially when the productive activity also benefits others (Aknin et al., 2013; Matz-Costa, Besen, Boone James, & Pitt-Catsouphes, 2014). Some of the gardeners in this study have said that sharing their food and their knowledge has enhanced their own well-being. This is in addition to the benefits of increased family and community feelings of connectedness found in this and previous research.

Though some of the health benefits observed in association with gardening maybe be only that—correlated but not causal, simply indicating that healthier people are more likely to garden—the feasibility pilots reported here and in the 22 studies in the meta-analysis review (Soga, Gaston, & Yamaura, 2017) all involved pre- and post-health outcome measures. This time order, of hypothesized cause before effect, adds to the plausibility of gardening positively affecting health. Also, arguably, if a person reports that gardening makes them feel healthier, as so many in this and other studies do, then their subjective well-being is indeed improved by definition. If a survey used to measure well-being (such as the SF-12 used in these feasibility pilots) does not capture this improvement, then this is a failure of the instrument.

Healing, Transformation and Gardening Support

The array of potential causal pathways for health and food benefits of gardening discussed above, if real, would suggest that such benefits would accrue to gardeners at large, even those who do not receive technical assistance or associate with food justice CBOs that support such food production. This would also likely be true for many of the recreational services that gardening provides. However, it seems plausible that the, "growing people and relationships," outcomes, and moreover ,"healing and transformation," ones, would be enhanced by the support strategies the five CBOs use. Moreover, CBOs extend these benefits to people who wish to garden but could or would not without such support. Because all of the gardeners in this research were associated with the work of food justice CBOs, I can only hypothesize from our observations about how these associations may have impacted distribution and depth of these gardening outcomes.

The broad set of benefits in culture and spirit, people and relationships, and healing and transformation reported here, appear to be entwined with and emerging from the CBOs' strategies for supporting gardening and gardeners. As described elsewhere (Porter, 2018a, this issue), these CBOs extensively use organizing strategies to achieve transformational goals with their communities. Technical support for gardening, such as that traditionally provided by cooperative extension agencies in the U.S. and also included in activities of these CBOs, simply aims to help improve gardeners' skill levels for greater food production. However, rather than as an end in itself, the CBOs view gardening as a strategic activity that provides one of many means to larger ends of community health, food security, equity, and power. These CBOs intentionally enable gardeners to also become vendors, farmers, mentors, donors, policy advocates, educators, grantees, grantors, and more, if and as they wish to. They also help enable people to become gardeners, or even farmers, if they wish to. As two food justice activist scholars note, "no amount of fresh produce will fix urban America's

food and health gap unless it is accompanied by changes in the structures of ownership and immigration laws and a reversal of the diminished political and economic power of the poor and lower working-class" (Holt Giménez & Shattuck, 2011, p. 133). As articulated in their collaborative pathway models (Hargraves & Denning, 2017), all five CBOs aim to increase political and economic power of people who currently have the least, including via supporting community-based food production such as gardening. As the authors of case studies with four community gardens in eastern London argue, such gardens create, "contexts for effective community mobilization… opening up new possibilities for being, seeing and doing" (Guerlain & Campbell, 2016, p. 220). The intentionality in creating these spaces leads Pudup (2008) to argue that community gardens should instead be called organized garden spaces (see also Saldivar-Tanaka & Krasny, 2004).

As a public health nutrition scholar, when I present results from this work about health benefits of gardening, I have reason to fear that I am framing gardening as another health-behavior-change imperative: not only should people eat more fruits and vegetables, they should grow them. A scientist in the audience at one seminar, who also identified as a single mother, asked wearily, "when do I get to rest?" However, the CBO organizers appear to be agnostic about whether community members become gardeners at all; they focus on people and community, not on production or even food more generally (Porter, 2018a, this issue). For example, after the Growing Resilience feasibility pilots, FLV engaged with me to redesign our approach to enable people to set their own health improvement goals and then choose how to reach them, rather than randomly assigning people to gardening. By offering multiple ways for community members to engage, these CBOs model what Guerlain and Campbell describe as better accounting "for what participants themselves would like to achieve in their own lives, rather than in relation to externally imposed notions of what counts as political change" (2016, p. 220).

That said, when people do wish to garden, four of the five CBOs (one focuses on community farming and does not engage directly in gardening activities) strive to support and enable them to do so (Porter, 2018a, this issue). The full gardening support and installation "packages" that FLV and BMA provide have almost certainly enabled more people to garden. As reported above, a few of the FLV gardeners have said explicitly that they would never have been able to garden without that help. Also, the community gardening spaces that ENYF, WCP, and FLV have cultivated offer the space, soil and, especially with FLV in Laramie, affordable water, that are all necessary for gardening but not everyone has access to. Results from another study within the Food Dignity project, where US$40 gardening mini-grants were randomly provided to half the attendees at a gardening workshop, found that even small amounts of material support spurred interested people to start or expand food gardens (Porter, McCrackin, & Naschold, 2016).

Future Research

Results from the three randomized controlled trials currently underway will substantially improve the quality, quantity, and specificity of evidence for how gardening impacts individual health outcomes. If these studies find positive results, the next question would be about if and how much the quantity of food produced—in total and as rate per area—is related to health outcomes. Based on our qualitative observations and gardener insights, I would hypothesize that most of the physical and mental benefits are not closely tied to productivity, as long as a harvest does not fail entirely.

In links between healing, transformation, and gardening support, it seems plausible that technical assistance alone would likely help gardeners to improve yield quality and quantity. The enormous range of harvest rates found in Team GROW certainly indicates that there is room for such increases. In addition, technical support would help urban gardeners avoid and mitigate heavy metal exposure risks that gardening in contaminated soil poses (Al-Delaimy & Webb, 2017). However, such narrow and limited forms of support are unlikely to enable people, particularly those who face physical, financial, and/or land access challenges, to begin growing their own food in the first place. Technical assistance alone also would not, plausibly, work to

connect gardeners more directly and deeply with one another and with other food system activities (e.g., sharing, selling, advocating, mentoring) the way the CBOs' strategic activities aim to (Porter, 2018a, this issue). The social healing and transformation outcomes, and potential outcomes, of gardening may hinge upon the kinds of community organizing strategies that the food justice CBOs use (Porter, 2018a, this issue).

Conclusion

The gardening outcome data from the Food Dignity case stories, Team GROW project, and Growing Resilience feasibility pilots, confirm and expand findings from previous research which indicate that gardening improves health, produces nutritionally meaningful quantities of quality food, and provides important cultural ecosystem services (such as recreation, cultural enrichment, and community building). In addition, perhaps especially because of the strategies employed by food justice CBOs that collaborated in this research, gardening activities have also yielded individual and social healing and transformation.

Arenas ripe for future research on impacts of gardening include further quantifying and specifying individual health changes and causality, assessing relationships between garden productivity and outcomes, and further documenting and evaluating community-level outcomes. Another action research priority is trialing and assessing strategies for maximizing access to gardening and for maximizing positive outcomes from gardening via policy, technical, and community-organizing forms of support. In the meantime, however, the growing evidence for multiple benefits of home and community gardening suggests the wisdom of enabling anyone who wishes to start growing some of her own food to plant some seeds.

Acknowledgments

I would like to thank the action research teams of Food Dignity and Growing Resilience, including gardener-researchers of Team GROW and Elisabeth "Livy" Lewis, and especially the community-based researchers and leaders at each CBO who reviewed my use of our work here. Thanks also to Monica Hargraves and Cecilia Denning for their Collaborative Pathway Model work and for reviewing and advising on my use of those here.

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Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Going public with notes on close cousins, food sovereignty, and dignity

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Submitted April 30, 2018 / Published online July 18, 2018

Citation: McMichael, P., & Porter, C. M. (2018). Going public with notes on close cousins, food sovereignty, and food dignity. *Journal of Agriculture, Food Systems, and Community Development, 8*(Supp. 1), 207–212. https://doi.org/10.5304/jafscd.2018.08A.015

Introduction

In fall 2009, I taught a graduate course at Cornell University in the sociology of food and ecology. My students and I were fortunate to have food systems sociologist Harriet Friedmann participating in our seminar meetings while she was on sabbatical at Cornell. Twenty years earlier, Harriet and I had published a paper that sketched a framework characterizing political-economic epochs in global agriculture since 1870. We named these epochs "food regimes" (Friedmann & McMichael, 1989). Christine Porter was a student in that course. She claims it helped her put enough academic and activist pieces of the food system puzzle together to propose what later became Food Dignity—a five-year action and research project about food security, sustainability, and sovereignty involving four higher education institutions and five community-based organizations doing food justice work in the U.S.

During that course, Christine and I remember Harriet mentioning that she searches for daisies breaking through the concrete of an industrialized, globalized food system, and also that I expressed a touch of envy about the hopefulness such sights might offer. From the standpoint of the international food sovereignty movement with which I

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Funding Disclosure

Food Dignity (http://www.fooddignity.org) was supported by Agriculture and Food Research Initiative Competitive Grant no. 2011-68004-30074 from the U.S. Department of Agriculture's National Institute of Food and Agriculture.

work—a movement that opposes corporate power in the global food regime and its intensifying land grab across the world (McMichael, 2012)—the flowers are certainly emerging.

In the spring of 2010, when Christine asked me to become a co-investigator in Food Dignity, she promised me proximity to daisies. Eight years later, at the very end of that project, I complied with her request for a concise essay. For this special issue, she asked me to help contextualize Food Dignity work within the international food sovereignty movement. I gave her a draft, which she edited, packed into the section below, and surrounded with additional passages aiming to help contextualize me and my work. Some she drafted herself, and others she lifted from my words shared within the context of the project collaboration. She proposed that she could be my "shadow co-author." For a third time, I have complied with her requests. Thus, here, I bookend the commentary Christine asked for with some personal reflections on my work within the context of Food Dignity.

I introduced myself and my food sovereignty work to the larger Food Dignity team during our first meeting in May 2011, which took place in Ithaca, New York. I recall the leader of one of the partnering community-based food justice organizations, Jemila Sequeira of Whole Community Project, replying, "food sovereignty is a cousin of food dignity, as we understand it here." For reasons I outline below, I agreed with her.

In the first few years of Food Dignity, my project role waxed, as I tried to help figure out ways of building a community advisory board that would shape and monitor our plans for partnering with community activists on an engaged learning adventure. Our plans centered on developing a just local food systems and an undergraduate minor in that arena at Cornell. Then I was press-ganged into chairing my department for two inconvenient years, and I found my Food Dignity role waning. For example, even though the May 2014 annual team meeting location was again in Ithaca, where I live, I was barely present. Compounding the weight of department head duties, I was facing family health issues, including ones that affected my own body. Due to inheriting polycystic kidney disease, my kidneys were failing. I will return to that in my closing. First, here is the essay that Christine originally requested, contextualizing work of the five U.S. community-based organizations who partnered in the Food Dignity project within the larger international food sovereignty movement.

Food Dignity and Food Sovereignty

Food sovereignty is now a worldwide movement involving and embracing both rural and urban communities and building partnerships between them. The phrase originated in Mexico in the 1980s, when that country had a credible national food system that centered on a maize culture embedded in the *ejido* system of communal lands, which arose from the early 20th century Revolution (Perramond, 2008). Then, in 1996, food sovereignty became a global rallying cry when the 200-million strong international peasant coalition, La Vía Campesina, introduced the concept at the World Food Summit (Wittman, Desmarais, & Wiebe, 2010). The aim was to politicize the neoliberal order institutionalized in the World Trade Organization's Agreement on Agriculture. This Agreement was geared toward opening farm sectors across the global South to food dumping in their local markets, primarily by the U.S. and the European Union. Rather than buying into the empty claim of "feeding the world" via private trade organized by transnational corporations in the name of food security, La Vía Campesina demanded national policies of food *sovereignty* to protect and enhance domestic farming systems. In addition to deploying sovereignty to resuscitate small-scale farming as a public resource for food security and nutrition, the term demanded democratization of community and regional food systems. This democratization includes respecting the right to food and the land rights of small- and medium-scale farmers to *produce* food (as opposed to the neoliberal right to purchase food in the market). It also includes gender equity in land rights, farm labor rights, and territorial rights for indigenous peoples.

As a claim, the ethical goals of food sovereignty have inspired mobilizations globally, including demanding land rights, saving and sharing seeds (as opposed to corporate patenting

of commercial seeds), occupying unused land for food production (as opposed to speculation), creating training schools for agro-ecological farming methods, forming farmers markets so producers can sell directly to eaters, and rehabilitating land. Local food system actors and organizations are doing these kinds of food sovereignty work and more on all inhabited continents. For example, Brazil, under President Lula's Anti-Hunger Campaign, purchased staple grains from the Landless Workers Movement (as it occupied unused land) for redistribution to the poor (Wittman & Blesh, 2017). Another model project is the southern Brazilian city Belo Horizonte, which has forged a close relationship with adjacent farming systems to provide food for public institutions in a mutually beneficial partnership between farmers and citizens (Rocha & Lessa, 2009).

Food sovereignty strategies such as these emerge, repeat, and unfold in communities across the world, including as devised and carried out by community-based food justice organizations in the U.S., such as the five who partnered in Food Dignity. Here is just one example from each. Blue Mountain Associates in Wind River Indian Reservation founded the first tribal farmers market in that area. Feeding Laramie Valley, in Laramie, Wyoming, grows food on city and county public lands to share with (not sell to) the Albany County community. Dig Deep Farms, in unincorporated Ashland and Cherryland near Oakland, California, employs people who have previously been incarcerated as urban farmers. Whole Community Project provided enabling support to community leaders across Tompkins County, New York, to grow food in parks, yards, community farms, senior housing, and public housing communities. East New York Farms! in Brooklyn, New York, supports community members in growing and selling culturally important foods using sustainable growing practices, such as cover cropping.

People and community organizations leading these kinds of food efforts, especially in the Global South, have carried their sovereignty ideals to political and economic elites in Rome, at the United Nation's (UN) Food and Agricultural Organization (FAO). To organize the first nongovernmental organization forum that ran parallel to FAO's World Food Summit in 1996, La Via Campesina and others established an "ad hoc" committee called the International Planning Committee for Food Sovereignty (IPC), with representatives from the front lines of world hunger and local food provisioning (Nyéléni, 2007). Since 2002, they have organized civil society summits in parallel to the FOA World Food Summits every year. The IPC has matured to a global network of over 150 chapters in at least 70 countries (International Planning Committee for Food Sovereignty, 2009). It has successfully pushed the FAO to step up as *the* UN agency responsible for food security and nutrition rights and to give civil society access to the debates in the UN's Committee on World Food Security (CFS) via a newly created Civil Society Mechanism (Committee on World Food Security, 2010; see also http://www.csm4cfs.org). I was invited to join the Civil Society Mechanism as one of a handful of academics who provide moral support and mental labor to the civil society groups. As such, I was tasked with helping prepare documents to support positions the Mechanism takes in the CFS debates as well as meeting with government delegates to advocate Mechanism debate positions. For example, one task I had was as a member of a two-year technical support team on the question of responsible investment in agriculture. This was in the context of the World Bank's attempt to define (and enclose) principles enabling large-scale financial investment in land offshore (McMichael & Müller, 2014).

A multitude of constituencies are represented in the FAO's Committee on World Food Security forum through this Civil Society Mechanism. Policy debates and reports on the multifunctionality of food and agriculture now include the voices of those on the ground rather than simply those of public servants and corporates. These voices included those of social movements such as La Vía Campesina and other organizations representing fisherfolk, pastoralists, farm workers, and indigenous people. They also include progressive nongovernmental organizations such as Global Witness, Focus on the Global South, and Oxfam. The representatives in the Civil Society Mechanism do not have formal voting powers, and they don't

want them. They insist on maintaining their autonomy from the formal structures of the member states so they can maintain whatever moral pressure they can bring to bear on governments regarding domestic food security and nutrition issues.

The CFS also now includes an advisory group to review scientific evidence and make evidence-based policy recommendations on global food security. This group, named the High-Level Panel of Experts, is composed of academics, policy-makers, and practitioners. Its 2013 report, *Investing in Smallholder Agriculture for Food Security*, is, in my view, among its most important to date. In the context of land-grabbing—with large offshore financial investments in land for food and fuel supplies for global markets, and for states that also mobilize investment funds for their own future food security—the CFS hosted a long debate about what responsible investment in agriculture should look like. In the context of arguments made by civil society members, the Panel argued that the majority of investments in agriculture are made by small-scale farmers via their labor and seed- and knowledge-sharing across farming communities. It concludes: "smallholder agriculture is the foundation of food security in many countries and an important part of the social/economic/ecological landscape in all countries" (High-Level Panel of Experts, 2013, p. 11). In addition to cautioning against financial investment by non-agricultural private interests, the panel's claim resonates with the home and community food production work that the five food justice organizations that partnered in the Food Dignity project support in their communities (Porter, 2018). With parallels to the high productivity of home gardens identified in a Food Dignity research project by Feeding Laramie Valley and Christine (Conk & Porter, 2016), the report also notes that productivity rates are higher on smallholder farm polycultures than on larger commercial farm monocultures.

In addition, the report notes that, in contrast to commercial financial investments in agriculture—which seek only profit—in smallholder farms, the families doing the farming are the main investors. These smallholder investors seek to yield at least a partial living for their families; they also seek improved soil, seeds, tools, water cycles and other nonmonetized and multifunctional goods. For example, "smallholder's families are part of social networks within which mutual assistance and reciprocity translate into collective investments (mainly through work exchanges) and into solidarity systems" (High Level Panel of Experts, 2013, pp. 10–11).[1]

Accordingly, the most grassroots and justice-oriented arms of the food movement in the U.S. are at least first cousins of food sovereignty, and particularly so as they increasingly embrace sovereignty and justice concerns of indigenous and minority groups. However, though there are some direct links between the U.S. movement and the international one (see, e.g., the U.S. Food Sovereignty Alliance and the Coalition of Immokalee Workers), both movements can benefit from more intentional solidarity between them, especially in achieving national and international policy goals.

Interpersonal Solidarity

In their food justice work, Blue Mountain Associates, Feeding Laramie Valley, Dig Deep Farms, Whole Community Project, and East New York Farms! all strive to establish community forms of solidary, including in sharing resources (Hargraves et al., 2017). In addition, in ways outlined in our project values statement (Hargraves, 2018), the people and organizations that came together for over five years to collaborate on the Food Dignity project were also striving for some form of solidarity.

In May 2013, before I assumed department head duties at Cornell, I was part of our Food Dignity team meeting held in Laramie, Wyoming. Christine was there too, and in between chemotherapy and mastectomy treatments for her breast cancer. Inspired by the public way in which she was confronting her own health issue, I confided in her about my own health fears relating to my kidney function being in decline. Then I learned more about the Crohn's disease struggle of one of our collaborators in the Whole Community Project,

[1] I served as one of the many external peer reviewers for this report (see http://www.fao.org/fsnforum/member/philip-mcmichael).

Damon Brangman, who shared his journey to healing in dignity and strength through food not only with the team, but with the world (Brangman, 2015). The courage and resilience Christine and Damon showed helped me come to terms with my own health, as did seeing how their comrades took it in stride with acceptance and much caring. Their examples helped to guide and reassure me when, in order to seek a kidney donor, I needed to go public with my own health issue. In 2017, a wonderful human shared one of their kidneys with me, giving me a new lease on life.

I have spent the past decades studying and supporting solidarity within the agricultural struggles of peasant and other smallholders that have become the international food sovereignty movement. However, the opportunity to work so closely with dozens of people from five communities in this country who are breaking through concrete with food and myriad forms of metaphorical flowers, for me, has revealed a new, elemental dimension to community-building that fosters a precious humanity, even as we struggle.

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Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Fostering formal learning in the Food Dignity project

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Submitted April 24, 2018 / Published online July 18, 2018

Citation: Porter, C. M. (2018). Fostering formal learning in the Food Dignity project. *Journal of Agriculture, Food Systems, and Community Development, 8*(Supp. 1), 213–219. https://doi.org/10.5304/jafscd.2018.08A.016

Abstract

This short essay summarizes our formal higher education work in the Food Dignity project, with some initial reflections and questions that this work raised for me, and for many of our collaborators.[1] Food Dignity was a five-year action research collaboration dedicated to building community food systems that provide food security, sustainability, and equity. It was proposed and funded as an integrated program of research, extension, and education, under the U.S. Department of Agriculture National Institute of Food and Agriculture's (USDA NIFA) Agriculture and Food Research Initiative (AFRI) competitive grant program for food security. Five food justice community-based organizations (CBOs) and four institutions of higher education collaborated on this project in California, Wyoming, and New York (see, for example, Porter, 2018, this issue). We had nearly US$5 million over five years, which we extended to seven (2011–2018), to complete our proposed blend of action research. We used about 17–20% of our total effort and budget to invest in higher education programs centered around sustainable food systems (Porter & Wechsler, 2018, this issue).

The goal of our education plan was, to quote our proposal narrative, to prepare "the next generation of graduates from multiple disciplines (e.g., anthropology, animal science, planning) to incorporate SFS [sustainable food system] priorities and principles into their work." Our action plans for doing this included developing sustainable food

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Funding Disclosure

Food Dignity (http://www.fooddignity.org) was supported by Agriculture and Food Research Initiative Competitive Grant no. 2011-68004-30074 from the U.S. Department of Agriculture's National Institute of Food and Agriculture.

[1] Unless otherwise specified, the "we" in this essay is collaborators in the Food Dignity project and the "I" is myself, the author of the essay and the Food Dignity principal investigator and project director.

system undergraduate minors, funding several graduate students, paying for student internships in food system work, supporting community-university coordination, and developing guided learning content online.

Like everything else we did together in the Food Dignity project, many of us were guided by our shared values in this education work (see Food Dignity & Hargraves, 2018, this issue), and—especially on the academic side—were struggling to live up to them. Unlike what we have laid out in most of the other papers in this issue, we have not yet unpacked much of that struggle; we will wait to attempt that in future publications addressing what we learned during the Food Dignity project. More simply, the next sections discuss our activities within each of our formal education arenas of action. The closing section ponders a few cross-cutting issues that emerged from our education work.

