7-1-2014

ORGANIC IS MORE OF AN AMERICAN TERM--WE ARE TRADITIONAL FARMERS': DISCOURSES OF PLACE-BASED ORGANIC FARMING, COMMUNITY, HERITAGE, AND SUSTAINABILITY

Jeffrey Hoffmann

Jeffrey Hoffmann
Candidate

Communication & Journalism
Department

This thesis is approved, and it is acceptable in quality and form for publication:

Approved by the Thesis Committee:

Dr. Tema Milstein, Chairperson

Dr. Stephen Littlejohn

Dr. David Weiss

Dr. Judith Hendry

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by

JEFF HOFFMANN

B.A., COMMUNICATION STUDIES,
INDIANA UNIVERSITY

THESIS

Submitted in Partial Fulfillment of the
Requirements for the Degree of

Master of Arts
Communication

The University of New Mexico
Albuquerque, New Mexico

July 2014

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Jeffrey Hoffmann

B.A., Communication Studies, Indiana University, 2012

M.A. Communication, University of New Mexico, 2014

ABSTRACT

The following study looks at how traditional, organic, cooperative farmers who are starting a new farming cooperative in the Albuquerque South Valley in New Mexico communicate about their farming as a set of (sustainable) cultural practices. The study draws on environmental communication theories, the theory of the Coordinated Management of Meaning, and Actor Network Theory to construct a communication-based framework through which to view farmers' stories about sustainability and visions for the future of their farming cooperative. This framework is productive, showing how some Nuevo Mexicano farmers (and others) orient toward farming, sustenance, and human-nature relationships through community, family, heritage, education, and resistance to agribusiness models, among other orientations. Finally, the study looks at how these farmers orient toward sustainability, and how they see their work as sustainable practice.

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Chapter 1

Introduction

Since the 1980s, “sustainability” has become a central and guiding concept in the discourses of the mainstream environmental movement and ecojustice/environmental justice movements. The term “sustainability” has also been adopted by many organizations wishing to paint their practices “green” for presentation to the public. The most widely used conception of “sustainability” came from the 1987 Brundtland Report, *Our Common Future*; it states that “sustainability” involves environmental and economic practices that “meet the needs of the present without compromising the ability of future generations to meet theirs” (WCED, 1987, p. 46**)**. Since this definition uses the blanket term “future generations,” it seems to imply