Minors

In 2010, as we observed in our proposal to USDA for the Food Dignity project, "only a small handful of higher education institutions offer programs in SFS [sustainable food system] studies." At the time, proposing to develop new undergraduate minors in that arena at Cornell University (Cornell) and University of Wyoming (UW) seemed nearly innovative. The only example we cited was Montana State University's Sustainable Food & Bioenergy Systems program, which was new at that time.

Since then, sustainable food system certificate, minor, and degree programs have proliferated, including the two minors we developed as part of the Food Dignity project. As of April 2018 we have identified 33 U.S. institutions as having one or more of these academic programs, including 15 undergraduate, 10 graduate, and 10 minor or certificate programs on offer.[2]

Some of these new academic programs have been backed by "clusters" of food system faculty hires at, for example, the University of Michigan, University of Vermont, and Ohio State University. The University of New Hampshire recently broke through the departmental divides that split faculty working on food systems by forming an entire interdisciplinary unit, the Department of Agriculture, Nutrition, and Food Systems.[3] Also recently, the Association of Public and Land-Grant Universities (APLU) issued a report on the role of the public research university in global food security (APLU, 2017).

Thus, by 2018, the new sustainable food system minors at UW and Cornell created as part of the Food Dignity project hardly make either institution leaders of the academic pack (though Cornell's program may be one of only two that are in explicit, ongoing collaboration with food justice and security CBOs, along with Virginia Tech). We intend to share stories and lessons from developing these minors, and our attempts to develop them through community-university collaborations in each location. However, this is well beyond the scope of this summary essay, and also beyond what I could do alone. This will be the subject of future papers. (In addition to this special issue, we are planning a series of Food Dignity papers to appear

[2] Current sustainable food system degree or certificate programs we identified (excluding production-centered programs, such as sustainable agriculture) are at Chatham University; College of the Atlantic; Cornell University; Flathead Valley Community College; Goshen College; Green Mountain College; Guilford College; Kansas State University; Michigan State University; Montana State University; Montclair State University; North Carolina State University; Ohio State University; Perdue University; Rio Salado College; Rutgers University; Temple University; Tompkins Cortland Community College; Tufts University; Unity College; University of California, Santa Cruz-Center for Agroecology and Sustainable Food Systems; University of California, Berkeley; University of California, Davis; University of Hawaii; University of Massachusetts; University of Michigan; University of Minnesota; University of Minnesota Duluth; University of Montana-Missoula; University of New Hampshire; University of Vermont; University of Wyoming; and Virginia Tech. Penn State and University of Arizona may be planning programs. Thanks to Melvin Arthur for assistance in compiling this list. We realize it may not be complete.

[3] I suspect that the W.K. Kellogg Foundation's investment in establishing sustainable food system endowed chair positions at several land grant universities, starting in 2003 at Michigan State University (https://trustees.msu.edu/decisions-news/2003-04/thompson.html), may have been instrumental in seeding this field of study, beyond agriculture, within U.S. higher education. This would have been further fostered from outside academia by the growth of the food movement.

in future, regular issues of this journal.)

Here, I will say that UW secured administrative approval for a new sustainability minor, which has a food system track option, in just under two years after the beginning of the Food Dignity project. This was accomplished under the leadership of Jill Lovato (then in Environment and Natural Resources) and Deb Paulson (then in the Geography Department). For the establishment of a new university academic program, this is fast. During that design and roll-out phase, the Laramie-based food justice organization that partnered in Food Dignity, Feeding Laramie Valley (FLV), convened a group of community leaders to shape the food system track of that minor along with UW representatives.[4] The first eight UW students to enroll in the minor did so in the 2013–14 academic year. Since then, the program has grown each year and become one of the most popular minors at the university, with 14 graduates as of 2017 and 41 students enrolled for the 2018–19 year. About a quarter of the students are enrolled in the food system track. UW's Haub School of Environment and Natural Resources, with leadership from Maggie Bourque, houses and advises the minor (see http://www.uwyo.edu/haub/academics/undergraduate-students/sustainability.html).

Cornell embarked on a longer, more complex, and sometimes troubled journey, with at least two phases and a change in the planned home for the minor from Plant Sciences to Development Sociology. The first phase was deeply entwined within Food Dignity partnerships and partners, especially the Ithaca-based CBO partnering organization, Whole Community Project. The second involved collaborations with several community-based organizations, including East New York Farms! (one of the five CBOs that partnered in Food Dignity) and Cornell Cooperative Extension Tompkins County (CCE-TC), which had housed Whole Community Project. The Community Food Systems undergraduate minor that later emerged enrolled their first students in 2017 (see https://devsoc.cals.cornell.edu/undergraduate/minor/community-food-systems). Many faculty members at Cornell were involved in developing the minor. Community leaders associated with Whole Community Project were also deeply involved during the first phase.[5] The minor coordinator, Heidi Mouillesseaux-Kunzman, expects that 23 students will have completed the capstone course in the minor by the end of 2018.

In addition, Food Dignity faculty collaborators at Ithaca College and, occasionally, some faculty at Tompkins Cortland Community College were involved or connected with the development of the minor at Cornell and have also been collaborating with people and programs at CCE-TC. The community college now offers a Sustainable Farming and Food Systems associates degree (see http://www.tc3.edu/catalog/ap_program.asp?dp=sustainable_farming). That new degree was without any support from Food Dignity funding (though a project-funded person at Cornell, Suzanne Gervais, helped to facilitate some of the connections).

These forms of institutionalization mean sustainable food system studies in U.S. higher education will be here to stay, for at least a few generations. I consider this to be good news. At the same time, these formal higher education programs risk professionalizing community food work. This yields at least three issues. One is robbing community leaders of jobs in the work they created in the first place. To paraphrase a question once posed by Feeding Laramie Valley's founder, Gayle Woodsum: are people now going to

[4] From the community, these meetings included Gayle Woodsum, Lina Dunning, Trish Penny, Tony Mendoza, Peggy Bell, and Rebecca Slaughter. UW associated participants were Rachael Budowle, Jessie Irish, Christine Porter, and Randa Jabbour.

[5] Community leaders shaping the first half of the development phase included Jemila Sequeira, Damon Brangman, Kirby Edmonds, Gayle Woodsum, Fabina Benites Colon, and Pat Brhel. Charity Hicks of Detroit also helped to facilitate a one-day retreat on this process. Cornell faculty leaders in developing the minor were Rachel Bezner-Kerr, Philip McMichael, and Scott Peters. Other university-based participants were Heidi Mouillesseaux-Kunzman (the coordinator), Suzanne Gervais, Laurie Drinkwater, Heather Scott, Jonathan Russell-Anelli, Jennifer Wilkins, Monica Hargraves, and John Armstrong. Ithaca College also participated in some of the minor development meetings, including in relation to their own program development; people included Alicia Swords, Amy Frith, Julia Lapp, and Elan Shapiro.

need a master's degree to get a job managing (for example) community garden programs, thus displacing community leaders who started these gardens? Another issue is the heavy capacity development investments that formally enrolled students receive, especially graduate students, with nothing remotely equivalent for community leaders already doing the work (as replicated in the Food Dignity project and discussed next). The third, and perhaps most serious, problem is professionalization de-radicalizing the activities, outcomes, and goals of such work. This includes changing the goals of such work away from justice and sovereignty and toward food-security programming. This type of programming is susceptible to development and implementation based solely on emergency and qualified need (see, for example, Boyte, 2004). In her review of a draft of this essay, Woodsum articulated the root causes of these problems, and more, as "the entrenched societal belief and institutional promotion of the idea that possession of a degree indicates possession of greater, superior, more extensive knowledge and expertise than does front-line, lived and first-person derived/delivered expertise."

Graduate Students

The cost of undergraduate studies is usually borne by students, sometimes subsidized by state funding for land-grant universities or by endowments at wealthy private institutions. However, graduate students normally do not pay their own tuition and do also receive a stipend, usually in exchange for teaching or research work in their department. Thus, even in grant-funded work without educational goals, principal investigators such as myself will often include funding to support graduate students, to both assist in the research and to achieve the education-related mission of academic institutions. Though the stipends often put students near poverty level, the total costs are high because they cover tuition.

In the Food Dignity project, paying for graduate students to earn their degrees and to assist with our action research and teaching represented the bulk of our education spending, at a total of US$396,000. We fully funded five people to garner master's degrees at UW and partially funded three doctoral students (in some cases paying only a small fraction of the costs) who earned Ph.D.s at Cornell or the University of California, Davis.

The "Follow the Money" paper in this issue reflects further on this investment in students, including how the students and the project benefit but how comparatively little we invested in community leaders (Porter & Wechsler, 2018). For reflections by several of these graduate students on what they learned from community leaders and through the Food Dignity project, see their "Emotional Rigor" paper in this issue (Bradley, Gregory, Armstrong, Arthur, & Porter, 2018).

Engaged Learning and Internships

When proposing a student internship component to our Food Dignity project plan, I had imagined that its purpose would be to enable students in the new minors to do engaged learning practicum work with CBOs, thus allowing students who would not otherwise be able to afford to do unpaid work in the summers to participate. I also thought that, at Cornell, student interns might be used for assistance with work related to Food Dignity. For both UW and Cornell, we had budgeted US$10,000 a year (for most years) to pay for student interns, plus US$2,000 a year for Ithaca College interns.

The program at Cornell unfolded mostly as I had expected. Unlike at UW, where I personally controlled a single account with all of UW's Food Dignity budget, Cornell's funding was allocated to departments. Some of the departments used their share of the internship funding much as I had imagined, including helping with development of the minor. However, one unit asked me to transfer its US$4,000-per-year allocation to the Whole Community Project to enable that CBO to recruit and retain interns directly or otherwise direct the use of that funding to support their work.

At UW, when I discussed how to create an internship program with Woodsum at Feeding Laramie Valley, she pointed out that if her organization were going to mentor the interns, then it would make more sense for her organization to recruit them and to manage the funds. Thus, I moved 90% of the internship money to that CBO's budget. FLV developed a rich and extensive community-led internship program with

those limited funds, which it has sustained and radically expanded since then, including by leveraging AmeriCorps VISTA opportunities. I moved the remaining US$1,000 to the budget of the other Wyoming-based CBO partnering in Food Dignity, Blue Mountain Associates, to assist with the Tribal farmers market it founded.

Ithaca College did not have a subaward in the Food Dignity grant, and CCE-TC managed the college's small annual budget for interns. In addition, the extension office had a little additional funding to pay community-based leaders and mentors who accepted student interns. The faculty leading that effort at Ithaca College reflect deeply on their struggles and successes in striving for community-campus collaborations for food justice in this issue (Swords, Frith, & Lapp, 2018). They outline both the struggles and the unexpected benefits of coordinating internships. Their work led to improved collaboration between departments and schools in designing and delivering curriculum related to food dignity, thus reaching more students than originally envisioned. They also developed more systematic approaches to facilitating student learning and fostering respect for community efforts by gradually increasing student engagement with community members and organizations.

Community-University Coordination and More

With a vague awareness of how much UW and Cornell would be asking of Feeding Laramie Valley and Whole Community Project at CCE-TC, in the education elements of the Food Dignity collaboration, I proposed that each of these CBOs would retain someone, as we ultimately wrote in our project proposal, to "help college/university faculty identify in-course and summer practical sustainable community food system experiences for students." I grossly underestimated the work in this arena and proposed to allocate just US$3,000 per year per organization to support those activities. This was not nearly enough to attract and retain someone to lead that work, although both organizations tried before integrating it into the scope of work or existing positions and activities. However, in spite of this, both organizations became deeply involved in mentoring interns directly, matching students with community mentors, co-guiding the minor development, giving guest lectures, hosting class visits and tours, and even co-teaching university courses. Overall, these are not my stories to tell, but an early analysis of FLV's experience is included in Woodsum's essay in this issue (Woodsum, 2018).

I can say that universities and colleges have often asked at least four of the five CBOs partnering in Food Dignity (with the exception of Blue Mountain Associates in Wind River, which is not near a university) to mentor student interns, speak in classrooms, and host students (and other groups) for presentations and tours. For example, East New York Farms! in Brooklyn and Dig Deep Farms in the San Francisco Bay area reported hosting hundreds of student visitors over the course of our collaboration, unrelated to their participation in the Food Dignity project.

This raises questions about the ethics of formal educational institutions—which have a funded mission to teach—leaning on resource-strapped not-for-profit organizations to help them achieve that mission. Community co-investigators in this project helped some of the academic partners, myself included, to more fully realize and articulate that people in such organizations need to be paid for their time and expertise at rates comparable to that of the formal educators, with standard funds at educational institutions allocated for this purpose. Within the implementation of the Food Dignity project, we strived to meet this bar, but I do not believe we cleared it, and temporary grant funding is not the long-term solution in any case.

Education Content Online

We had originally proposed to create online courses in sustainable food systems, noting that, in 2010, there were few to none available. However, their subsequent proliferation made us realize a more cost-effective and impactful approach for our project might be to (a) share our formal curricular materials for courses in our new minors and (b) develop formal learning guides to some of the unique and important outputs from our action and research. We revised our plan to USDA accordingly, and these are now available on our website

(http://www.fooddignity.org).

Closing, Without Conclusion

Though global food production currently yields plenty to feed everyone today (even though our societies, collectively, do not choose to distribute it that way), much of it is produced at the expense of the ability of future generations to have enough to eat (e.g., by depleting soil, draining aquifers, and burning more carbon fuel calories as inputs than yielded as consumed food calories). Overall, community leaders and organizations have been decades ahead of U.S. higher education (with the exception of sustainable agriculture and agro-ecology disciplines) in tackling these issues locally, by focusing on community food security, equity, and sustainability. Since global food security is an all-hands-on-deck scale of a problem, and academic institutions can bring additional resources to the table, the increasing academic focus on this problem, including in the Food Dignity project, is largely good news.

In practice, however, higher education's entry into sustainable food system work has also been troubling, including in the Food Dignity project. These troubles include those mentioned above, such as professionalizing and deradicalizing community food system work, investing heavily in academic but not community capacity development, and asking cash-strapped CBOs to volunteer their time for doing some of the teaching work universities and colleges are paid to do.

In addition, academic lenses tend to bring technical and abstractly epistemological views to problems, whereas food justice and sovereignty—and many aspects of food security—are largely ethical and political problems. For example, the APLU report referenced above does not have a single mention of racism which, in the U.S. context, is a major factor in the history of the food system as well as the inequities within it.[6] In another personally memorable example, when Woodsum was guest-hosting a class meeting in my upper-level Food, Health, and Justice course about such systemic oppression issues, I will never forget her admonishment to me when she discovered I had not yet covered the concept of unearned privilege, even though we were two-thirds of the way through the semester.

I needed nearly seven years of educating from the community partners in the Food Dignity project to finally see and name the root cause of this array of problems as *academic supremacy*—that is, the systemic and institutionalized inequities between community-based organizations and universities (see Porter & Wechsler, 2018, in this issue). As with other forms of systemic inequity, tackling it requires short-term tactics for workarounds (in the Food Dignity project see, for example, Wechsler, 2017) and long-term strategies for institutional change. Within higher education, it requires academic allies—especially among the general ranks of tenure-track and tenured faculty—ready to acknowledge this inequity, and then to tackle it with humility, accountability and, ultimately, the sacrifice of unearned academic privilege.

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[6] For reasons I attribute to my academic Food Dignity project role, I was invited to play a minor part of the authorship group for the APLU report and also a larger role as part of a small INFAS team responding with a white paper that attempted to add an anti-racism lens, from the academic Inter-institutional Network for Food, Agriculture and Sustainability (INFAS). See http://asi.ucdavis.edu/networks/infas/a-deeper-challenge-of-change-the-role-of-land-grant-universities-in-assessing-and-ending-structural-racism-in-the-us-food-system

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Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Graduate students bringing emotional rigor to the heart of community-university relations in the Food Dignity project

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Submitted September 12, 2017 / Revised December 15, 2017, and January 17, 2018 / Accepted January 17, 2018 / Published online July 18, 2018

Citation: Bradley, K., Gregory, M. M., Armstrong, J. A., Arthur, M. L., & Porter, C. M. (2018). Graduate students bringing emotional rigor to the heart of community-university relations in the Food Dignity project. *Journal of Agriculture, Food Systems, and Community Development, 8*(Suppl. 1), 221–236. https://doi.org/10.5304/jafscd.2018.08A.003

Abstract

Food Dignity is an inter- and postdisciplinary action research project designed to support five communities' efforts to build sustainable food systems, tell their stories, and create common ground between the collaborating campuses and communities. Food Dignity graduate students were intermediaries between more senior academic partners and community partners. This paper highlights graduate students' encounters with academic supremacy, which refers to systemic inequalities and the material, ideological, and practical privileges afforded to forms of academic knowledge production. We build on Porter and Wechsler's (2018) explanation of academic supremacy, which

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Funding Disclosures

Food Dignity was funded by USDA National Institute of Food and Agriculture's Agriculture and Food Research Initiative Competitive Grant no. 2011-68004-30074.

Megan M. Gregory was supported by a National Science Foundation Graduate Research Fellowship (2009–2012) and a Land Grant Fellowship from Cornell University's College of Agriculture and Life Sciences (2012–2014).

Food First, The Clif Family Foundation, and Heller Foundation provided support for the East Bay Urban Farmer Field School.

they define in another article in this issue, in order to highlight certain aspects that relate specifically to the graduate student experience. Using autoethnography, we describe the institutional ties, emotional experiences, relationships, and values that defined our intermediary status. This status and the support of community partners allowed us to explore ways in which academic supremacy influenced our work and strategies for dismantling academic supremacy. We detail the conflicting pressures from academic institutions and community partners and the role of social justice values in balancing these pressures; we review how academic researchers deal with difficult social problems in the research process and the potential to use emotion as a guide through these difficulties; finally, we posit praxis-from-the-heart as a strategy for using emotions rigorously and productively to combat academic supremacy.

Keywords
Food Dignity; Graduate Students; Emotions; Academic Supremacy; Food Justice; Action Research

Introduction

This paper is about our experiences as five novice scholars collaborating on a research project. This project, called Food Dignity, was funded by the United States Department of Agriculture's (USDA) National Institute of Food and Agriculture (NIFA) and its Agriculture and Food Research Initiative (AFRI). The project was conceived at a time when leaders within the USDA were particularly interested in learning about community-based initiatives to address inequalities related to food insecurity and nutrition across the United States. Food Dignity was a five-year action research and education project with a particular vision:

> A society where each community exercises significant control over its food system through radically democratic negotiation, action and learning in ways that nurture all of our people and sustain our land for current and future generations, and where universities and cooperative extension are supportive partners in this process. (Food Dignity, 2011)

The project brought together activists and scholars from five community organizations, four colleges and universities, and one "think-and-do" tank to experiment with and document ways to build just and sustainable local food systems. Everyone involved was already part of multiple communities—social, spiritual, intellectual, familial—and this collaborative effort provided opportunities to build new relationships and communities.

The five young scholars referenced above are the authors of this paper, and we will write from our perspective from this point on. One of us, Christine, was the principal investigator (PI) who proposed the project to the USDA while still a graduate student, although she had begun working as an assistant professor when the project started. The rest of us, Katie, Melvin, John, and Megan, were graduate students. As such, we came to academics with different backgrounds and plans for our futures but found that we all shared a drive to center our research around justice. Furthermore, as graduate students and novice scholars, we often found ourselves between worlds that were at odds with one another.

The fact that the primary recipient of the USDA's research award was a university, despite the requirement to involve community partners, should come as no surprise. These conditions—that grants are almost always granted to universities, and researchers are required to involve communities beyond campus—while often taken for granted, are central to the tensions we explore in this paper. Although Christine and the tenured professors and community partners who led Food Dignity sought to create collaborative processes within it, some basic structural inequalities persisted. Porter and Wechsler (2018) use the term "academic supremacy" to refer to "systemically inequitable social relations between institutions of higher education, especially universities, and community-based people and organizations" (p. 75). Within Food Dignity, graduate students had little say in the overall project design; however, not only did they spend more time doing "field work" with community partners than academic mentors, but they also spent more time on campus than community partners. Thus, graduate students often

served as intermediaries between the worlds of community and academia.[1]

The idea of academic supremacy aligns with several bodies of literature that attend to this sort of systemic division. We understand our experiences as residing in "third spaces," those that exist between divides (e.g., between communities and universities). In the effort to contextualize our experiences, several of us have relied on scholarship of third world feminism (including Anzaldúa & Keating, 2002; Moraga & Anzaldúa, 1981; Sandoval, 2000; Smith, 2012). These scholars illuminate the idea of bridges, including on whose backs they are built (rarely the scholars!). They also discuss the consciousness needed to traverse bridges and borderlands. At a macro-level, our struggles reflect a paradigmatic chasm between a unifying technical rationality that dominates our universities and an anti-oppression, anti-totalizing relational worldview lived and demanded by our community mentors. This struggle informed our questions about how participatory or engaged our action research might be although it looms much larger than our questions. In terms of the way in which philosophy indicates a path towards a just society, this is critical theory versus postcolonialism, represented by, for example, Habermas (1981/1984, 1990) and Freire (1970) versus Levinas (1961/1990), Bhabha (1994) and the third world feminist scholars mentioned above.

What this means for us as young activists and scholars has to do with our specific struggles to name and challenge academic supremacy and use our research to support community-led food justice efforts. As students, we faced unique challenges in defining our relationships with teachers and identifying models of community-academic partnership with which we were comfortable and on which we could build vocations and lives. Financial support for our work came through our universities, where the production of discipline-specific publications is often seen as the most important obligation of graduate students and the measure of a research group's worth. However, as we worked in that contested third space, our feelings of responsibility to and gratitude for community partner mentors grew, along with our sense of culpability for scholarship that produces inequity. This culpability stemmed from realizing that, in pursuing advanced degrees, we risked internalizing academic supremacy at the same time we were working to dismantle other forms of oppression. As graduate students still unsure of our professional courses, this conflict was a constant source of anxiety. Yet, we all persevered. How we were able to—and, in some cases, not able to—resolve the conflict between our ethical commitments to community partners and the expectations and requirements of conducting graduate research in academic institutions—make up the stories we tell below.

This paper proceeds as follows. The "Backgrounds and Methods" section describes our academic disciplines and the research project that brought us together. "Naming Privileges and Privileging Higher Education" identifies frameworks that helped us define the systemic nature of the ethical and relational challenges we faced as graduate students. We also explore the ways in which 'academic privilege' marred our interactions with the communities that welcomed us into their lives and work. The next section, "Putting Emotions and Ethics in the Research Narrative" reviews peer-reviewed literature that provides some guidance and justification for the solutions to the ethical problem of 'academic supremacy' that we pursued, as well as others we wish we had pursued. These solutions were often rooted in recognizing and honoring our ethical commitments and emotional responses to the injustices we observed, as well as the inspiring work of community partners we sought to support. The final section, "Serving Social Justice," addresses how the climate of academic supremacy affected our membership in communities off campus, specific situations in our individual projects through which we recognized, compromised, and upheld our values, and the emotional dimensions of this work. We conclude with thoughts on how our experiences might

[1] Graduate students in Food Dignity included the first four authors of this paper and four additional master's students who studied with Christine. The "we" in this paper encompasses the graduate student authors, and concurrence from Christine, who draws on her own student experiences in this paper as well.

confront academic supremacy at the institutional level.

Background and Methods

Food Dignity, which ran from 2011 to 2016, was interdisciplinary. Although we shared an interest in and commitment to justice, our backgrounds, institutions, and aims were different. We studied in three land-grant universities, one in each of the states represented in the Food Dignity project. Katie studied community development and geography at the University of California, Davis and worked with Dig Deep Farms in Ashland and Cherryland, California. Melvin earned a master's degree in health promotion at the University of Wyoming, studying with Christine as his chair and working with Blue Mountain Associates in Wind River, Wyoming, which is also where Melvin grew up. Megan and John studied horticulture and adult education, respectively, at Cornell University. Megan worked most closely with East New York Farms! in Brooklyn and John with the Whole Community Project of Cornell Cooperative Extension in Tompkins County, New York. The Food Dignity academic co-investigators at Cornell University chaired their committees. When Christine proposed the Food Dignity project to USDA in 2010, she was also a graduate student, finishing her Ph.D. in nutrition at Cornell University. Our different disciplinary and institutional homes meant that we each had somewhat different experiences with many of the generalizations and critiques of academics that we make in this paper. Furthermore, our affiliations were dynamic, based on progress through our degree programs, ties with community partners, and the social and political contexts in which we found ourselves.

While we shared the short-term goal of pursuing justice through our research, our longer-term intentions and goals were diverse. Some of us began graduate school out of a desire to continue learning about social systems and injustice; others began with the intention of using graduate school to strengthen our capacity for community-based education and activism; some of us had questions about whether we wanted academic careers in the long-term. Of course, even without clear career paths, we also wanted to set ourselves up for success after graduation. These factors also deepened and complicated our status as intermediaries. Yet, it is significant that we were all earnestly concerned with using our status as students to advance justice.

This priority of advancing justice through scholarship aligned with the Food Dignity project, where the central research questions sought to find ethical and effective strategies to achieve sustainable and just local food systems. To begin the project, nearly three-dozen community and academic co-investigators produced retrospective case studies of each community organization's work in building more just and sustainable food systems. Examples of their efforts included community and home gardens, urban farms that provided youth leadership training and/or employment, farmers markets, and local policy dialogues. Community partners also expanded their work with a 'community organizing support package' supported through Food Dignity. This package documented their efforts and success in engaging food-insecure communities in impactful decision-making processes. Within this framework of retrospective and prospective case studies, the project's research methods were diverse. They included participation and observation, narrative inquiry, photo and video narratives, cover crop trials, harvest measures, surveys, and document analysis. We were each involved in several of these methods.

For this paper we use auto-ethnography, a method involving self-reflection and analysis of the authors'/researchers' personal experiences. Because it accounts for emotions and relational aspects of research, Adams, Jones, and Ellis (2015) acknowledge auto-ethnography's suitability for studying messy social issues and for using research to advance social justice. In this case, we analyze our personal experiences and emotions in our individual research projects and in Food Dignity. In particular, we focus on the ways in which our roles as graduate students also made us intermediaries between university-based and community-based partners. This status is important methodologically because it was destabilizing and ambiguous. We did not find ourselves following clear paths to tenured professorships or research careers and often doubted the conventions of the institutions whose credentials we sought. Bhabha

(1994) contends that destabilization, ambiguity, liminality, and even temporary-ness are fertile conditions for imagining new political realities. Our field notes, reflective writing during the five years of Food Dignity, our notes from Food Dignity meetings, transcripts from when we were interviewed, and our memories from this ambiguous space and time comprise the data around which this paper is centered.

Naming Privileges and Privileging of Higher Education

Higher education is frequently a tool for validating the myth of meritocracy, which in turn is used to validate inequality (Brennan & Naidoo, 2008). This is an element of academic supremacy. Four additional forms of academic supremacy were apparent in Food Dignity—inequitable employment conditions among university-based and community-based participants; vast differences in the amount of institutional support, especially vis à vis indirect costs; validation of training and capacity development (e.g., producing graduate students) in academic settings and the lack of such validation in community based organizations; and an extreme disparity in the amount of autonomy, control, and accountability concerning funding. The material and practical implications of these forms of academic supremacy are described in detail by Porter and Wechsler (2018, in this issue). In addition to these four forms, we observed that, in many settings, community partners' experiential and place-based knowledge was not accorded the same credibility, authority, and respect as 'generalizable' knowledge produced through conventionally accepted academic research methods; this is another facet of academic supremacy, and it was especially salient for us as graduate students, as we explain below.

Acknowledging difference is an important step in dismantling any oppressive system, including academic supremacy. At meetings attended by participants from across the country, the major theme of our discussions centered around the differences among community and academic participants. These differences were made apparent as each person and organization identified their hopes and need for genuine collaboration. For many community partners, this required that we address the social status and risks inherent in everyone's roles. Community partners had a clear idea of the differences that separate them from their academic counterparts. One community partner said, "we do things and academics study those things. The historical weight of studying being more important than doing is difficult to get past." Although several community partners emphasized that the backing of scholars lends credibility to their efforts, most project collaborators questioned whether scholars deserve this power. Those who questioned this status often invoked the disparity between what community and academic partners risk. If the farms we research fail, farmers and organizational leaders could lose their income and even their careers; however, academics, including graduate students, could still write and publish about their failure in ways that advance our academic careers. This is academic supremacy.

Despite the existence of these differences, a few academics tried to downplay them, saying things like "I'm not a normal academic" and "I live in the community too." A few also pointed out differences within the academic setting between, for example, staff and tenured professors. However, such comments trivialized important structural inequalities and the resulting challenges community partners face. Since naming structural inequality is a necessary first step in working towards justice, such dismissal on the part of self-proclaimed atypical and progressive scholars, or even staff within the academy, hindered conversations about how to transform academic practices or dismantle knowledge-power hierarchies. As students, acknowledging what set us apart from community partners was necessary for establishing trust and collaborating with them. Doing so afforded us, as students, further privileges. Not only were we privileged via the social status associated with formal education, but also by the unpaid, undercredited mentorship and teaching that community leaders in the project generously provided. Our in-between status as graduate students was significant; perhaps it was because of this status that we were more comfortable acknowledging our position than tenured faculty, since we

did not yet fully belong; we were perhaps also more comfortable than some academic staff, since earning graduate degrees put us on a privileged path to belonging (regardless of whether we actually saw ourselves staying on such a path). Ultimately, this dynamic validated our decisions to turn to community partners as teachers, decisions that were further validated through additional dimensions of academic supremacy.

Academic supremacy can manifest itself in the resistance to articulate and address complex, messy problems. In our time with community partners, we encountered complex local issues that lacked clear answers, simple solutions, or opportunities for isolated intervention. In much of academia, there is more focus on questions that can be answered definitively (and therefore published in peer-reviewed literature), even if the questions are so simplified as to be useless in a practical setting. For example, at one of the first Food Dignity meetings, several tenured faculty discussed publishing academic articles. One announced, with a frustrated tone, that she did not plan to publish anything based on her involvement because the research could not be conducted in what she deemed to be an adequately controlled environment. This reflects an aspect of academic supremacy—the idea that knowledge not generated in a controlled environment or process is not valid or is less valid than information generated under controlled conditions. Another said he was not worried about publishing—he knew he could—but was more concerned about doing work that served the community partners. The pressure to publish for graduate students is not as strong as for tenure-track faculty, and this pressure varies across disciplines. We were, ourselves, held accountable to academic standards in our dissertation research proposals and are well aware of the tension surrounding publication. Thus, we felt pressure to use widely accepted methods for achieving 'generalizable,' rigorous results that contribute to the publication record of our graduate lab or research group. Like other aspects of academic privilege that daunted us, there was little we perceived we could do about these pressures and conventions that influenced our thinking and research planning.

Academic supremacy grants researchers greater control over what questions get investigated and privileges supposedly generalizable and discrete knowledge (e.g., from randomized controlled trials in health fields and randomized complete block designs in agricultural fields). This happens despite the potential of participatory research to generate more localized and nuanced knowledge that is rooted in a particular place and is useful to people working toward community well-being. Fortunately, we all had advisors, or at least committee members, who appreciated and supported our efforts to raise complex, messy questions of importance to community-based partners. However, institutional shortcomings—particularly doctoral timelines for qualifying exams, proposals, and degree completion and methodology courses—created barriers to embracing these questions. These barriers meant that some of the most interesting practical questions, contradictions, and tensions we encountered in our field work with community-based partners remained underexplored (Cook, 2009; Gregory & Peters, 2018, in this issue).

Megan and Katie encountered these dilemmas in their work with farmer field schools. Megan worked with community gardeners in Brooklyn to implement cover crop research across staggering environmental variation. Prioritizing gardener interest and engagement over specific, controlled soil and light conditions meant that the results were applicable to real community gardens, but she had to accept that she could not tease out all the effects of soil and light on cover crop performance. This will make her research harder to publish, though it could provide useful insights, if not definitive answers, for others working to improve soil quality in urban gardens and farms.

In Katie's research with urban farmers, farmers told her that existing resources were not appropriate for their needs. This dialogue inspired the creation of a peer-to-peer learning network. Katie's efforts to publish a case study about this network and how it adopted anti-racist practices in response to the stated needs of farmers was met with comments asking for proof of racism in existing farmer training programs. Had Katie pursued the research agenda of interest to potential (and eventual reviewers), she would have reinforced the academic

supremacist notion that experiential and place-based knowledge is not as credible as 'generalizable' knowledge produced through conventionally accepted academic research methods, nor would she have been able to support the immediate goals of the urban farmers with whom she partnered.

Identifying these forms of academic supremacy was an important process for us, but we were still left looking for guidance about how to use our position within universities to address structural inequities. In the examples above, in addition to others, we experienced anger and frustration that our academic institutions were more concerned with the rigor of our proposals and problem definitions than the potential relevance and benefits of the research to community partners. Moreover, coursework and academic timelines reinforced a false binary between rigor and relevance (Porter, Hargraves, Sequeria, & Woodsum, 2014). Food Dignity community partners would not stand for such a dynamic, and we credit them with showing us a new research path—one along which we were able to productively use our emotions to shape research where the relevance enhanced the rigor. The next sections address why, how, and where we came to position our emotions in research.

Putting Emotion and Ethics in the Research Narrative

Whereas emotions and non-neutrality were once rebuked as undermining the scientific method (Pretty, 1995), such positivist views of knowledge production are no longer the only perspectives represented in academia, although they remain common in biophysical sciences. The literature on emotions in research tends to focus on mitigating the impacts of researchers' emotions, often commiserating about the emotional dimensions of research and discussing ways in which to support graduate students through the emotional challenges they inevitably face (Calgaro, 2015; Klocker, 2015). This mitigating stance towards emotion in research contrasts with the notion that emotion might play a valuable role in systematic knowledge production. The place for emotion in research, if any, is usually allocated to a "researcher's narrative," which Humble (2012) describes as stories from the research process that are shared conversationally or informally, as opposed to being published as part of the "research narrative."

Our academic training teaches us to produce research narratives for peer-review and publication that are stripped of our researcher's narratives, that is, stripped of emotion, ethics and values. Cook has called this process "tidying away the mess" (1998), where emotions, along with professional knowledge, judgment, tacit knowledge, intuition, and professional maturity are at odds with a "neat" methodology, a methodology that is often misconstrued as a rigorous one. However, in Food Dignity, much of the most important data for answering the core research questions are a part of that "mess."

The different priorities of project partners and the complexity of the Food Dignity project led community- and academic-based partners to describe the collaborative working ground with phrases such as "no-man's land," "bridge," "borderland," "minefield," and "superfund site." As graduate students and intermediaries in the project, we became intimately familiar with this fraught terrain, and we looked to our emotions to navigate it.

A small body of literature examines how emotions might guide us through these potentially explosive landscapes. Askins, a human geographer who does research with refugees and asylum seekers, highlights the motivational and transformative dimensions of emotion in research, emphasizing that they are key to building relationships and forging solidarity. She explains, "emotions and affects from previous work and life experiences compel me… to do 'good work' in line with my passions rather than structures of academia" (2009, p. 10). Hardy, (2012) writing about human rights and sex work as a geographer, stresses that recognizing emotions, both the researcher's own and the emotions of participants, can challenge "homogenisation of the local," presumably whether the local refers to people or place. Others emphasize that institutions of higher education must engage with "moral and affective commitments" of students and researchers in order to meet calls for social justice in academics (Hey & Leathwood, 2009). Despite these calls to pull emotions out from under the rug and recognize their potential value in research, which includes but

goes beyond accounting for our subjectivities, there are very few emotions mentioned in specific research contexts and even fewer examples of how researchers used these emotional experiences to gain new insights that advanced their research and social justice agendas. Furthermore, amidst calls for deeper, longer-term collaboration between academics and activists and increasing transparency about collaborative processes (Levkoe et al., 2016; Reynolds & Cohen, 2016), there is little acknowledgement of the importance of emotions.

In the following sections, we provide stories from Food Dignity, and specifically our dissertation and thesis research, to illustrate how we aimed to work from a place of productive feeling, establish common working ground, and conduct rigorous research. We call this holistic approach to scholarship praxis-from-the-heart and contend that it can help prevent, redress, or mitigate the exploitation of local communities for academic research purposes. We also contend that praxis-from-the-heart can support full engagement of the insights that community partners have to offer to the co-production of knowledge and ensure the relevance of research to community-based social justice practices. The examples that follow demonstrate how we employed a praxis-from-the-heart approach and how we think we could have done it better.

Serving Social Justice

Conflicting Pressures

While powerlessness and uncertainty about how to transform academic structures are part of the graduate student experience, there is a rather positive aspect to this status of being not-fully academic—the ability to facilitate connections across cultural, occupational, and educational divides. Turning to our community partners as teachers was important to fostering such connections. Not only did we engage them as teachers and mentors, we drew inspiration from their willingness to raise issues concerning disparities in funding, status, and perceived legitimacy of partners' knowledge and experience in mixed company. These conversations resonated with us because of the ways in which we felt out of place in academia. This made our desire to become part of groups outside the realm of academia all the more powerful.

To the extent that we have been shaped by and belong to multiple communities, we have seen the very communities in which we live and do research exploited through research. We are also acutely aware that there is a long history of exploitative research practices (particularly research conducted in communities of color and/or low-income communities) that violate our deepest values. These realities sometimes undermined our sense of self-confidence. At times, they are saddening, frustrating, and angering. And yet, they motivated us to strive to create a different type of relationship between researchers and communities by drawing on the wisdom of the communities to which we belonged, including our families, ancestors, faith communities, and others.

Melvin's experience conducting research on the Wind River Reservation– where he grew up and still lives with his family –provides an example of a Food Dignity graduate student drawing on the practices of his ancestors to shape more equitable research relationships. He struggled to prioritize ancestral knowledge and ways of knowing as he crosses between a white world and a native world, between the academic world in Laramie, the location of his university, and the social service provider world on the reservation. Yet in reflective writing shared among our graduate student group, he wrote of how his connections with his ancestors have helped him adapt his research to serve the good of his community:

> Traditionally our health was something that was part of our culture, and customarily when people got sick, it was a tribal matter. Our ancestors achieved a balance when leading tribal members through the cycle of life… When working with American Indian communities, the application of standard methodology can be thrown out the window. Collecting data will require researchers to have interpersonal communication with American Indian participants…I try to listen to the stories of my ancestors and the stories my people are telling me today. I do this in order to find a way to unite American Indians for

> the common good…in the hopes of assuring that the Northern Arapaho and Eastern Shoshone tribal members have the opportunity to live healthier lives.

In a different way, Megan also struggled to recognize the importance of her spirituality in her research. In reflecting on the role of ethics in her research, she wrote:

> Where I look to guide and inspire my work is primarily to a faith community and tradition that strives—always imperfectly, but strives nonetheless—towards justice as "a radical notion of distributive practice that gives to each one what is needed—by way of legitimacy, dignity, power, and wherewithal—to live a life of well-being."[2] I want to affirm the value and wisdom of this community and tradition that has sustained me, and continue to build that tradition in my work…Yet, this has been a struggle in the context of a large research university, where the institutional emphasis on publication in high-impact academic journals conflicts with values of building relationships and prioritizing the well-being of communities, both in what research questions are explored and how research is conducted.

Although we brought values of justice and respect with us into the project, we sometimes struggled to uphold them. When we experienced emotional discomfort—feelings of invalidation, frustration, and sadness—it was often a sign that we were struggling to bring our values into practice. Our relationships with community partners helped us to understand the specific ways in which our values were relevant and actionable. We developed these relationships by working together in community-based projects. Over the course of several years, we shared information about our backgrounds, helped each other understand new perspectives, revealed vulnerabilities, and built trust. In doing so, we developed a sense of mutual respect. This respect enabled us to share our emotions—outrage, joy, sadness—and to receive encouragement to pay attention to them. In this way, our partners showed us that the parts of us that made us whole, but were unwelcome in academia, were welcome in their world. They helped us place value in our emotions and held us accountable to our values. They helped us see the importance of owning our status, partial though it may be, as academics while staying true to ourselves. Our accountability to ourselves and community partners proved to be an important anchor while we faced some of the academic pressures discussed above. The value we placed on the experiences and wisdom of community-based partners provided a critical, though not complete, counterbalance to these pressures. Next we offer two stories that reflect how we dealt with these often conflicting pressures.

Building Bridges

Through the encouragement and support of Food Dignity community partners, we developed tools for responding to some of the conflicting pressures described above. We aspired to hold onto values we were told did not belong in academics, use them to learn from and connect with community partners as both feeling and analytical people, and devote our research practices to the interests of community partner organizations. Furthermore, we aspired to use methods that challenged the notions of power and status that accrue from academic ways of knowing and make room for more collaborative approaches to research that place community interests and capacity development at the center. This meant, among other things, addressing the kinds of complex and localized questions of interest to food justice practitioners. To do this, we put stock in our own and in our colleagues' emotions, experiences, ancestral knowledge, ethics, and values. In doing so, we strived to honor the multiple communities to which every one of us in the project belonged. While our ethics and values motivated us to embrace our role as bridge builders, we did not always know how to behave in this role. The following stories illustrate strategies that helped us build common working ground between the collaborating campuses and communities through Food Dignity.

[2] The quotation is from Brueggemann, 1999, p. 49.

Megan's story speaks to the process of developing relationships and research designs that support community efforts with the support and mentoring of community partners. In the midst of her research, she wrote:

> As we began to shape our research to learn about cover cropping practices in urban gardens, I was worried about history repeating itself—about these gardens and gardeners being *'used' as a means* (in this case, to generate agro-ecological knowledge). By contrast, I thought it important that the agroecological and social health of the gardens be *nurtured as ends*, valuable in and of themselves and for the well-being they foster in the neighborhood. In order to contribute to the gardens and strengthen gardeners' capacity for sustainable practices, it seemed like a no-brainer to me that participating gardeners would choose which cover crops they wanted to plant in their plots. This way, we could consider each gardener's vegetable rotation and management goals, and choose the cover crops most likely to suit their needs. As long as I was careful to document background conditions for each plot—soil properties, light availability, intercrops, and so forth—I figured that we could learn a lot about the different cover crops and their performance in urban gardens, while supporting gardeners' goals for the plots they tended.

Megan faced skepticism about the academic merit of her research proposal because sharing decision-making power with gardeners made the experimental design much 'messier' than is typical in agricultural research. Yet, in reflecting on their first season of cover crop research, one of Megan's community partners commented that it was wonderful to see gardeners so engaged with the process and eager to share their learning about cover crops with others. This partner highlighted the one-on-one assistance in individual gardens, helping gardeners select and plant cover crops, as one of the most valuable aspects of the project. For Megan, this affirmed the value in the practice of sharing decision-making power with gardeners and taking time to foster gardeners' learning and leadership development—which the dominant academic culture views as distractions (at best) or impediments (at worst) to producing 'rigorous' biophysical research. Thus, the perspective, encouragement, and mentoring of community partners provided essential support for carrying out ethical commitments in participatory research.

Like Megan, Katie also felt compelled to do research that served the farmers with whom she worked. Early drafts of her dissertation proposal consisted of her conjectures concerning how to best achieve this goal, but did not reflect conditions on the ground. As she was beginning her research, she reflected:

> In the first couple of years that Dig Deep Farms operated, leaders frequently described running the organization with the phrase, "building the plane while flying it." One of the implications of this flight strategy was that new farmers had to learn on the job and step into farm management positions before they felt ready. After I left the farm office one day, I noticed one of the farmers sitting outside the greenhouse and I stopped to say hi. He had a pen and piece of paper with him, but otherwise didn't appear to be doing anything. When we started talking, I realized I was mistaken. He was trying to create a plan for starts that would grow in the greenhouse and be transplanted, in succession, on the farm. He had helped out in the greenhouse before, but this was the first time he was responsible for running it. He asked me for help.
>
> As a social scientist, I came to do research with Dig Deep Farms because of my interest in how the farm impacted the surrounding neighborhood, how it impacted farmers, and what it meant for local government support for urban agriculture. I spent time working with the farmers, but never advanced beyond novice in my farming know-how. As I sat with the farmer that day, I felt useless and powerless. When I started graduate school, I imagined doing activist research and contributing to food justice activism. But here I sat, unable to translate my years of school and

academic skills to anything practical.

Around the same time, managers started recognizing the need for greater mentorship and instruction for the farmers and invited experts to visit the farm. I was present for one such visit when we were going to learn how to set up a fertigation system. But as we walked the fields, this expert identified everything that could be improved, quickly jumping from one topic to another. The farmers and I were similarly overwhelmed. What suggestion was most important to address? How could we slow this guy down? How could we focus the conversation on something practical and actionable?

Eventually, Dig Deep Farms leaders decided to start an urban farmer field school. It would be peer-to-peer and facilitated by other urban farmers in the food justice movement in the region. They asked me to coordinate. This I could do. I understood what the farmers needed and wanted to learn. I had felt confused alongside them and understood their need for demonstrations in the learning process. I wasn't intimidated by experts and could communicate what instructional models would be most effective. I could find motivation in my earlier sense of uselessness. I would have to create my own research questions about the work I was being asked to do, but that was a burden I was honored to have.

Katie faced self-doubt about doing research that actually mattered to farmers, ultimately abandoning her original dissertation proposal when the she found a role for herself that addressed the farmers' needs and creative vision.

In both Megan's and Katie's stories, multiyear relationships and mentoring from community partners were prerequisite for research projects that satisfied community needs and academic pressures. These examples also point to the lack of confidence, from others as well as ourselves, that can develop when we do food systems research. In each case, listening and seeking to prioritize community well-being in research design resulted in a project in which gardeners' and farmers' local knowledge improved the research and ensured that it contributed to community education as well as garden and farm sustainability.

Of course, there are also many smaller, individual acts we can and sometimes did perform in an attempt to diminish the injustices brought by academic privilege. We sought funding from other sources on campus so that more grant funds could be allocated to community-based partners. We applied for our own grants so we could hire community members as co-organizers, researchers, and educators receiving stipends. We volunteered in the organizations that partnered with us as a partial repayment for time spent mentoring us. We were confidants, offered rides, made lasagna for someone going through a rough time, and attended funerals to support partners we had come to consider family. While the impacts of these activities varied, they represent small ways in which we asserted agency in the face of academic supremacy and made interpersonal decisions based on shared humanity rather than conventional research pressures.

In addition to creating context-specific strategies to contest academic privilege, we also had to justify these strategies as rigorous. The methods conventionally accepted as rigorous are beyond the scope of this paper and are detailed in our theses, dissertations, and other publications (Armstrong, 2015; Arthur, 2015; Bradley, 2011, 2015; Gregory, 2017; Gregory & Peters, this issue; Meek et al., 2017; Porter, 2010, 2013; Porter, McCracken, & Naschold, 2016). However we also engaged in emotionally rigorous work, which we describe in the next section.

Praxis-from-the-Heart

Action research has a fraught nature (Herr & Anderson, 2005; Pulido, 2008), with personal and interpersonal highs and lows. Along with some of the more uncomfortable feelings, we all experienced joy, love, and even belonging, despite our in-between status. These emotions helped keep us connected and, thus, accountable to community partners. In many ways, these positive experiences served as touchstones when we faced more difficult emotions, which we and other project partners routinely did. Our emotions proved to be invalu-

able in helping us to navigate our dynamic roles as intermediaries between communities off campus and those in academics. They helped us to recognize instances of academic supremacy, including in our own actions and priorities, to nurture relationships with diverse community partners, and to allow our values of justice to guide our research in changing social contexts. We label this use of emotions in research as praxis-from-the-heart.

An example of positive emotions comes from Megan's research. Gardeners participating in the Brooklyn Farmer Field School were eager to share their learning, so she helped them organize field days each spring to show the cover crops to other gardeners in the neighborhood. After the first such field day in the Spring of 2012, Megan wrote about feelings of pride and joy in watching participating gardeners teach others (Gregory & Peters, in review for this issue). These feelings helped sustain a commitment to community education within her research. She wrote in her field notes:

> As I biked home from [FFS garden], savoring the sense of satisfaction at the showing and teaching and learning that went on at our little field day, I realized that I recognized the feeling I've been trying to describe…It's the joy of sitting quietly and watching the flowering of a person's potential to learn, teach, mentor, inspire, knowing you had a small part in planting some new ideas, and then helping them learn to value their own experience as something worth sharing for the benefit of the community.
>
> It is one of my favorite feelings in the whole world.

In addition to positive emotions such as pride and joy, Food Dignity partners also experienced many difficult emotions. Community partners in particular are quite open about being propelled in their work by a sense of anger and outrage over injustices related to food insecurity, employment discrimination, gender- and race-based oppression, and academic theft. We also often felt such difficult emotions and contend that they can be productive, despite being taught that there is no place for emotions in academics.

Sometimes when we are in the field, we feel a sense of guilt at our own privilege, we feel a sense of self-doubt as outsiders or unskilled interlopers, or we feel lost about how to work in an emotional borderland. Emotions—like the guilt and anxiety we often felt—can be challenging to deal with personally and are often considered to be inappropriate to discuss anywhere but the informal researcher's narrative. Worse, we may receive messages or have already internalized the idea that we do not even deserve to have these feelings. However, in contrast to arguments that guilt is self-indulgent or unproductive, Audre Lorde explains that "guilt is not a response to anger; it is a response to one's own actions or lack of action. If it leads to change then it can be useful, since it is then no longer guilt but the beginning of knowledge" (2012, p. 130). Thus, we also want to focus on these challenging feelings because, if we pause and reflect, we can learn a great deal from them.

These challenging feelings could be called diagnostic feelings, signal feelings, or instructional feelings. Part of what makes them challenging to deal with—that they involve a state of suspended agency—also makes them so instructional. This feeling of suspended agency has been described as:

> the affective sense of bewilderment rather than the epistemological stance of indeterminacy. Despite its marginality to the philosophical canon of emotions, isn't this feeling of confusion and what one is feeling an affective state in its own right? And in fact a rather familiar feeling that often heralds the basic affect of "interest" underwriting all acts of intellectual inquiry? (Ngai, 2004, p. 14)

These feelings exert their influence internally, but, to the extent that they drive inquiry, they are also quite social. Challenging feelings can be acute sensors of the cultural milieu, social arrangements, and our internalization of these conditions. Feelings, such as the anxiety we have experienced in our academic work, shouldn't be considered "bad," but rather diagnostic of the cultural and political spaces we and our food systems research occupy. For example, discomfort can signal structural

inequality or frustration can signal irrelevance of a research question. By contrast, happiness and belonging can signal relevance. Of course, it is possible to misinterpret our emotions. Nevertheless, making a deliberate effort to understand our emotions can prove to be insightful and productive as we make important choices about how to relate to community partners and uphold values, particularly values of justice, as we conduct our research.

While there are some examples of scholars integrating emotional rigor in their work, including in the fringes of Food Dignity (Bradley & Herrera, 2016; Wechsler, 2017), there are ways we wish we had done this better. For example, Katie regrets not documenting her emotional experiences more thoroughly. A majority of her field note entries mention the emotions that other people expressed to her; however, only a minority of entries document her own experiences of sadness, happiness, embarrassment, frustration, and excitement. None of her social science research method classes addressed the role of emotions. Of course, Katie could have taken initiative to more methodically describe her emotions along with details of site visits and interactions. While it is difficult to say what this could have yielded, as we argue below, paying more attention to these experiences in the research process would likely have enriched the research itself. Ultimately, rigorous emotional work deserves more academic support than it currently receives.

Similarly, Megan regrets yielding to pressure to focus on dissertation manuscripts first upon finishing her field work. Meanwhile, gardeners waited for her to prepare their individual soil test results as well as a report and presentation of soil and cover crop research results in an accessible format. While she did eventually fulfill these obligations to her gardener research partners, they waited a long time for information that they not only helped produce, but information that could further inform their gardening practices. Had Megan paid more attention to the guilt she felt, she may have made different, and more ethical, decisions about how to prioritize research and education tasks.

Importantly, acknowledging and responding to emotions (both positive and negative) means that that researchers must accept a degree of vulnerability, a taboo practice according to the normative research narrative. Vulnerability is scary for many people, often for good reason. Emotional vulnerability can serve as grounds to cast doubt on the soundness of our own analyses or experiences as well as those of community partners. Too often, academics, including students, conceal their emotional involvement behind ostensibly tidy methods and analysis. Yet, this honesty and vulnerability reveals that much of what guides us as researchers is not a special power unique to academics. Rather, what guides us are our emotions and our values. Melvin's and Megan's stories about their ancestry and faith, respectively, are further reminders that our humanity can help us build solidarity with and do research in service of community partners. Blending the researcher's narrative and the research narrative casts light on problematic, conventionally accepted knowledge-power hierarchies, and demands that academic researchers, like community-based ones, become the researched. These stories and ideas have implications beyond the lives of graduate students.

Conclusion

After the conclusion of Food Dignity, a community partner and an academic partner discussed the impacts of the project. How had our group collectively shifted the values and priorities of academia? The community partner lamented the lack of progress on the academic side. Perhaps we, the students, did too. One of us is a community garden coordinator for cooperative extension; another is a research scientist with a project in his home community; and another is working in construction and urban agriculture. Only one of us has decided to pursue a tenure track position, only after a year and a half of working in undergraduate experiential teaching in collaboration with activists. While we are still thinking, feeling, analytical people, we have chosen to apply our skills and values outside of large research institutions, where we hope they will have a better chance of flourishing and contributing to the struggle for justice and social change.

We hope these settings will allow us to use our emotions as productively as our community partners use theirs. We hope other researchers will take up this task of using emotions productively. This

would entail using emotions to call researchers' attention to the "mess," including important issues previously unconsidered by researchers, such as the structural inequities in community-academic collaborations and potentially exploitative or disrespectful research dynamics—like those that have made our community partners (and us!) wary of research. It should also inform our writing and presentations, and we should use our emotions to merge the unofficial "researcher's narrative" with the more formal and public "research narrative." In short, it requires honesty.

Honesty and openness about emotions, relationships, and shared humanity can be the foundation for a radical research movement. This honesty requires remaining attuned to our emotions, not getting stuck in them. We saw our community partners do this in ways that were innovative, and these innovations were the subject of the Food Dignity project. We also saw our community partners use their emotions in ways that nurtured self-determination and resilience, both in us and in their communities. This nurture enabled us to use self-reflection to avoid getting bogged down by challenging feelings. Inhabiting our emotions helped us to establish foundations of humility in our research. This, in turn, helped to recognize the dignity of community partners and to democratize our research processes. Whereas the steps for gaining academic credentials often seemed taken for granted and accepted without question, we hope that praxis-from-the-heart can help more graduate students and researchers identify and unseat many of the power relations we experience as we perform academic work off campus.

Furthermore, to the extent that employing emotionally rigorous methods can combat academic supremacy, it is necessary to look beyond what we can each do as individual researchers. As with other forms of oppression, structural changes are necessary. The tendency to reduce complex problems to definitively answerable questions is a feature of academic supremacy that conventional ideas about rigor reinforce. As graduate students committed to serving the interests of community-based food justice movements, we struggled to articulate and explore complex, messy problems within an institutional context that discourages such endeavors as 'unpublishable.' In writing this article, one reviewer asked that we more strictly adhere to a traditional academic paper format or eschew the format completely. But we insist that more hybridity is needed throughout our academic conventions as it allows for greater honesty about in-between status and the messy social problems we studied. Because hybrid forms of communication mirror reality more closely, it also invites wider participation in academic practices, like publishing, that are based on experientially gained information. Employing emotionally rigorous research methods in our studies allows us to acknowledge the full messiness of not just action research, but of complex social injustices and the multitude of ways people live with and respond to them. Our community partners showed us that such work requires courage.

With this critical reflexivity about our collective graduate student experiences, we have stretched across only inches of the chasms between small community organizations fighting for food sovereignty and large research universities, between unifying critical theory and postcolonial theories that name unity as oppressive in its totality, and between action and research that we have strived to weave into ever-stronger ropes for climbing towards social justice goals. We deliver no answers, but have shared our struggles and our strategies for navigating this terrain. We increasingly learned to name and own our systemic privileges, including academic privilege. In the face of practical and paradigmatic gaps between our academic and community accountabilities and mentorship, we sometimes could only name the conflicting pressures, but not resolve them. We strived to stretch and grow in hybrid, bridged, "third" spaces (Bhabha, 1994). Most of all, we found that we needed to be as rigorously vulnerable in the emotions of our research relations as we have been in our knowledge generation methods. This praxis-from-the heart method was the most reliable guide we found to serving social justice with our action research.

Acknowledgements

We extend our deepest gratitude to all of our teachers, especially our community partners who mentored us,

welcomed us into their work, held us accountable to values of justice, love, and heritage, and encouraged us. We also are grateful for the support for and from Food Dignity

In particular, Megan thanks Deborah Greig, David Vigil, Sarita Daftary, and Daryl Marshall of East New York Farms! and community educator partners, Nayda Maymi and Brenda Thompson-Duchene, for their guidance and practical support for the Brooklyn Farmer Field School. Scott Peters, Laurie Drinkwater, and Marianne Krasny provided scholarly guidance in designing and interpreting Megan's research in adult education and horticulture.

Katie thanks Pac Rucker, Sam Faulkner, Tommie Wheeler, Mike Silva, Jarryd Smith, Hank Herrera, and Marty Neideffer of Dig Deep Farms. She also thanks her advisor, Ryan Galt, for his support and encouragement.

Christine is especially grateful to E. Jemila Sequeira of the Whole Community Project and Gayle M. Woodsum of Feeding Laramie Valley and Action Resources International for their mentorship; to Scott Peters, David Pelletier, Kathy Rasmussen and Phil McMichael at Cornell University for their academic guidance; and to her students for the hope and challenges they offer.

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Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Participatory research for scientific, educational, and community benefits: A case study from Brooklyn community gardens

FoodDignity

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Submitted April 21, 2018 / Revised May 28 and June 17, 2018 / Accepted June 18, 2018 / Published online July 18, 2018

Citation: Gregory, M. M., & Peters, S. J. (2018). Participatory research for scientific, educational, and community benefits: A case study from Brooklyn community gardens. *Journal of Agriculture, Food Systems, and Community Development, 8*(Suppl. 1), 237–259. https://doi.org/10.5304/jafscd.2018.08A.010

Abstract

Supporting community food production is a key strategy for all the community-based partners in Food Dignity, a community-university research partnership dedicated to supporting and learning from food justice organizations. Participatory action research (PAR) may develop knowledge and skills for sustainable agriculture, thus building gardeners' capacities to refine, implement, and share locally appropriate, sustainable food production practices. However, little research has explored the possibilities and challenges of PAR with urban gardeners. In the context of Food Dignity, I examine those possibilities in a case study of a PAR project on cover crops with gardeners in Brooklyn, New York, USA. I address two questions: (1) How can PAR be designed in an urban community gardening context to achieve positive outcomes for science, education, and communities? and (2) What are the challenges, and how might facilitators address them? Several practices contributed to positive outcomes in our project. First, engaging gardeners in cover crop monitoring strengthened their knowledge of ecological processes (e.g., nitrogen fixation) and

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Author Note

This paper is adapted from a dissertation chapter (Gregory, 2017). Preliminary findings were presented at the conferences of the Agriculture, Food, and Human Values Society in June 2012 and the Ecological Society of America in August 2013.

Funding Disclosure

Funding for this project was provided by U.S. Department of Agriculture Hatch and Smith-Lever Grant #2010-11-293, the Toward Sustainability Foundation, and the Food Dignity Project (supported by Agriculture and Food Research Initiative Competitive Grant #2011-68004-30074 from the USDA National Institute of Food and Agriculture). Gregory was supported by a National Science Foundation Graduate Research Fellowship (2009–2012) and a Land Grant Fellowship from Cornell University (2012–2014).

adaptive management skills (e.g., systematic observation). Second, facilitating opportunities for participants to share their knowledge (e.g., field days) supported leadership development. Third, sustained, in-person support enabled gardeners to implement cover cropping practices with benefits for crop production and environmental quality. Key challenges included addressing community-defined priorities within the constraints of a dissertation project and providing sufficient one-on-one research and education support with limited funding for community-based partners. Despite its challenges, PAR in urban gardening contexts may develop knowledge and skills that support improved stewardship practices and community capacities. Implications for inspiring and sustaining more community-university research partnerships include strengthening institutional support for PAR at colleges and universities, funding community researcher/educator positions, and providing professional development for community and academic PAR partners.

Keywords
Adaptive Management; Agricultural Extension; Community Gardens; Cover Crops; Farmer Field Schools; Ecological Knowledge; Outcomes Monitoring; Participatory Action Research; Social Learning; Urban Environmental Stewardship; Food Dignity

Introduction

What happens when you take an inquiry-based approach to agricultural research and education developed in the rice fields of rural Indonesia and apply it with urban gardeners growing vegetables, herbs, flowers, and community on patches of land wedged between apartment buildings and bustling city streets in the U.S.? In this paper, I[1] explore this situation by analyzing the outcomes, challenges, and lessons learned from a participatory research project that I facilitated with community gardeners in Brooklyn, New York. The project's design and implementation were inspired and guided by principles of the Farmer Field School (FFS) methodology, an inquiry-based approach to agricultural extension that was first used with smallholder farmers in Asia (Braun & Duveskog, 2008).

Urban gardeners contribute to food access and nutrition, stewardship of green space, and social well-being in their neighborhoods (Alaimo, Packnett, Miles, & Kruger, 2008; Draper & Freedman, 2010; Gregory, Leslie, & Drinkwater, 2016). They also face challenges, including securing land tenure, material and financial resources, staff and volunteer commitment, and technical assistance (Cohen & Reynolds, 2015; Drake & Lawson, 2015; Pfeiffer, Silva, & Colquhoun, 2014). In addition, the urban growing environment and the typical practices of urban gardeners pose unique constraints for growing food sustainably. In Brooklyn, gardeners struggle with poor soil quality in raised-bed 'constructed' soils as well as unique weed and insect pest pressures. Overfertilization (whether with synthetic fertilizer or manure-based compost) is common, as is the practice of leaving soil bare over the winter. These practices expose the soil to erosion and facilitate weed growth (Gregory et al., 2016). Using agroecological growing practices may help urban growers address these challenges. Agroecological practices enhance biological processes (e.g., internal nutrient cycling, pest management), minimize the use of external inputs (Shennan, 2008), and may foster both food production and environmental sustainability (Drinkwater, Schipanski, Snapp, & Jackson, 2008; Landis, Wratten, & Gurr, 2000; Liebman & Dyck, 1993).

In this paper, I share and reflect on my story of doing participatory research with Brooklyn gardeners, through which we sought to develop agroecological practices tailored to urban environments. We also sought to build our mutual capacities for ongoing collaboration, experimentation, and learning about sustainable gardening practices. This work was part of my dissertation research in the fields of Horticulture and Adult and Extension Education at Cornell University. It was also part of

[1] In this paper, "I" refers to the first author, who facilitated the PAR project that is the subject of this case study and conducted the fieldwork. The second author provided substantial guidance in research design, qualitative methods, data analysis, drawing lessons for practice, and placing this work in the context of public and engaged scholarship.

a larger project called Food Dignity, a five-year community-university research partnership dedicated to facilitating and learning from the work of five food justice organizations, all of which support community food production. Another goal of the Food Dignity project was to discern ethical and effective strategies for universities to support community-led food justice work. In this context, this case study of the Brooklyn Farmer Field School addresses the following research questions:

- How can participatory action research (PAR) be designed in an urban community gardening context to achieve positive outcomes for science, education, and communities?
- What are the challenges of doing PAR with urban community gardeners, and how can they be overcome?

In exploring these questions, I hope to offer inspiration and guidance for community-based organizations and engaged academic scientists who partner with gardeners to develop, refine, and share sustainable practices.

PAR, Agroecology, and Urban Gardening Research and Education

Scholars and practitioners of agriculture and natural resource management show growing interest in public participation in scientific research (PPSR)—also called citizen science—due to its potential to generate and strengthen knowledge, skills, and communities of practice that enable ecologically based management (Ballard & Belsky, 2010; Fernandez-Gimenez, Ballard, & Sturtevant, 2008; Shirk et al., 2012; Warner, 2007). PPSR encompasses various forms of scientific research and monitoring in which members of the public are involved in some part of the process of scientific inquiry: asking questions, collecting data, and/or interpreting and applying results. The degree of participation by lay citizens varies across different types of citizen science projects, from simply collecting data, to helping answer researcher-defined questions, to defining the research questions and collaborating with scientists in all stages of the research process (Shirk et al., 2012).

A specific form of PPSR, Participatory Action Research (PAR) involves collaboration between members of a community and researchers to address practical problems in a specific local context. In most PAR projects, lay citizens select or refine the research questions based on community concerns and participate in most phases of conducting, communicating, and applying the research (Greenwood & Levin, 2007). Advocates of PAR argue that community participation in research may generate knowledge that is relevant to practice and build community capacity to engage in inquiry and action that advances individual and collective well-being (Fischer, 2000; Minkler, Vásquez, & Shepard, 2006).

A PAR-related approach within agroecology is Farmer Field Schools (FFS), in which groups of farmers experiment with new practices, apply agroecosystem analysis to evaluate their impacts, and incorporate this information into management decisions to achieve goals for crop production, environmental quality, and community health (Braun & Duveskog, 2008; van den Berg & Jiggins, 2007). FFSs have consistently promoted agroecological knowledge and observation-based management, increased crop productivity, and decreased pesticide use in smallholder farming systems throughout Asia, where the majority of impact studies have been conducted (Braun & Duveskog, 2008; van den Berg & Jiggins, 2007). Challenges noted in some FFSs include time-intensiveness, failure to foster co-learning due to poor facilitation skills and/or lack of commitment to participatory processes, and insufficient support for post-FFS activities (Braun & Duveskog, 2008; Sherwood, 2009). However, where farmers have engaged in a group research process in substantial and sustained ways, such agricultural extension approaches show promise for catalyzing agroecological management.

PAR: Designing for Multiple Benefits

The importance of research processes for achieving educational goals in FFSs invites careful consideration of how participatory research can be designed to support desired outcomes. Scholars of PPSR suggest that project outcomes relate to the *degree* and *quality* of public participation (Bonney et al., 2009; Shirk et al., 2012). Grower involvement in

the entire research process (defining relevant research questions, establishing treatments, analyzing results, and drawing conclusions for practice)—and not just in data collection—appears to amplify educational and knowledge generation outcomes as well as support the adoption of more sustainable practices (Ballard & Belsky, 2010; Bonney et al., 2009; Fernandez-Gimenez et al., 2008; Pence & Grieshop, 2001; Warner, 2007). However, there has been little research on project designs that facilitate social learning for sustainable agriculture (Reed et al., 2010; Woodhill & Röling, 1998) or the possibilities and challenges of PAR in urban community gardens. This paper aims to help fill those gaps, focusing on how to foster community-university research partnerships in urban agriculture that address practitioners' needs for technical assistance in environmentally sustainable horticultural practices and support environmental stewardship (Cohen & Reynolds, 2015; Krasny, Russ, Tidball, & Elmqvist, 2014; Silva & Krasny, 2014).

Methods

East New York claims the most community gardens of all Brooklyn neighborhoods, although nearby Bedford-Stuyvesant offers competition for that position. Both neighborhoods are racially diverse and culturally rich, with people of color composing the majority of the population. East New York also has a high percentage of foreign-born residents, many from the Caribbean. These neighborhoods are also economically disadvantaged, with median per capita incomes 25–50% lower and poverty rates nearly double those in New York state as a whole (Table 1).

Starting in spring 2011, I partnered with local organizations supporting community gardens (East New York Farms!, a Food Dignity partner, and Cornell University Cooperative Extension–NYC) to form two PAR groups among gardeners in each of these Brooklyn neighborhoods. Together, we formed the Brooklyn Farmer Field School (FFS). Our agricultural research goals were to identify cover crops[2] with the potential to enhance soil quality, weed suppression, and nitrogen fixation in urban gardens and to learn how environmental variation impacts cover crop growth. Through a series of garden-based workshops, I engaged gardeners in refining goals and research questions, designing field experiments, planting and monitoring cover crops, and sharing initial findings through field days (Appendix A). The results of that investigation will be reported elsewhere (Gregory & Drinkwater, 2018). This research is a case study of the Brooklyn FFS, focusing on the PAR process and its educational, environmental, and social outcomes.

Data Collection

Since case studies incorporate multiple sources of data, they are well suited to studying context-specific processes and tracing operational links (e.g., between program design choices, participant

Table 1. Demographic data from neighborhoods where the Farmer Field Schools (FFSs) in this study were conducted.

	East New York	Bedford-Stuyvesant	New York state
Racial/ethnic composition	52% Black 35% Hispanic 5% White	49% Black 17% Hispanic 26% White	14% Black 19% Hispanic 56% White
Median per-capita income	US$19, 242	US$26,665	US$35,534
Overall poverty rate	29.1%	26.7%	14.7%
Child poverty rate	41%	36%	21%
Rate of foreign-born	36.5%	19.7%	23%

Data sources: Census Reporter (https://censusreporter.org/), based on American Community Survey data.

[2] Cover crops are close-growing plants sown in rotation with food crops to cover bare ground. Before planting the next food crop, cover crops are cut down and the shoots are either left as a mulch on the soil surface or incorporated into the soil. Cover cropping may provide ecosystem services for agriculture, including improved soil quality, nitrogen fixation by legumes, nutrient recycling, weed suppression, and habitat for beneficial insects (Clark, 2007; Drinkwater, Schipanski, Snapp, & Jackson, 2008; Snapp et al., 2005; Tonitto, David, & Drinkwater, 2006).

experiences, and outcomes) (Yin, 2008). I collected five types of data:

- *Field notes from participation and observation (56 entries; 130 pages)*: I drafted field notes with detailed narrative accounts of workshops and research activities in the gardens. The notes also documented my initial impressions of outcomes for education and improved gardening practices.
- *Semi-structured interviews (*n=*7)*: These conversations with participating gardeners explored their learning through the FFS, how they applied this learning, and suggestions for improving the project to better support their goals. I invited interviewees who showed consistent participation and who represented a range of gardening backgrounds and life experiences, and each accepted. Interviews were recorded and transcribed for analysis.
- *Focus group evaluation sessions (*n=*4, with an average of 10 participants in each)*: I facilitated a focus group with each FFS group in each of the study's two years. Held in late fall following cover crop planting and fall monitoring, these sessions included a presentation and discussion of preliminary results and group evaluation of the FFS experience. I solicited gardeners' feedback in four areas: cover crops and practices, workshop scheduling and logistics, gardening knowledge and skills, and the value and drawbacks of garden-based research. Participants posted written comments on each theme, which we then explored further in discussions that I facilitated, tape-recorded, and transcribed.
- *Follow-up oral surveys on cover crop management and impacts (*n=*19 in 2012 and* n=*18 in 2013)*: In midsummer 2012 and 2013, after gardeners had cut down overwintering cover crops and established vegetable crops, I conducted a follow-up survey. This involved conversations with each gardener regarding their perspectives on cover crop management and perceived impacts of the cover crops on soil, weeds, and subsequent vegetable crops.
- *FFS-related documents (*n>*100)*: I collected numerous documents that reflect project design and products. These include my workshop outlines, workshop products (e.g., gardeners' completed monitoring datasheets for each cover crop plot), presentations of research results, and resources for gardeners and educators based on the PAR project.

Data Analysis

I conducted data analysis in multiple cycles during and after the PAR project in conversation with my co-author. I first read and synthesized case study data (e.g., field notes, etc.) as they were produced, using thematic (content) analysis to identify passages relevant to my research questions (Creswell, 2009). Themes I looked for included gardeners' motivations and goals for engaging in PAR; outcomes for science, education, and communities (Shirk et al., 2012); links between program activities and outcomes; and challenges and solutions in garden-based PAR.

As I identified the outcomes and challenges of PAR in this context, I employed explanation-building (Yin, 2008) to develop and refine propositions relating to how particular outcomes occurred or how challenges might be addressed. Consistent with the logic of case studies, my co-author and I used an interpretive approach to explanation (Dodge, Ospina, & Foldy, 2005; Lin, 1998), seeking to understand *how* program design choices and participant experiences contributed to specific outcomes *in this case*. Detailed narratives, in which participants connected specific experiences to outcomes, provided initial evidence for causal links specified in the study propositions (Dodge et al., 2005). To further strengthen validity, I have included only propositions that are supported by multiple sources of evidence (Creswell, 2009; Lincoln & Guba, 1985; Yin, 2008).

The final step in data analysis involved interpreting the data to draw lessons for strengthening future educational practice (Creswell, 2009). As my conclusions took shape, I prepared a brief summary and invited gardener and local organization

staff partners to offer feedback (Creswell, 2009; Lincoln & Guba, 1985; Yin, 2008).

Results

The Brooklyn Farmer Field School

Over the course of the Brooklyn FFS, 60 gardeners from 17 gardens came together to design and conduct cover crop research in their gardens and draw lessons for their gardening practice. With the help of staff from local organizations and garden leaders I had met through previous work, I organized interest meetings in the springs of 2011 and 2012 to form PAR groups in East New York and Bedford-Stuyvesant. At these meetings, I outlined the project and shared the expectations and potential benefits of participating in garden-based research. I also talked with interested gardeners to learn their gardening goals, interests, and scheduling needs. Each group included an organization staff member, community educators (gardeners who received training and stipends to help coordinate and support research and education activities), and a group of gardeners from nearby community gardens. Twenty-five gardeners participated in both years of research, 12 participated only in the first year, and 22 joined the FFS in the second year. In most cases, attrition after the first year was due either to the gardener moving or taking on new work or caregiving obligations, although a few gardeners found the program too time-consuming. During the second year, we welcomed four new gardeners from gardens that participated in the first year and 18 new gardeners from four additional gardens. These new garden groups joined after hearing about the FFS from participating groups nearby or attending one of our field days in spring 2012.

The PAR groups were diverse in many ways, bringing together people of different racial and ethnic groups, stages of life (working, parenting, retired, etc.), and gardening experience (Gregory, 2017). The East New York FFS group was half Caribbean-American and one-third African American, with the remainder being Latinx and White. In Bedford-Stuyvesant, two-thirds of participating gardeners were African American and 20% were White, with the remainder composed of Latinx and one gardener from the Caribbean. Two-thirds of participating gardeners were working, and about one-third were retired. Gardeners' levels of experience also varied widely, from first-time gardeners to people with life-long farming or gardening experience.

The overall program design involved large-group workshops (composed of all gardeners in each neighborhood group) and small-group research activities in each garden. There were three types of large-group gatherings. First, in each neighborhood, gardeners met for workshops related to the cover crop research. This included learning the basics of cover cropping, defining priority management goals and selecting cover crop species to test, and reviewing the results of soil tests conducted in each plot. Second, gardeners met in their large groups for fall wrap-up meetings to discuss preliminary results and participate in program evaluation. Finally, in response to gardener interest, I worked with partners from local organizations to offer large-group workshops on practical skills such as rotation planning, soil management, and how to cut down cover crops and prepare plots for planting vegetables.

After choosing cover crop species to test in large-group gatherings, FFS gardeners met in their respective gardens throughout the season to select, plant, and monitor cover crop treatments in their specific plots, with support from me and from community educator partners. To facilitate systematic observation and data collection by gardeners, I worked with two agricultural scientists (L. Drinkwater and J. Grossman) to develop a set of easy-to-observe indicators of cover crop performance (e.g., soil cover, weed suppression, and legume nodulation) and a checklist with visual guides (Appendix B). During monitoring workshops, I helped gardeners observe each plot and fill out monitoring checklists, with support from trained community educator partners. The checklists supported and structured gardeners' observations and provided a common framework for participants to compare and contrast outcomes across gardens. This allowed gardeners to extend their understanding of how environmental factors should be considered when selecting cover crops. In the following sections, I outline outcomes and challenges of doing PAR using this Brooklyn FFS model.

Science Outcomes

Making research more feasible and relevant. As recounted in field notes and group evaluation sessions, because gardeners co-designed the cover crop research, the research process and results were relevant to their gardening practices and management goals. For example, we tested cover cropping practices that were compatible with their vegetable crop rotations. We also prioritized cover crop species and planting methods that matched their priority goals of improving soil quality and suppressing weeds. In response to gardener preferences in our first season, we tested over-wintering cover crops, which are planted in fall, survive the winter, and grow through early spring before being cut down prior to planting vegetables. We also 'under-seeded' cover crops beneath standing food crops. We did this to ensure timely cover crop establishment while still allowing gardeners to reap a fall harvest, thus making the practice more feasible: During a group evaluation session, one gardener noted, "Being able to sow [cover crops] with eggplants that are still in the ground, was really an insight and helpful. It will make me more likely to do it in the future."

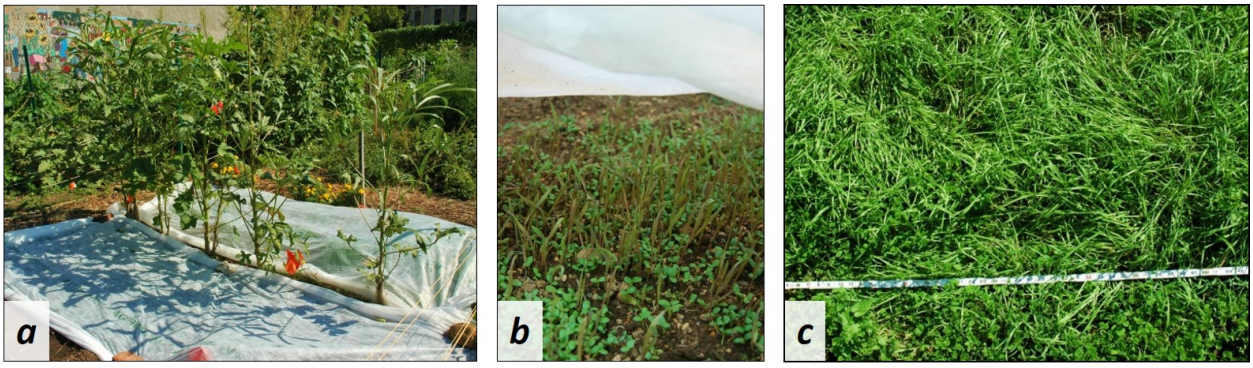
In the second year, we decided to also try winter-kill cover crop species, which are planted in late August, grow until the first killing frost, and then form a dead mulch that protects the soil over the winter. This addressed gardeners' interest in cover crops that would allow them to plant early spring crops in some beds (which is not possible where over-wintering cover crops are planted, as they are still maturing during the early spring planting season). During follow-up surveys after the second year of research, many gardeners noted that they planned to use a combination of over-wintering and winter-kill cover crops, rotating among beds each year. They felt that this would allow them to achieve substantial soil quality benefits in beds with over-wintering cover crops. It would also allow them to have spaces for early spring plantings where winter-kill cover crops had been planted (Gregory & Drinkwater, 2018).

Improving practices and protocols. Gardener knowledge of local environmental conditions was crucial to developing successful cover cropping practices. For example, as I puzzled about why the winter wheat (*Triticum aestivum*) cover crop failed to establish in the fall of 2011, gardeners recognized that seed predation by birds was the problem. One participant suggested that we cover newly planted seed with row cover until the plants became established. In 2012, we followed this suggestion, leading to much better cover crop establishment (Figure. 1). Drawing from their local expertise, the Brooklyn gardeners diagnosed the problem and identified a practical solution, which informed subsequent planting efforts and extension materials on cover cropping practices for urban gardeners.

Education Outcomes

Increasing ecological knowledge and adaptive management skills. Many gardeners spoke of the monitoring activities—in which they observed and recorded cover crop growth, legume nodulation, and weed

Figure 1. Innovation in Cover Crop Planting Practice Suggested by a Farmer Field School Gardener
The innovation was protecting newly planted plots with row cover to prevent seed predation by birds. (a) Row cover over newly planted cover crop seed in a community garden, Fall 2012. (b) Cover crop seed germinating under row cover. (c) Well-established rye (*Secale cereale*) and crimson clover (*Trifolium incarnatum*) mixture, three weeks after planting.



suppression—as crucial to developing their understanding of ecological processes in their gardens, as well as their observation skills (see Appendix B for an example monitoring checklist). For example, gardeners noted how looking for nodule number and color[3] on legume roots helped them understand the importance of nitrogen fixation in supporting a healthy vegetable crop in future seasons (Figure 2).

> I was sort of…*Elated*!…When we were seeing if [the crimson clover] had the nodules…I said, "Look one here! This is only pink. And this one is red red red…it's catching, it's coming!"…So I was really excited. And I'm looking forward now, that I'll be having a better crop for next year.

> By planting the cover crop, pulling it up and looking at the nodules, that was really exciting.…It's going to help my soil, get the nutrients back in it, that it's lacking…because believe it or not, I've been planting since '86 and I never did cover crop in my area. But I notice my vegetables was getting smaller and smaller until you[4] was explaining that those vegetables—tomatoes, cucumbers, peppers, even the corn—is stripping the soil from all the nutrients, but I wasn't putting anything back in it. So, now I know that every year, I need to do cover crop in order to keep my soil enriched.

Gardeners also learned about weed suppression by cover crops by comparing weeds in control plots (where no cover crops were planted) and cover-cropped plots. One gardener noted,

> After we planted the crimson clover, when we measure, it was practically no weeds there. But where we didn't have [cover crops]—the control area, you called it—the weeds that it had! So, I see the importance now of the cover crop. Like I said, I heard about it. I had seeds. But I never planted because I didn't know what was it. But being educated now on it, it's a great thing, because I realize it control a lot of the weeds.

These accounts illustrate how gardeners connect cover crop observations (e.g., a pink or red color inside the nodules on legume roots) with agroecological functions (e.g., adding nitrogen to the soil via plant residues). They also show enthusiasm and excitement in discovering, understanding, and nurturing ecological processes for more productive and sustainable gardens.

Gardeners also gained adaptive management skills through trying new practices and monitoring the outcomes. For example, one gardener has soil with unusually high nitrogen fertility and severe weed pressure. As a result—unlike in most

Figure 2. Observing Indicators of Legume Nitrogen Fixation in Farmer Field School Gardens
(a) Gardeners examine the roots of a crimson clover cover crop to check for nodules as part of cover crop monitoring activities in Spring 2013. (b) Close-up of nodules on crimson clover roots with a pink color that indicates active nitrogen fixation (see footnote 3).

[3] Nodules are "bumps" on the roots of legume plants, which house nitrogen-fixing bacteria (Figure 2b). When a legume cover crop is returned to the soil, fixed nitrogen is added for future vegetable crop use. A pink or red color inside the nodules signifies that the bacteria are actively fixing nitrogen.

[4] In all quotations from gardener interviews and group evaluations sessions, "you" refers to the first author, who was the interviewer as well as facilitator of FFS workshops and research activities.

gardens—the legume monocultures in his plots (particularly crimson clover, *Trifolium incarnatum*) were not very competitive with weeds. In contrast, rye (*Secale cereale*), which competes more strongly for soil nitrogen, did suppress weed growth. During the evaluation session, this gardener reflected:

> Now I'm looking at, "Oh, what type of weeds do I have?" Because I thought that whole plot was crimson clover. And it turns out that crop is like, 60% clover and 40% chickweed. So I just went walking by and I'm like, "Oh, it looks good." And you're like, "No, no, look closer." And I'm like, "That's not what I want." So now I'm doing much better management, stewardship practices, much more focused on it in terms of, "How do I kill weeds now so they don't come up in the spring?" So I'm learning practices to have—maybe upfront have more labor so I don't have to exert tons of hours of weeding in the spring.

In other examples of adaptive management, several gardeners who had difficulty establishing a cover crop beneath crowded vegetable crops in 2011 decided to space their food crops more widely the following year, both to enhance crop health and to permit under-sowing of cover crops. Another gardener noticed how chickweed (*Stellaria media*, a cool-season annual weed) re-grew vigorously amid the earlier-planted crimson clover, while plots of hairy vetch (*Vicia villosa*)—which is more cold-tolerant and therefore planted later in the fall—had few weeds the following spring. He suggested that it might be best to time cover crop planting later in the season to give the chickweed less time to re-establish after cultivating the soil. By linking their observations of problems to suggestions for improvements, gardeners adjusted practices to achieve desired outcomes. Using simple monitoring checklists (Appendix B) appears to have facilitated educational outcomes like these, even though, as reported in the challenges section below, a few gardeners felt this was too time-consuming.

Developing leadership. In addition to building their own knowledge and gardening skills, FFS gardeners developed new identities as educators by sharing their learning with others (Figure 3).

For many gardeners, this was an important motivation for engaging in the project. For example, during an interview, one gardener shared:

> When [local organization staff member] told me about the Farmer Field School, I thought it was interesting for me to learn more…and by learning more, it would be beneficial to the garden.…My thing was, if I get the kids involved in the gardening, I know a little bit. But the more educated I get on gardening, I could *pass it along* to the children…and they will pass on, and hopefully, by our next generation, we'll have a healthier generation. We'll have *less* obesity. We'll have *less* hypertension.

The FFS participant then explained how she shared new knowledge from the FFS with youth

Figure 3. Sign on a Community Garden Shed Promoting Cover Crop Use and Offering Assistance from Farmer Field School Gardeners

Many Farmer Field School gardeners independently shared their new knowledge and skills with other gardeners within and beyond their community gardens.

participants in a market gardening program:

> I explain it to the kids, and they're excited.…I point out the beds with the cover crop and I said, "Those you don't pull up!" "So why we can't pull up, ain't it weeds?" And I said, "No, it's not weeds. It's cover crop!" So I explained to them what cover crop was, to the best of my ability. The purpose of the cover crop, which it serve greatly, as eliminating weeds, and the nutrients that it put back in the soil, that you have a healthier and more productive crop for the next year. So they was very interested to see, when you cut open the nodules come the spring time, how inside gonna look.

Another gardener related how participating in cover crop research helped her share her commitment to environmental stewardship with her family:

> I really want to learn how to grow things, and how to connect with Mother Earth.…[What sounded interesting about the FFS was] learning about the dirt and how we can help it be better for our plants. I thought that was very interesting, because I always thought dirt was dirt.…And I didn't know that you can change it for the betterment of your growing of the plants…Overall, I want to be able to look at my garden, and look at things that are… growing in a healthy way…I just want to be able to look at my garden and say, "Okay, so I grew these tomatoes, I grew these cucumbers," and take them home to my family, and then they could see what we're capable of doing. And that we don't always have to go to the supermarket, because it not only saves money, it teaches the children a lot about the Earth, and the connection, and eating healthy.

Reflecting on her experience as part of the FFS, this gardener goes on to show how sharing her new knowledge of using cover crops to improve soil fertility provided a point of connection with her son:

> My son loves science. So I would go home and explain to him [about nitrogen fixation in the nodules], and he would see the science side of it. And he'd say, "Oh, Mom, that's interesting! I'm gonna go tell my science teacher and see what she thinks about that." Because they're studying the different elements, and nitrogen is one of them. So it's all connecting to him; it's connecting to me…So I explained to him what we were doing, and he'd come out and see the cover crops. And so he thought that was great. And I bring my nieces also. So, they're getting the idea.

Gardeners further developed their skills and confidence as educators by planning and leading field days, as this description in my field notes illustrates:

> [FFS gardener] invited guests to introduce themselves and their gardens, then led them to her plots to explain our work—the cover crop combinations we were trying out, their potential benefits, the planting process, and plans for mulching the cover crops before planting vegetables this spring. She explained how she had inherited pretty poor soil and was hoping that the organic matter from the cover crops would improve it, make it easier to work and better at holding water. She also recounted her struggle with weeds during her first season, and pointed out how there were fewer weeds among the cover crops compared to her control plot, then choked with shepherd's purse, horsetail, and goosegrass…
>
> [FFS gardener] was so timid and quiet in our initial meetings, unsure of herself because she was new to gardening—so it was wonderful to see her teaching and sharing. I knew she hadn't lost her sense of being a 'new' gardener, or her openness to learning and trying new things. But I'm glad that as she starts her second season, she feels that she has something to share as well as many things to learn.

These stories illustrate that when a PAR project connects to participants' hopes for their

communities (e.g., improved access to fresh food, environmental stewardship), many are eager to take on roles as educators and leaders as they share their learning with others. Facilitating opportunities for participants to develop their skills and confidence as educators, such as organizing and leading field days, may further support leadership development and knowledge-sharing.

Community Outcomes

Improving garden stewardship practices. Follow-up interviews with gardeners—and results of the cover crop research itself—indicate that many of the cover crops planted as part of the FFS provide ecosystem services that enhance food production on a sustainable basis (Gregory & Drinkwater, 2018). Most participants reported sustained weed suppression and improvements in soil moisture and tilth following over-wintering cover crops. About three-fourths of participants also thought that legume cover crops contributed to crop nutrition, noting that the cover crops decreased or eliminated the need for commercial fertilizers while vegetable harvests remained high (Gregory & Drinkwater, 2018). When I asked one gardener if and how the FFS may have helped her address gardening challenges during an interview, she commented,

> At the garden, the biggest challenge was the weeds taking over.…I didn't want to put anything harsh in the garden, so I didn't want to use a spray. So I would physically go out there and pull them, and I would be sore the next day.…But now that I see we can do cover crops, and that will help with the weed situation. That is a huge, a huge learning experience for me. And it will make life much easier, from what I'm seeing so far.

Thus, both quantitative measurements and my follow-up conversations with gardeners indicate that cover cropping may enhance soil quality and vegetable harvests in urban gardens while decreasing the need for environmentally damaging inputs such as synthetic fertilizer (Galloway et al., 2003), as well as time spent weeding.

Several lines of evidence suggest that sustained, in-person support in choosing, planting, and managing cover crops as part of the research provided encouragement and guidance that helped gardeners to implement cover cropping successfully. For example, after the first round of planting workshops, I wrote in my field notes,

> [A lesson] that came out of the planting workshops was the importance of…working with gardeners to choose a cover crop that fits their specific vegetable planting schedule, gardening goals, and garden site… "I got seeds from [another organization] before, but I never planted them because I never fully understood what was what, what to expect, and what to do."

Several other gardeners also noted that they had received seeds previously but never planted them because they were not sure which ones would be best for their beds or when and how to plant them. Participating in a research project provided an opportunity to learn about different cover crop choices and discuss which might be best suited to their plots. Some gardeners also felt that in-person support in the planting process was important. During an FFS evaluation session, one gardener said,

> Sometimes you go to a regular seminar, and you just sit down and you listen!…But here, I have to participate.…It's not you go just an hour. It's a long, it's a process. I had…to help scatter the seeds, to see how it is done… scratch up the soil, "OK, don't do it too deep"…It was not just, you tell me something, and I have to go home and look it up and look for it. Together! That was the next thing, yes. Together! You were with us. In the field…you work with us, you see? That's the difference with the research.

Looking back, seeing what happened when there was *no* in-person support underscored its importance. As the cover crops planted in our first year of research approached maturity, I discussed when and how to cut down the cover crops in a large-group meeting, but did not hold workshops

at each garden. Some gardeners were fine with an explanation and a handout on cutting and mulching the cover crops, but others less so. After community educator partners and I followed up with gardeners about their experiences managing overwintering cover crops in our first year of research, I wrote:

> We [community educator partners and I] need to pay closer attention to ensuring that gardeners have the proper tools and know-how for cutting and mulching the cover crops.…As we followed up with each gardener…we learned that a number of the gardeners had tried to pull up the cover crops (yikes, no wonder it was hard!) rather than cutting them at the base—despite my instructions at the spring meeting and (I thought) clear, one-page handout on managing the cover crops. "But that is not good enough," [community educator partner] repeated several times as we pondered gardeners' frustrations. "We can't just tell them what to do; we have to go out to their gardens and show them this year." I had to agree.

In our second season of research, I worked with one of the local organization partners to hold a workshop where we demonstrated, and gardeners practiced, cutting down the cover crops and leaving the shoots as mulch. With this additional support, the majority of gardeners found cutting down the cover crops to be manageable and said they planned to use the same tools and technique in the future (Gregory & Drinkwater, 2018). This experience further demonstrates the importance of sustained, in-person support for enabling gardeners to implement agroecological practices. With sufficient assistance from community educator partners, PAR can provide an opportunity for this hands-on, garden-based guidance.

Strengthening the urban gardening community of practice. The FFS groups themselves exhibited aspects of communities of practice and showed signs of strengthening the larger urban gardening community of practice (Wenger-Trayner & Wenger-Trayner, 2015). By engaging in collaborative research, participants in the FFS came together more frequently with gardeners in their own gardens. They also visited other community gardens for large-group workshops. Each of these gatherings was also an occasion for broader sharing of gardening knowledge (e.g., crops, practices, plants and seeds) as well as resources for strengthening gardens and communities (e.g., greening organizations, small grant programs).

Many FFS gardeners also shared their new knowledge about cover cropping within and beyond their own gardens (as discussed above). After our second season of research, staff from one local organization sponsor noted that people from gardens *not* participating in the FFS requested cover crop seeds and row cover to protect the seed from birds, perhaps after hearing about the practice from FFS gardeners and/or seeing it in FFS gardens. She reported,

> I think because of those individual garden workshops and the consistency, what I saw is that people were cover-cropping at much higher rates than they have in the past.…And these are people who weren't just part of the Farmer Field School.…I went through so many boxes of cover crop seed, I gave it all out. A lot of people were doing it for the first time.

Challenges of PAR in Community Gardening Contexts

In the Brooklyn Farmer Field School, we addressed a number of challenges doing PAR together, including the following:

- Addressing community-defined goals and priorities within the constraints of my discipline-specific dissertation project.
- Engaging gardeners in multiple stages of the research process to maximize educational and community benefits while respecting participants' time constraints.
- Providing sufficient garden-by-garden research and education support.

Addressing community-defined goals vs. dissertation research priorities. Community interests in the research

process can conflict with academic research design conventions that are common in the natural sciences. For example, the expectation in my field was that I would assign cover crop treatments to plots, because that would enable me to draw more precise conclusions about the influences of cover crop species composition and environmental factors on cover crop performance. In this setting, however, gardeners and I agreed that they would each choose which cover crops to plant—specifically, those matched to their management goals. Though this did constrain our ability to discern attribution more conclusively, this compromise meant that our scientific findings reflected environmental and management conditions in real urban community gardens, and that gardeners had the experience of making informed decisions about cover crop selection (Gregory & Drinkwater, 2018).

Another potential tension was that my predetermined research topic—assessing ways that cover crops could improve urban garden management—did not necessarily address all community gardeners' interests. Two ways I strived to reduce conflict with gardener priorities were to (a) promote the project with this topic clearly delineated, so that participants with genuine interest in the topic could self-select and (b) facilitate deliberative decision-making on specific cover crop seasonal niches and management goals the research should address, within this overall topic.

In addition to these efforts to align our research questions and practices with gardeners' priorities, I also used two broader strategies to engage gardeners. First, I listened actively during workshops and interviews to hear gardener's interests and goals that the predefined research topic did not address. This allowed me to integrate opportunities to meet these goals into our FFS. For example, when gardeners said they wanted to share new gardening knowledge with others, I helped them to organize field days, in which they invited gardeners from other gardens to come see the various cover crop combinations and learn about our research. Second, I scheduled several "Gardener's Choice" workshops where the gardener-researchers chose the topics to explore. For example, a requested workshop on planting calendars and vegetable crop rotations was particularly popular. The appreciation of this gardener, shared during the 2012 group evaluation, was representative:

> Well the one [workshop on rotation planning] I attended in Bed-Stuy, that one was really interactive.…You broke us in different groups and each of the groups was planning out, "Well what do you plant in what part of the season." And so each person was talking about, "Well, I grow this, and this works good in these conditions…." And there was like, 20-ish people there—so there was a lot of people with experiences in terms of what works here, and why it works.…Having time at the meeting when people were like, "Oh, this works for me, this is my issue"…whatever people were dealing with. Just that space is really helpful.

Although these approaches did not provide open-ended decision-making in the FFS's central topic of inquiry, they did provide an opportunity to integrate democratic processes and address community concerns in ways that gardeners found enjoyable and useful.

Maximizing educational and community benefits within participants' time constraints. Every participating gardener had to balance their engagement in PAR with their many other roles and responsibilities: Two-thirds of Brooklyn FFS participants held paid jobs, many were parenting children or caring for spouses or parents, and nearly all were deeply involved in other civic groups. Maximizing the relevance of our FFS work, as described above, was one strategy to make the time commitments worth it. For example, as one gardener working to reconnect young people and seniors through her garden recalled in an interview:

> It was hectic, but it was manageable, and I wouldn't have missed [FFS] workshops for the world because it has been *so helpful*. The seniors, *still* talking about it, saying, "Oh, the cover crop is so *green* in the box," and she can't wait [to see its impact on the soil and next year's crops].…Some days I come home, and

> my husband tease me. He say, "Not even President Obama have a schedule like you!" *[Laughter.]* But, you know what?...It's the reward that I get out of working with the kids, and working with the seniors.…They are excited that they could come in the garden.

The other main strategy was my ongoing attempt to "feel out" ways to respect and accommodate gardeners' limited time and energy, while still meeting our collective action and research goals. For example, in the second year of research, I streamlined FFS activities, including having one planning workshop instead of three and monitoring each cover crop combination once in the fall instead of twice. I also offered increasingly flexible scheduling of research activities and provided individualized support around participants' schedules, which enabled more gardeners to participate in the full research process.

Despite how much flexibility and streamlining we strived for, this PAR project entailed a sustained process of planning, planting, monitoring, evaluating, and discussing cover crop plantings together. In our final evaluation session, 12 out of the 14 written comments related to participating in long-term research like ours were positive. Gardeners particularly valued the learning that occurred through monitoring, the discovery and excitement of observing the cover crops, gains in practical skills for using cover crops, and the opportunity to build relationships with an academic researcher. However, such intensive participation was not a good fit for everyone in the FFS, even among those interested in cover cropping practices. For example, one gardener wrote, "I'm not so interested in doing the research and completing the sheets [cover crop monitoring checklists]; More interested in results." This challenge, however, also illustrates a strength of our PAR work: producing results that some community gardeners in Brooklyn would like to have, even if not all gardeners wish to be part of generating them.

Providing sufficient support to gardener-researchers. This project was time-intensive for the gardeners, and also for me as the facilitator. I found that I needed to make multiple visits to each garden to accomplish each research activity, such as selecting cover crop treatments, planting during three seasonal windows, and monitoring and sampling each set of plantings. For example, in our second year, I posed the following question in my field notes, "What does it mean, in practice, to take the time and have the dialogue to map out a collaborative research design?" Quantifying one partial answer to that question, I noted that deciding which cover crop treatments to plant in specific plots entailed making making "24 visits to 13 gardens over almost two months to meet with gardeners, including multiple visits to many gardens to accommodate different gardeners' schedules." These visits were valuable for building friendships, understanding gardeners' goals and cropping systems, and helping gardeners make informed decisions about cover crop selection for their beds. However, striving to meet academic demands (e.g., conduct standard agricultural research activities such as taking and processing soil and cover crop plant samples) while also providing sufficient support to FFS gardener collaborators was often a challenge.

I had some funding to pay stipends to community educator partners in each site to help organize and facilitate workshops. These educators provided invaluable support and insight into how to shape the PAR project to be accessible to and relevant for the gardening community. During group evaluation sessions, other gardeners also emphasized that receiving reminders for workshops and research activities was helpful and motivating. However, because the compensation I could offer was so limited, educator partners necessarily had other, primary forms of employment and obligations. Thus, they could not always be available when the FFS gardeners and I needed additional help (e.g., to assist individual gardeners at monitoring workshops and during cover crop sampling).

Discussion

This story of 'doing science' while striving to foster learning, leadership, and environmental stewardship with Brooklyn community gardeners resonates with scholarship on effective practices for public participation in scientific research, particularly with under-resourced communities such as the urban

neighborhoods where I worked (Porticella et al., 2013a, 2013b). It is also an example of how participatory agricultural research can be adapted to urban gardens, where horticultural recommendations are needed (Gregory et al., 2016; Guitart, Pickering, & Byrne, 2012; Pfeiffer et al., 2014). My experience also provides insight into the challenges that make such close-knit collaborations between academic agricultural scientists and urban gardeners relatively rare. In the sections that follow, I discuss potential implications of this case study for how academic scientist facilitators, community educators, and institutions may effectively support PAR projects in agroecology, and design and implement them to achieve positive outcomes for science, education, and communities.

Promising PAR Practices for Individual Academics and Educators

Collaborative research processes, gardener participation in implementing agroecological practices and monitoring the outcomes, opportunities for gardeners to share new knowledge with others, and intensive in-person support all contributed to positive outcomes in the PAR project described above. This study adds to the body of work finding that engaging community-based practitioner experts as co-investigators in agriculture and natural resource management research yields better outcomes for knowledge generation and use than research conducted without such partnerships (Ballard & Belsky, 2010; Fernandez-Gimenez et al., 2008; Pence & Grieshop, 2001; Porticella et al., 2013b; Warner, 2007). Specifically, participation by community-based practitioners contributes to asking more relevant research questions, developing feasible management protocols, and improving the interpretation of results (Ballard & Belsky, 2010; Fischer, 2000; Minkler et al., 2006). For example, in the Brooklyn FFS, gardeners' knowledge of planting calendars and strategies for gardening in an urban environment (e.g., protecting crops from pigeons!) played key roles in choosing cover crops to test, understanding initial results, and refining our planting practices.

Other PAR outcomes include education and practice, as community-based investigators develop, share, and apply the skills and knowledge they have co-generated. In particular, our findings concur with other experiences in affirming that engaging growers in monitoring the outcomes of different plantings and management strategies may develop their knowledge and skills to choose and implement sustainable practices (Ballard & Belsky, 2010; Fernandez-Gimenez et al., 2008; Pence & Grieshop, 2001; Silva & Krasny, 2014; Warner, 2007). For example, for FFS gardeners, observing cover crop performance enhanced their understanding of ecological processes and their skills in choosing and managing cover crops for specific functions (e.g., nitrogen fixation, weed suppression, etc.). In addition, at least anecdotally, their leadership and example have facilitated spreading the practice to other gardeners in their neighborhoods.

In Table 2, I summarize promising individual practices found in the Brooklyn FFS case study for fostering positive outcomes through PAR collaborations. All these practices require a strong commitment on the part of academic scientist facilitators to visiting each garden regularly and supporting gardeners in implementing stewardship practices, learning from the results, and sharing their learning. This, in turn, would benefit from institutional environments—especially in colleges, universities, and among funders—that better support PAR.

Creating More Supportive Institutional Environments for PAR

Despite the well-documented benefits PAR yields for science, education, and communities, this approach remains rare in agricultural and environmental fields.[5] This could be because community-based organizations often struggle to secure partnerships with academic scientists that could advance their stewardship goals. Also, as in

[5] As a coarse indicator of the prevalence of participatory approaches to agricultural research, in a search of Thompson Reuters Web of Science, only 1.2% of the 'Agronomy,' 'Agriculture, Multidisciplinary,' and 'Horticulture' papers published from 1990-2015 that mentioned agriculture, horticulture, or gardening also contained the word 'participatory.'

Table 2. Outcomes of Participatory Research on Cover Crops with Brooklyn Gardeners, and Design Choices and/or Practices that may have Contributed to Positive Outcomes

Outcomes of Brooklyn cover crop study ("What?")	Best practices ("How?")
Enhanced scientific inquiry and gardening practice	Collaborative research design and interpretation of results (incorporating local knowledge), through facilitated deliberation and informal conversations
• Knowledge of ecological processes in agriculture (e.g., nitrogen fixation, weed suppression) • Adaptive management skills (e.g., systematic observation, applying monitoring knowledge to improve practice)	Outcomes monitoring using agroecosystem analysis, supported by simple checklists with visual guides (Appendix B) and in-person assistance in making and recording observations
Leadership development	Provide opportunities & support for gardeners to share new knowledge with others, including through field days
Stewardship practices with environmental and agricultural benefits	In-person support applying agroecological management practices, i.e., choosing, planting, monitoring, and managing cover crops
Enlarged and strengthened communities of practice	Provide opportunities for gardeners to visit other gardens and engage in informal sharing of knowledge, practices, and resources

this FFS, lack of long-term support for community researcher/educator partners has likely constrained learning and action dedicated to developing healthier and more sustainable neighborhoods (see, for example, Fernandez-Gimenez et al., 2008; Porter, 2013). Institutional changes could inspire and sustain more participatory research partnerships.

Truly centralizing community priorities in PAR would benefit from efforts at colleges and universities to create or strengthen institutional structures that invite community-defined questions and match community organizations with faculty committed to long-term research partnerships (Soleri, Long, Ramirez-Andreotta, Eitemiller, & Pandya, 2016). Strong PAR projects, with sufficient individualized support to facilitate robust educational and community outcomes, also require financial and professional development support for community-based co-investigators and educators. Unlike academic researchers, these essential members of any PAR team are not usually compensated for their knowledge generation work. Previous studies have found that training and supporting community-based researcher/educators yields unique outcomes for relevant science, improved stewardship practices, and ultimately for environmental quality and community health (Fernandez-Gimenez et al., 2008; Warner, 2007). For these reasons, project evaluators argue that such investments are also worth the costs (Braun & Duveskog, 2008; van den Berg & Jiggins, 2007). In order to secure support for such positions, academic partners would need to include substantial funding for community researcher/educators in research budgets (I wish I had!). This would also require that funders (e.g., foundations, local governments) and higher education institutions support these investments.

Realizing the full potential of equitable community-academic partnerships will also require that academics, individually and institutionally, reconsider their central purposes in ways that value a direct role for scientists not only in generating technical knowledge, but also in collaborating with citizens and residents to build our collective knowledge and capacities (Peters, 2010). Policy and practice changes that could help support this would include incorporating ethics, cultural humility, and accountability into academic curricula and revising standards of what is valued in tenure. These are topics that have been thoughtfully explored by others (e.g., Ellison & Eatman, 2008; Quigley, 2016; Sturm, Eatman, Saltmarsh, & Bush, 2011).

Conclusions

Urban agriculture and community gardens have taken root in cities as residents strive to increase access to healthy food, create and tend green spaces, strengthen the social fabric of their

communities, and pursue social, economic, and environmental justice. Indeed, all of the community-based partners in Food Dignity support community food production as a key strategy for engaging people affected by food insecurity in developing and implementing their own solutions (Porter, 2018, in this issue). To realize the full potential of community food production in cities, however, there is a need to identify and tailor agroecological practices to urban environments. There is also a need to foster educational opportunities for sharing ecological knowledge, building adaptive management skills, and developing communities of practice centered around gardening. This case study suggests that PAR may address these agricultural and educational goals and illustrates promising practices for doing so. These include: fostering collaborative research processes integrating scientific and local knowledge, engaging gardeners in monitoring agroecological outcomes of their practices, helping gardeners plan and lead field days, and providing intensive in-person support with gardening practices, data collection, and sharing findings with fellow gardeners. By promoting mutual learning and capacity-building in sustainable agriculture, these practices may contribute to the Food Dignity vision of increasing the control communities have over how they grow their food and how they care for the land. Such practices also offer guidance for university-based researchers seeking to support and learn with communities building more just and sustainable food systems.

In my short time conducting PAR with Brooklyn gardeners, I had the privilege of co-creating practical new knowledge, nurturing skills for sustainable urban gardening and community leadership, and sowing the seeds of improved stewardship practices. Other partnerships between communities and academic scientists, usually with limited staff and resources, have also shown the potential of PAR to integrate positive outcomes for science, education, and communities. What might this approach—of mutual partnership and inquiry grounded in the needs and hopes of people and their places—yield if it were the norm rather than the exception, and if it were supported for the long haul of creating healthy and sustainable communities?

Acknowledgments

I am deeply grateful to the dedicated community gardeners, staff members, and educator partners who participated in this project. In East New York, thanks go to Deborah Greig, David Vigil, Sarita Daftary, and Daryl Marshall of the East New York Farms! project, and to community educator partners Nayda Maymi and Brenda Thompson-Duchene. In Bedford-Stuyvesant, New York, I am grateful for Lorraine Brooks and Gretchen Ferenz of Cornell University Cooperative Extension–NYC, Hannah Riesley-White of Green Guerillas, and community educator partners Linda Casey and Deborah Batiste. Laurie Drinkwater and Julie Grossman provided invaluable assistance designing the cover crop research and developing monitoring checklists. Christine Porter, Laurie Drinkwater, and Marianne Krasny, and their graduate student groups, provided helpful feedback on initial versions of this manuscript.

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Appendix A. Stages of Cover Crop Research and Corresponding Participatory Action Research (PAR) Activities in the Brooklyn Farmer Field School (FFS) for Two Field Seasons (2011–12 and 2012–13)

Stages of the Research Process	PAR Activities
Forming partnerships	• Summer 2010: Researcher/author Megan M. Gregory (MMG) conducted initial field-work, including interviewing gardeners about practices and challenges; conducting preliminary ecological sampling (e.g., land-use maps, soil sampling), and forming partnerships with local organizations. • Winter 2010–Spring 2011: MMG worked with local organizations and garden leaders to develop initial ideas for the FFS and hold interest meetings with gardeners.
Research design	• Spring 2011 & 2012: During planning workshops, FFS gardeners selected priority management goals for cover cropping and seasonal niches of cover crops to test. • Summer 2011 & 2012: Based on gardeners' priority goals for cover cropping and existing literature, MMG selected cover crops to test and indicators of cover crop performance to measure (in consultation with Laurie Drinkwater of the Cornell University Department of Horticulture). • Summer 2011 & 2012: FFS gardeners selected cover crop treatments for their plots, with guidance to choose 'best bet' cover crops for their vegetable rotations and management goals.
Establishing field experiments	• Late Summer–Fall 2011 & 2012: FFS gardeners planted cover crop research plots using standard seeding rates and planting practices, with guidance and materials provided by MMG and paid community educator partners.
Data collection	• Fall 2011/Spring 2012 & Fall 2012/Spring 2013: During cover crop monitoring workshops, FFS gardeners recorded observations of cover crop performance for each plot on standard checklists prior to sampling (Appendix B). • Fall 2011/Spring 2012 & Fall 2012/Spring 2013: MMG collected information on soil properties and light for each plot each fall, and quantitative sampling data on cover crop performance each fall and the following spring. • Summer 2012 & 2013: In mid-summer following cover crop termination and establishment of subsequent vegetable plots, MMG conducted a survey of FFS gardeners to learn their perspectives on cover crop management and perceived impacts of the cover crops.
Data analysis and interpretation; drawing conclusions	• Fall 2011 & 2012: MMG compiled preliminary monitoring and sampling results, then presented and discussed them with gardeners at Fall Wrap-Up meetings. Gardeners brainstormed explanations for differences in cover crop performance among treatments and sites, suggested improvements in species selection and planting practices, and discussed how the results could inform cover crop selection. • Fall 2013–Summer 2015: MMG completed soil and plant sample processing and analyses in the lab, compiled all monitoring and sampling data, conducted statistical analyses, and wrote dissertation and report for gardeners.
Sharing findings	• Spring 2012 & 2013: FFS gardeners planned and hosted field days each spring (before cutting down cover crops) to share their learning with other gardeners. • Summer 2015: Following completion of lab work, MMG shared complete findings and recommendations for soil and cover crop management with gardeners through a Cover Crop Research Update (presentation & discussion), written report, and individualized soil test reports accompanied by an interpretation guide.

Appendix B. Example Checklist for Monitoring Overwintering Cover Crops

These are adapted from versions used during the Brooklyn Farmer Field School.

Checklist for Monitoring Over-Wintering Cover Crops (for use in Spring)

Abbreviations: **C**= Crimson Clover **V**= Hairy Vetch **R**=Rye **RC**= Rye/Clover **RV**= Rye/Vetch

Cover Crop(s): _____ **Garden:** _____ **Bed #:** _____

Planting date: _____ **Date of observations:** _____

1. COVER CROP GROWTH

a) Visual % Cover (estimate using reference charts below): _____

10 % 20 % 40% 60% 80% 95%

b) Cover Crop Height: For mixtures, record **average** plant height.

Nonlegume (_____): _____ in Legume (_____): _____ in

c) MIXTURES: Cover Crop Composition: % Grass: _____ % Legume: _____

d) Legume Flowering:

Date of first flowering (estimate): _____

% Flowering: ☐ 0% ☐ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

(The ideal time to cut down cover crops is when 75-90% of the plants are flowering.)

2. NITROGEN FIXATION: *Dig up two legume plants and examine the roots.*

	Plant 1	Plant 2
a) Count the nodules:	# Nodules: _____	# Nodules: _____
b) Inner Nodule Color:	☐ Mostly pink ☐ Some pink ☐ White or green	☐ Mostly pink ☐ Some pink ☐ White or green

Continued on reverse →

3. WEED SUPRESSION:

a) **Percent Weeds** (use percent cover charts to estimate): _____ %

b) **Most common weeds** -- List. Indicate weeds producing seed with a star (*)

_____ _____

_____ _____

_____ _____

c) **Compared with the control plot (no cover crop), the *cover crop plot* has** (check one):

☐ More weeds ☐ Less weeds ☐ Same amount of weeds

d) **How satisfied are you with weed control by the cover crops?** (check one):

☐ ☹ Not satisfied – weeds are a major concern; cover crops did not help
☐ 😐 Somewhat satisfied – weeds are not bad; cover crops helped a little
☐ ☺ Very satisfied – weeds are not a problem; cover crops helped a lot

e) **Are there weeds producing seeds?** ☐ Yes ☐ No

4. OTHER OBSERVATIONS (e.g., pests & beneficial insects; signs of disease, etc.):

_____

_____

_____

_____

_____

_____

_____

Percent Cover Charts modified from Fig. 19 *in* British Columbia Ministry of Forests. 1997. Silviculture prescriptions field methods book. Online at: https://www.for.gov.bc.ca/hfd/pubs/docs/sil/sil411.htm.

Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Community-campus collaborations for food justice: Strategy, successes and challenges at a teaching-focused college

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Submitted March 7, 2018 / Revised June 6 and July 10, 2018 / Accepted July 11, 2018 / Published online July 18, 2018

Citation: Swords, A., Frith, A., & Lapp, J. (2018). Community-campus collaborations for food justice: Strategy, successes and challenges at a teaching-focused college. *Journal of Agriculture, Food Systems, and Community Development, 8*(Suppl. 1), 261–277. https://doi.org/10.5304/jafscd.2018.08A.009

Abstract

Community-campus engagement in higher education provides educational experiences for students to grapple with complex, real-world problems, including the lack of equitable access to healthy food for all. In this reflective essay, three faculty members of a teaching-focused college report and reflect on the benefits and challenges of community-campus engagement through a food justice education action research project called Food Dignity, funded by the U.S. Department of Agriculture. Achievements included developing a curricular approach, preparing students for community partnerships and community-based research, strengthening institutional commitment to community-campus engagement, and establishing community and institutional networks. Outcomes include that student participants revised

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Funding Disclosure

Food Dignity (http://www.fooddignity.org) was funded by USDA National Institute of Food and Agriculture's Agriculture and Food Research Initiative Competitive Grant no. 2011-68004-30074.

Contributors and Supporting Agencies

Blue Mountain Associates; Feeding Laramie Valley; Whole Community Project; East New York Farms!; Dig Deep Farms; University of Wyoming; and the U.S. Department of Agriculture National Institute of Food and Agriculture.

their values and attitudes about the food system and their ability to change it. We discuss challenges, including academic supremacy and unequal power relations, and offer recommendations for future community-campus food justice initiatives.

Keywords
Community-Campus Engagement; Community Food Systems; Food Justice; Food System Education; Service-Learning; Community-Student Engagement; Food Dignity

Introduction

This paper describes, from the perspective of three faculty[1] at a teaching-focused[2] college, how a community-campus project with educational and service-learning components affected curriculum development, faculty and student engagement with community partners, and structural change at our institution. Food Dignity funds for our college were allocated to compensate student interns working with community partners and, in some cases, the community partners themselves.[3] We begin by reviewing relevant literatures on community-campus engagement, especially those focused on food justice. We describe our institutional context and initial goals for the project of developing new opportunities for community-campus engagement with the local food system. We then outline our curricular initiatives, highlighting our developmental approach to community-campus engagement. After evaluating the impacts of our initiatives based on data from student surveys and student reflections, we discuss the successes and challenges of this project and reflect on implications for addressing underlying causes of food injustice.

Community-Campus Engagement and Service-Learning

The field of civic engagement aims for learning and mutual benefit via intentional relationships among students, academic institutions, civic organizations and community members (Furco, 2007; Gelmon, Holland, Seifer, Shinnamon, & Connors, 1998; Hullender, Hinck, Wood-Nartker, Burton, & Bowlby, 2015; Jacoby, 2009; Stoecker & Tyron, 2009). Civic engagement in higher education has been operationalized through volunteering, community service, and service-learning. Service-learning is a "teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities" (Niewolny et al., 2012, p. 31). While historically service-learning practices focus on student learning (Kiely, 2005), some use critical theory and pedagogy (Freire, 1970) to ask who is served and who decides about these initiatives (Bortolin, 2011; Stoecker & Tryon, 2009). Increasingly, scholars and practitioners recommend that service-learning projects adopt explicit social justice goals, genuine relationships, commitment to redistribute power, reciprocity, activism, and other goals of broader social and institutional change (Levkoe et al., 2016; Marullo & Edwards, 2000; Mitchell, 2008; Swords & Kiely, 2010).

We began this project with these commitments, aligning our practice with the move from a transactional (Enos & Morton, 2003), charity-based approach (Ward & Wolf-Wendel 2000) to a transformative learning model of service-learning (Clayton, Bringle, Senor, Huq, & Morrison 2010; Kiely 2005), including reciprocity and commitment to changing power relationships. In this model, all participants grow, change, and explore emergent

[1] In this paper, the personal plural "we" or "our" is used to refer to the three Ithaca College faculty (Alicia Swords, Amy Frith, and Julia Lapp), except when otherwise specified.
[2] The terms *teaching college* (Cofer, 2017), *teaching-focused college* (Nemtchinova, 2013) or *teaching-intensive institution* (Phelps, 2013) have been used to refer to a type of institution of higher education where faculty are "expected to teach, on average, four courses a semester; advise students; participate in service work both on the campus and in [their] discipline; and pursue scholarship" (Cofer, 2017). This type of institution typically has fewer than 10,000 students, small class sizes, a low student/instructor ratio, and expects close mentoring of students by faculty (see Nemtchinova, 2013).
[3] We were not compensated financially by Food Dignity project funds for our participation in this project or for our summer work, although we earned our usual nine-month salaries from Ithaca College. For further information on Food Dignity funding see Porter and Wechsler (2018). For more information on the project and community partners see Porter (2018). Both papers are in this issue.

possibilities; engagement is open-ended and long-term; and there is a commitment to revise goals and move beyond status quo practices (Clayton et al., 2010). We draw on Kiely's (2007) four-part framework for reflective practice in service-learning by attending to pedagogy and curriculum, research, community development, and institutional change.

Food Justice and Community-Campus Engagement

The Food Dignity project that our service-learning collaboration was part of relates to the realm of food justice. Food justice is a concept promoted by an emerging food movement in North America, which references the food sovereignty movement in the global South. It brings together individuals and organizations that advocate for food security and sustainable agriculture (Levkoe, 2006). The movement critiques the industrial food system, advocating changes related to equity and trauma, exchange arrangements, land, and labor (Cadieux & Slocum, 2015). Food justice advocates vary widely in their ideologies, approaches, and disciplines, and use a variety of concepts including sustainable food systems, civic agriculture, and community food systems. While distinct, they all share basic concerns with equity, food access, sustainability, and health (see Alkon & Norgaard, 2009; Broad, 2016; Gottlieb & Joshi, 2010; Holt-Giménez, 2010; Winne, 2008).

With the spread of food justice initiatives, institutions of higher education are increasingly partnering with food justice organizations for civic engagement teaching and research (Allen, 2008; Galt, Parr, Van Soelen Kim, Beckett, Lickter, & Ballard, 2013; Gray, Johnson, Latham, Tang, & Thomas, 2012; Holt-Gimenez, 2010; Levkoe et al., 2016; Meek & Tarlau, 2015; Sbicca, 2015). While the food justice movement focuses on changing policies and systems surrounding food, environment and health, in many cases, universities offer gardens, technical assistance, produce local foods, or otherwise address short-term community needs and goals (Burns & Miller, 2012; Gray et al., 2012). Some also include goals of changing university practices (Burley et al., 2016; Clark, Byker, Niewolny, & Helms, 2013; Niewolny, Schroeder-Moreno, Mason, McWhirt, & Clark, 2017). These initiatives have different impacts on community members, organizations and students. As civic engagement increasingly examines power and justice, critical studies on community-campus food justice initiatives call for campuses to address racism and classism, both in the food system and as they are reproduced in partnerships (Alkon & Norgard, 2009; Meek & Tarlau 2015; Sbicca 2012, 2015).

A number of case studies describe best practices in community-campus partnerships for food justice to mitigate against racial and class inequities.[4] Gray et al. (2012) advocate for orientation programs for students to develop sensitivity to issues of power and respect before interacting with community members. Best practices include reciprocity, building trust, connecting to personal experiences, finding common strategies (Levkoe et al., 2016), reflection, active listening, and openness to addressing whiteness, privilege, and racial inequality (Sbicca, 2015). In some cases, students and community partners collaboratively establish long-term project goals and outcomes, which can include changing college and university curriculum (Niewolny et al., 2017).

At the same time, some case studies reveal the challenges of community-university food justice projects. Gray et al. (2012) highlight the challenges of balancing the diverse needs and goals of funders, partners, and community members in a garden project at Santa Clara University. Rosing (2012) cautions academics to avoid extraction from local communities (via student training and data) and to avoid replicating nonprofit initiatives that align with neoliberal policies that disavow government responsibility for addressing social inequity. Bortolin's (2011) analysis of academic articles on service-learning found that even as academics espouse service to the community, they exploit the

[4] We learned about a number of simultaneously occurring community-campus food justice initiatives as our project was in process.

community for their own ends. "Community" was treated as a means by which the university enhances its academic work; as a recipient of university influence; as a place the university makes better; or as a factor in the financial influence of the university. We aimed to avoid these pitfalls. Increasingly, scholars emphasize that academics must acknowledge and address unequal power relationships (Bortolin, 2011; Porter & Wechsler, 2018; Stoecker & Tryon, 2009; Swords & Kiely, 2010).

The objective of this reflective essay is to contribute a case study of community-campus engagement to the empirical literature on the practice of teaching about food justice in higher education, in hopes of contributing toward broader social justice and sustainability.

Institutional Context: Ithaca College

A core aspect of the five-year Food Dignity project was for educational institutions to interface with community organizations to address local food justice issues, such as support for local food production, access to healthy, nutritious food, and entrepreneurship to improve food access for low-income populations. Our role as Ithaca College professors in Food Dignity centered on student learning through community engagement.[5]

As Food Dignity launched in 2011, Ithaca College was just beginning to incorporate educational programming on community engagement at an institutional level (Furco, 2002). Prior to this, community-campus engagement had occurred without formal institutional support. The college had not covered administrative costs, compensated community partners, or offered faculty release time or financial compensation. Still today, investments of faculty time in community engagement have not been rewarded consistently through tenure or promotion. Without an institutional commitment, initiatives have been poorly coordinated. Despite these institutional obstacles, we were drawn to Food Dignity because it offered opportunities for us, our students, and our communities to challenge systemic inequalities through engagement with the food system.

Developing Project Goals: Thinking Beyond Internships

As the principal investigator, Christine M. Porter, was developing the Food Dignity proposal in 2010, she proposed that we join the project by involving our sociology and nutrition students in community organizations in food dignity-related internships. This proposal was echoed by community organizations in Ithaca and Tompkins County, New York, including Cornell Cooperative Extension of Tompkins County, the Whole Community Project, and Gardens4Humanity. These groups were working on issues such as community gardens, food access, local food production, and food justice education, and were interested in working with students to accomplish their goals. We anticipated a mutually beneficial community-student engagement opportunity to promote changes in the food system.

Initial discussions with project leaders and community partners conceptualized community-campus engagement primarily as internships lasting at least a semester. Based on previous work, we knew that students needed foundational training and intensive mentoring to manage the responsibilities of meaningful internship experiences and to not burden agency supervisors or organizations. We also recognized that even students who might not become interns could benefit from exposure to food dignity issues and organizations. While we were committed to intensive engagement, we also believed it could be possible and was necessary to offer introductory and intermediate-level opportunities that required less preparation, community resources, and mentoring. To this end, we developed a model of community-campus engagement

[5] Ithaca College, a comprehensive teaching institution with approximately 6,200 students located in Ithaca, New York, has a long history of engagement with community organizations. Faculty, staff, and some students are community residents; we are involved as board members, volunteers, or participants with local organizations. Significant "town-gown" links (i.e., between higher education institutions and their surrounding communities) are also forged as students work with community organizations as interns, volunteers, or through course assignments for academic credit. The histories of these types of community-campus ties are not simple or all positive (Stoecker & Tryon, 2009).

that would meet the variable needs of community partners and students.

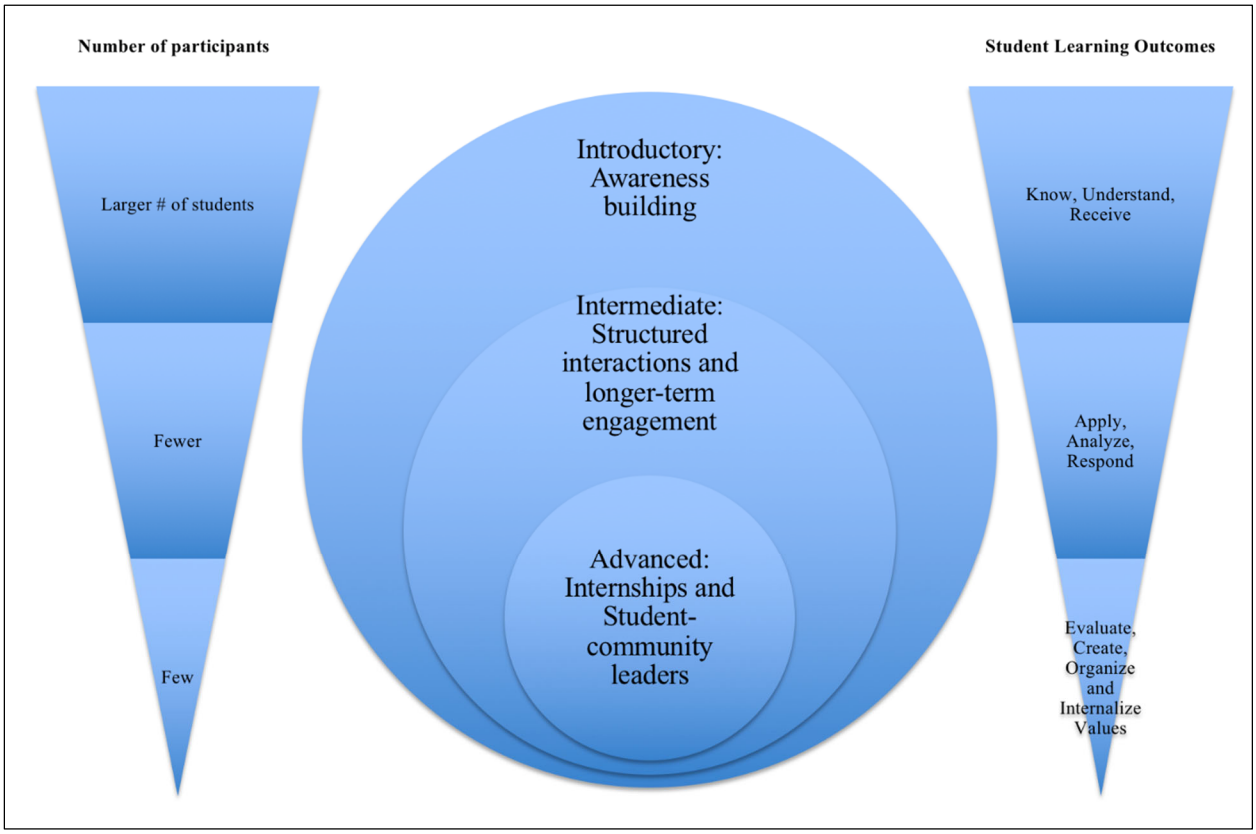
We articulated two goals. First, we aimed to offer Ithaca College students a meaningful sequence of learning opportunities to get involved with local food justice efforts by developing a pedagogical process to build student involvement gradually. Second, we wanted to develop a program to prepare students for working successfully in food justice–related community engagement projects in diverse communities. This required building meaningful relationships that could allow students to contribute toward community organizations' goals.

Development of the Curricular Approach

We conceptualized a curricular approach that we called the "Onion of Community Student Engagement" (see Figure 1). In our 2012 annual report (unpublished) we wrote, "This is our vision for the pedagogical process of bringing students into engagement with food dignity issues and community organizations. We envision it happening over several years. Our work in each layer aims to be always in communication with the larger Food Dignity network and the collaborating community organizations in our county." We envisioned this as a developmental curriculum design because it introduced increasingly complex levels of learning about community food issues.

In this model, the outer layer represents the opportunity to reach a larger number of students across campus by building awareness through structured community-student interactions with food justice topics through campus events and as lessons and activities in sophomore-level classes. Moving toward the center of the onion, a smaller number of interested students could participate in semester-long projects in upper-level courses,

Figure 1. The Onion of Community-Student Engagement for Food Dignity



Sources: Anderson & Krathwohl, 2001; Bloom, 1956; Howe, Coleman, Hamshaw, & Westdijk, 2014.

strengthening the knowledge and skill base needed for students to possibly later become interns with community organizations (center of the onion). Internship positions were intended for only a few students who wished and were prepared to spend greater amounts of time, in their junior and senior years, mentored by community partners and later to become leaders/mentors for incoming interns.

Our approach prioritizes the goals of fostering students' increased awareness and exploration of food injustice and the systems that perpetuate it. Attainment was conceptualized as a process, and we made both the goal and the activities to support it explicit to the students from the beginning. As we developed the onion model, we learned of the three-fold approach for service-learning by Howe, Coleman, Hamshaw, and Westdijk (2014), which reviewed moral, psychosocial, and cognitive development to advocate for structuring student experiences from exposure through capacity-building to full responsibility. The instructor "scaffolds," or provides "support as the student climbs toward the next level of understanding or capacity, and to gradually remove (or shift) that support as the student becomes more skilled and confident (as the metaphoric building stands more securely on its own)" (Howe et al., 2014, p. 46). Howe et al.'s developmental theories of learning informed us and confirmed the underpinnings of our approach.

We gathered input from community partners to design food dignity units with shared community engagement opportunities for our courses. Though not all learning activities were coordinated, we developed a framework of common student learning outcomes for our courses. We experimented with learning outcomes at first, and as we observed student responses, added them explicitly to our curricular approach. As students progressed, outcomes required more advanced levels of learning, following Bloom's taxonomy for levels of knowledge (1956), from knowledge, comprehension, application, analysis, and synthesis, to evaluation. Outcomes also corresponded to Anderson and Krathwohl's (2001) affective learning taxonomy, whereby learners move from receiving and responding to phenomena to valuing, organizing, and internalizing values. We intended for students to gain increasing knowledge, practice skills, and internalize values related to food dignity as they moved from introductory courses to senior capstone courses or internships. Similar to Howe et al. (2014), students gained increasing responsibility for collaborating with community members in identifying project goals and for implementation and as they deepened their engagement.

Introductory Level: Awareness-building and Outcomes

An estimated 1,000 students were involved in introductory awareness-building activities during the five years of the project. We drew on input from community leaders and agreed on common learning outcomes for our introductory nutrition and sociology courses. These included defining food dignity; describing systemic obstacles to food dignity; comparing food dignity with unjust food systems; and recognizing local initiatives to improve food dignity.

Common learning activities were required for all of our nutrition and sociology students. For example, we organized a public panel discussion of speakers from farms and organizations involved in local food production, distribution, and education. Panelists discussed the contemporary food system and suggestions for becoming involved in changing it. We assigned and guided reflection on common readings to prepare students for discussions before, during and after the panel.

To increase the level of engagement for introductory students, we assigned structured community-based activities. For example, students in our 200-level classes participated in the local Food Justice Summit in 2012 and 2013, joined a community walk, and attended a public talk by a food justice leader.

At the awareness-building level, we assessed student learning outcomes and shifts in beliefs using surveys, course evaluations, and reflective writing assignments. Pre- and post-surveys administered to students who attended the Food Dignity panel tracked shifts in knowledge, beliefs, and values related to food systems, based on the panel discussion and assigned readings. Survey items used Likert scales ranging from 1 (no importance or commitment) to 5 (extremely important or committed). Thirty-six percent of students

increased their rating on the importance scale from pre- to post-survey, indicating that local foods were more important to them after the panel, while the remainder of the students' ratings remained the same. Thirty percent of students increased their rating on the importance scale for consuming organic foods, while the remainder remained the same. Similarly, from pre- to post-survey, commitment increased among 63% of students regarding buying local foods; 46% to buy organic foods; and 46% to buy more humanely raised meats and dairy foods. On questions regarding awareness of food justice values, measured by agreement on a 1-to-5 Likert scale, about 25% of students increased their agreement that improving people's access to food requires addressing economic inequality. A similar percentage increased their agreement that it is difficult for many working families to have access to healthy food. From these surveys, we found that over one-third of the students reported improved awareness and systems thinking related to food justice due to the panel and assigned readings. Students reported bigger changes in value and commitment to food consumption behaviors, such as buying local and organic foods, than in awareness of larger social issues. This difference was somewhat expected, as understanding systemic inequities requires higher-level analysis and emotional engagement.

In the sociology course taught by Swords, called Gender, Environment, and Global Change, students studied the causes of hunger in the U.S. and the world. In their postpanel survey, student explanations for hunger included *"structural and institutional inequalities"* and *"the way our political and social systems are set up that make it so food isn't distributed properly."* The emphasis in the course on systemic inequalities helped reinforce the awareness-raising objectives of the panel.

Intermediate-level: Engagement

A smaller number of mid- and upper-level students engaged in longer-term activities (one to two semesters) that included cultural competency trainings, student projects with the Food Bank of the Southern Tier (FBST), Cooperative Extension, and community meal programs. Over the course of the Food Dignity grant, approximately 200 students were involved at this level. For midlevel nutrition students, these activities included a class project of providing nutrition education to child-care workers for state-required trainings, leading cooking classes, and offering grocery store tours for community members. Sociology and nutrition students piloted hunger education workshops for FBST in high school and elementary classrooms. Upper-level nutrition students worked Cornell Cooperative Extension of Tompkins County to offer cooking and nutrition education classes to income-qualified community members through Cooking Matters, a program of the national nonprofit Share Our Strength. Students from upper-level nutrition courses also worked at the Food Justice Summit to distribute information and answer questions from the public regarding food justice issues, initiatives, and organizations.

At this level, from 2010 to 2012, we helped to develop a pilot cultural competency training for students who would be working with community partners. In this training, community members were invited to collaborate with faculty in designing and implementing the training, and community members were paid as educators. According to Yarborough and Wade (2001), student training is essential for service-learning success, but providing it can burden community organizations. We made every attempt to adequately prepare students before they began work with our partnering community organizations. Our training aimed to instill respect for community members and to address historical power imbalances between campus and communities, as discussed below.

At the intermediate level, learning outcomes were that students could describe connections among sustainability, food insecurity, and food dignity; describe changes in their own views and values as a result of a structured interaction focused on food dignity with an organization or community member; describe successes and challenges of initiatives for food dignity; and characterize the impact of historical power structures including racism, poverty, and sexism on food dignity.

We collected reflections from students who participated in the cultural competency training and coded them for themes related to food dignity. Students demonstrated an initial understanding that

poverty, racism, and sexism exacerbate food insecurity. They also described connections among sustainability, food insecurity, and food dignity. In Spring 2015, one student indicated, *"sustainability is key and dignity is a key to sustainability.…Food insecurity is not just about getting people food and shelter, but restoring them to [be] functioning members of society that have a strong sense of dignity. Short-term solutions will only delay the problems of food insecurity and the country needs people to have a lasting sense of dignity to aid them in their lives."* This student's doubt about the viability of short-term solutions evidenced a developing awareness of the systemic nature of injustices.

After intermediate-level engagement, students demonstrated the ability to explain dimensions of food dignity. *"Food dignity is taking control of the food we produce"; "Food dignity is being proud of what we are feeding our children and of how we are treating the earth."* They also described actions or strategies that could contribute to increasing it. *"Be involved with production and distribution"; "Also realization that US has a big problem"; "We could increase dignity if we had a part in the food we produce and feed our families and ourselves. The way we produce and distribute food in the US is seriously lacking in dignity."* Student evaluations described their potential to contribute through engagement in the food system.

After participating in the cultural competency training, students showed the ability to recognize and describe the divide between academics and community members. *"I [also] learned that they [community members] really feel a separation between students and community members that I have been unable to see because of how sheltered I am on [campus]."* Some students were able to notice and describe power relationships between academics and community members. *"I think it is difficult for students to go into the community to 'educate' or 'teach' and understand that this is a learning experience for everyone—not just those we are working with."*

However, students went beyond recognizing obstacles to express the desire to break down barriers and shift power relationships.

> *I want to become more aware of the way I look, talk, and interact and how it influences others' perceptions of me and experiences with me. I have been noticing people around me speaking in ways that are very disrespectful to diversity and I want to find ways to increase the conversation of cultural competency.*
>
> *[This experience] has made me so excited to make connections and deeply learn from [community members].*

In describing their desire to learn from community members, students express an interest in contributing to new power relationships.

Advanced Level: Internships and Student Community Leaders

The innermost layer of the onion model represents a select number of students who were able to develop the knowledge, skills, and relationships to become interns, independent researchers, and student community leaders in relation to Food Dignity. The original goals of the Food Dignity grant mentioned internships as the only mode of community-campus involvement at our college. The grant required that we coordinate with organizations in Tompkins County that could receive a small stipend to mentor up to 10 paid student interns over the five-year period of the grant. This was to be led by the main community partner in Ithaca, the Whole Community Project, and the Cornell Cooperative Extension of Tompkins County office that housed it. Funding for the student interns and community partners was provided by the USDA grant for Food Dignity. Even with help from a project coordinator based at the extension office to match student learning needs with internship opportunities, we were only able to place two Ithaca College students into paid internships over the five years of the Food Dignity grant. Despite our best efforts, connections among community, campus, and the project faltered. Limiting factors included student constraints, such as credit hours and semester timing, communication failures, and mismatches with community agency needs for timing and skill sets.

Because of these limitations, we found other avenues to engage students at advanced levels. During the project, eight students conducted research and wrote papers focused on topics related to food dignity. Topics included fair trade and food dignity; Walmart and the food system;

the school lunch program; community-based initiatives regarding food access; and women farmers in Tompkins County. Nine students who were preparing for Food Dignity internships found other placements, including with the Friendship Donations Network, a food rescue organization in Ithaca, New York, and Cornell Cooperative Extension's Cooking Matters program. Four students co-created with community members a recipe book focusing on healthy foods on a budget. Sixteen students contributed to hunger education curriculum design for clients of the FBST.[6]

Another avenue we created to engage students at advanced levels was to teach, mentor, and create opportunities for students to become leaders in community-based initiatives. Six students were involved in this way. For example, nutrition students who had provided hunger education to school children trained and supervised the next group of Ithaca College students providing hunger education. In another case, a student teaching assistant for a Food Dignity–related sociology course was hired by FBST after graduation. In another case, a student who had participated in intermediate-level Food Dignity activities was hired as a summer research assistant.

Our attempts to create internship opportunities provided valuable process-based information for future efforts in matching students with suitable community-based internships. In the absence of being able to place interns, we provided 43 students with advanced-level learning and leadership opportunities related to food dignity. These students negotiated directly with community members regarding needs and goals. They were responsible for contributing to local organizations, such as by designing educational materials for specific audiences. At this level, students demonstrated that they had internalized the values of food dignity.

Successes

In this section, we describe our successes in five areas, building on Kiely's (2007) framework: the development of community-campus engagement curricular approach; student involvement in community-based research; institutional commitment to service-learning; professional development; and the establishment of community and institutional networks.

Community-Student Engagement Curricular Approach

Our curricular goals were to guide students through a developmental sequence of transformational community-based learning related to food justice. In the process of creating and piloting our curricular approach, we drafted rough student learning outcomes, which we refined as the project continued. For example, when students first had contact with the Food Dignity project at the awareness-building level, they became interested in food as a topic of study but did not understand larger structural power dynamics that maintain food inequalities. With more involvement, students began to notice the complex systems of inequality that underlie issues of food justice and dignity. Students who had opportunities for longer-term engagement with food justice organizations learned to describe and give examples of social inequalities, and to identify social and ecological problems in the existing food system.

Student Involvement in Community-based Research on Food Justice

Another success in our Food Dignity-related work is the development of a collaborative research relationship with the Food Bank of the Southern Tier (FBST), through a participatory action research course in sociology and a community nutrition course, both of which focused on food justice. Although the FBST was not one of the funded partners of the Food Dignity project, we turned to them when connections with other community partners were slow to consolidate.

During the grant, we discussed, with each other and with Food Dignity collaborators, whether a food bank could be a player in a move toward a sustainable, just community food system. We agreed that many food banks are deeply embedded in a charity model by playing a role in

[6] The hunger education curriculum is available at https://www.foodbankst.org/hunger-ed

profitably disposing of corporate food surpluses and distracting the public from the realities of hunger by offering band-aid solutions (see Poppendieck, 1999). But the president of the FBST demonstrated an interest in building a partnership, shared our social justice orientation, and showed her commitment to making organizational changes. As our partnership evolved into longer-term research and educational projects, the FBST began to adapt its strategic plan. The president led the board of directors and staff in adopting a strategic vision to "end hunger in the Southern Tier"; to "shorten the line" in addition to "feeding the line"; FBST also increased the organization's budget and commitment to hunger education, advocacy, and began involving pantry users in advocacy efforts. An example of success in this area was our collaboration with the FBST and Cornell Cooperative Extension in developing and piloting the Hunger Scholars program food justice curriculum, which continues to be implemented regionally and nationally in schools, after-school programs, and community youth organizations. Ithaca College student leaders also trained and supervised subsequent Hunger Scholars.

In collaboration with the Food Dignity partner Cooperative Extension of Tompkins County, Lapp and Frith planned a community-student project whereby senior students in Health Science–Nutrition who had moved through our curricular approach developed and offered a series of the Cooking Matters nutrition and cooking classes to community members in Ithaca. This higher level of community-student engagement was driven by community partners' stated needs.

In addition, participation in Food Dignity learning opportunities motivated students to explore their commitment to food justice, which helped create avenues for their employment with food-oriented organizations. Many graduates continued their education in social work and health fields.

Institutional Commitment to Community-Engaged Learning

By developing community networks, our participation in Food Dignity helped us expand our vision and expectations for institutional support for community-engaged learning. Increasing our connections with community organizations raised our awareness about the needs of local stakeholders and helped us see the need for institutional support for civic engagement. We learned that "we in academia need to do our share of preparing [students] before asking them to engage with community organizations, because if they go full of themselves and their knowledge and what they have to offer... it's that much more work and a burden on the community organization" (as Swords said while interviewing Christine Porter in September 2012).

This awareness motivated us to take part in the strategic planning for civic engagement at Ithaca College, including the development of the Office of Civic Engagement (OCE) at the college. The OCE was a first step toward coordinating efforts of faculty in engaging with community partners based on values of reciprocity and respect, and it was an effort to demonstrate institutional investment in the community. Swords and Frith participated in college-level committees to define service-learning, set goals, and develop an institutional strategy for implementing the OCE. In the process of developing the office, Swords and Frith invited community members to provide input toward the values and practices of the office. Community needs, input, and criteria for engagement were heard at an early stage of the office's development and affected its path.

Another success was achieving an institutional commitment to offer cultural competency training. After faculty and administrators observed the impact of our 2010-2011 pilot cultural competency trainings for students and faculty, when the OCE was created in 2012 cultural competency workshops were among its first activities. OCE maintained the commitment that these workshops would be community-led and kept the standard we had set to financially compensate community educators. Subsequently, hundreds of students have attended these trainings. Expanding and institutionalizing the trainings has exposed many students, faculty, and community members to the impact of larger power struggles and structural barriers on food justice.

Professional Development and Networks

We benefited professionally from our involvement in Food Dignity. The project gave us additional opportunities to network and speak on issues related to food justice and community research with colleagues and administrators. Our participation also opened up opportunities to write and obtain grants for further research with community partners. Although we each had completed sufficient scholarly work to earn tenure, participating in this USDA grant contributed to our profiles as scholars and teachers. The project indirectly provided a degree of authority and status that was converted into currency in our profession.

One of the primary beneficial outcomes of our participation in Food Dignity was that it helped us access, build, and strengthen our professional networks with scholars and community members working on food-related issues. Through Food Dignity, we took part in regular local and national meetings where we learned about campus and community needs and strengths, discussed our visions for food dignity, and built rapport and trust. Through interacting with neighbors and civic leaders, we saw the strengths and needs of specific populations in our community, including youth, older adults, residents of public housing, people targeted by racism and discrimination, people living with disabilities, and rural residents. The relationships we built have created opportunities for new and ongoing partnerships, such as work with students, projects, and grants.

We also strengthened our networks with local academic institutions. We were invited to contribute to the design of Cornell University's food systems minor. We participated in cross-campus meetings (e.g., Ithaca College, Cornell, and Tompkins Cortland Community College) to propose institutional and curricular coordination of community-student engagement projects and to avoid overwhelming and oversaturating our community partners. Such ambitious attempts did not result in immediate coordination or curricula, but we came to understand possibilities and constraints and built ongoing connections with colleagues at other local institutions.

Challenges: Power Relations and Community-Campus Engagement

Some challenges of this project were due to the intense time pressure that stakeholders experienced. Students found that community agricultural and food projects were out of sync with the academic calendar. In addition, unequal power relationships between community and campus stakeholders exacerbated the logistical challenges. We found engagement to be fraught with difficulties because it involved relationships that are embedded in institutional and historical power differences (see Bringle & Hatcher, 2002, p. 97; Buckley, 2016; Eyler & Giles, 1999). To acknowledge the challenges we faced, we reflect here first on power relationships between communities and institutions of higher education. In this special issue, Porter and Weschler (2018) define "academic supremacy" as "systemically inequitable social relations between university partners (individually and institutionally) and community-based people and organizations, that are pervasive and institutionalized in U.S. society" (p. 75). Academic supremacy can be internalized and enacted by academics in social interactions. In addition to this educational and institutional power, we also derive social power and privilege from our social class and our racial and ethnic identities as white people of European heritage.

In our context, the dominant culture of academic supremacy posed challenges to our efforts even as we attempted to challenge it. One dimension was community partners' prior experiences with other faculty and students in other civic involvement situations. In our planning conversations, community partners frequently described having been treated as "recipients" rather than equal partners in the design and delivery of community-campus engagement. For example, a local nonprofit used the term "parachuters" to critique short-term or drop-in student service projects in the community. A public elementary school teacher described her preference for college service-learning students get to know their students and teachers and what they need, rather than giving a "one-off lesson"; she expressed frustration that she was not often asked by college faculty about how their students should engage with her after-

school program. We noticed that despite our efforts to be thoughtful, we invoked academic supremacy when we or our students assumed that communication should occur with a certain frequency or mode (such as email rather than phone) to suit academic culture, schedules, or preferences. We engaged in sporadic discussions regarding privilege, equity, and control over education with community partners and with other Food Dignity collaborators. Yet in some cases, the power relations, and expectations about them, seemed to be so entrenched that there was not opportunity over the five years of the project to overcome them. We acknowledge that our institutional power separated us from community members' experiences and that our assumptions about communication led us to be frustrated by missed opportunities for student engagement.

A second power dynamic is among the institutions of higher education in our region. There are four institutions within a 30-mile radius. Their funding and status range from community college to Ivy League institution and correspond with the class positions of students and faculty (see Bowles & Gintis, 2002). For example, at a local football game among rivals, when the public college team makes a good play, the fans of the private college cheer, "It's all right, it's OK, you're gonna work for us someday!" The public college might win at football, implies the cheer, but that does not change their students' prospects for class mobility and status. In cutting fashion, this chant reminds the public college students of their place in the class hierarchy. This class hierarchy inadvertently played out in our project because it was apparent even in our service-learning collaborations that our institutions seem to be perceived differently among community members. Class hierarchy was also reflected in the funding structure of the project overall, since the research institutions' budgets included graduate student research, while ours was focused toward undergraduate learning.

These power imbalances, between institutions and community residents and among institutions themselves, can create significant barriers to productive interactions for successful service-learning. We hoped to begin preparing students by moving through the onion and cultural competency training so that they would view community members as experts, and thereby would begin addressing these inequities in power relations. In addition, we were trying to move students away from the charity model to a strengths-based model in working with communities.

Discussion and Conclusions

We entered the Food Dignity project with the goal of bringing together community members and students to create mutually beneficial relationships, experiences, and collaborations focused on food justice. We conclude by outlining how our experiences reinforce and contribute to the literatures on the necessity of institutional change and professional development, community-campus relationships, and pedagogy in service-learning. Finally, we suggest lessons for future community-campus food justice initiatives.

Institutional Change and Professional Development

Our experience shows that faculty-, student- or community-led initiatives are insufficient without institutional support. Institutions can assist community-campus collaboratives by creating communication bridges for dialogue with communities to assess common interests. It is also important that they prepare faculty through professional development. Another institutional support we did not address at Ithaca College is the acknowledgment of faculty contributions for campus-community collaborations in tenure and promotion assessment. Future efforts can draw on the emerging literature on faculty development and institutional change (Holland, 2016; Kiely & Sexsmith, 2018) to support service-learning and civic engagement. There is still much that institutions can do to move away from academic supremacy (Porter & Weschler, 2018), from charity models (Ward & Wolf-Wendel, 2000), and from exercising privilege over community organizations (Bortolin, 2011) to transformative relationships (Clayton et al., 2010).

Community-Campus Relationships

Our experiences confirm the emphasis in critical service-learning literature on quality community-campus relationships. In building such relation-

ships for Food Dignity, we implemented many of the best practices proposed by Sbicca (2015) and Levkoe et al. (2016). These include active listening; addressing whiteness, privilege, and racial inequality; aiming for reciprocity, and building trust. Our work shows that these practices create the possibility for collaborative work and also signal the particular challenges of academic supremacy (Porter & Weschler, 2018). Without trust, reciprocity, and attention to the history of racial trauma, collaborations were stalled.

We also affirm the expectations set by scholars and practitioners for campus-community partnerships. We worked with community organizations to establish project goals and drew on their input to shape our curricular approach. Niewolny et al. (2017) also propose including student participation in course design and implementation, which could be a goal for our future practice. The concept of transformative learning from Clayton et al. (2010) also sets a high standard for relationships, including dimensions of outcomes, decision-making, common goals, resources, power, and satisfaction. In subsequent work, we could more formally assess community-campus relationships using Clayton et al.'s (2010) Transformational Relationship Evaluation Scale. Future food justice efforts can make relationships more transformative by focusing on the many dimensions of the community-campus relationship as outlined in Clayton et al. (2010). Although we communicated regularly with community partners to ensure thoughtful responses to their needs, in the future we will gather data to assess the costs and challenges as well as the benefits of our collaboration.

Our challenges primarily involved the institutionalized privilege of academic institutions and of serving both students and community organizations, similar to those identified by Gray et al. (2012), Bortolin (2011), and Porter and Weschler (2018). We found it challenging to forge new interactions and establish clear communication in the context of deeply ingrained academic supremacy, racism, and other oppressive power dynamics. Future projects in similar contexts might consider articulating and addressing inequalities explicitly early on so that stakeholders can work together through these traumas. In future initiatives, we recommend agreeing upon functional communication channels, acknowledging that these may be culturally or locally specific. As well, collaborations with a wide variety of organizations might distribute resources more broadly.

Pedagogy in Service-Learning

We implemented many of the best practices in the literatures on community-campus engagement, service-learning, and food justice to develop our curricular approach. Our curricular assumptions and experience coincide with the three-phased model for course design of Howe et al. (2014). While theirs was proposed for service-learning in general, ours applied developmental theories of learning to food justice.

Like Gray et al. (2012), we prioritized student preparation before intensive interaction with community organizations. We accomplished such preparation through the onion model of community-campus engagement and our cultural competency modules, which were planned and delivered by community partners. In contrast to the model of Howe et al. (2014), however, we incorporated more direct contact with community leaders at earlier phases of learning. Our data suggest that at introductory levels, student learning included shifts in behavioral intentions regarding food consumption, such as the intent to buy local and organic foods and to value ethically produced foods. At intermediate levels, students learned to define food dignity and to describe structural aspects of the food system. They learned to notice separations between community and campus, value connections with community members, and identify their own abilities and roles for contributing to community change. At higher levels, students took fuller responsibility for projects requiring long-term commitment and involvement with community organizations. They were able to create and evaluate contributions to the organizations. Some demonstrated that they had internalized values of food dignity.

Recommendations for Others Considering Community-Campus Collaborations for Food Dignity

We conclude with the following recommendations

for academic stakeholders considering community-campus collaborations for food dignity.

Recommendations for institutional change:

- Seek institutional support for civic engagement early in the process.
- Develop a formal institutional strategic plan for engagement and insert engagement goals into other strategic plans.
- Include training for faculty and students for civic engagement.
- Develop awareness of academic supremacy and strategies for addressing it.
- Include acknowledgment of community-campus collaborations in tenure and promotion criteria.
- Create administrative structures that facilitate efforts by faculty to build collaborations with communities.
- Cover administrative costs, compensate community partners, and offer faculty release time or financial compensation in collaborations.

Recommendations for building community-campus partnerships and requisite academic professional development:

- Build respectful relationships via active listening.
- Build relationships among multiple faculty and multiple organizations.
- Strive for an equitable partnership model and actively avoid a charity model.
- Address racial and class privilege and academic supremacy.
- Recognize that food justice deals with people's resources for survival.
- Move from transactional to transformative relationships.

Recommendations for pedagogy:

- Scaffold teaching and preparation for service-learning developmentally, offering increasingly deeper forms of involvement and responsibility.
- Emphasize humility and accountability.
- Create intentionally tiered forms of involvement, from class-based projects to engagement spanning multiple semesters and years. Offer higher level options in addition to internships.
- Connect students across disciplines to address complex challenges of the food system.

Acknowledgments

We acknowledge our community partners for their hard work and patience, our students who inspire us, and the members of the FD project for the opportunity to explore these issues in a unique community-based project. We are also grateful to Christine Porter and Tim Shenk for feedback on several versions of this paper.

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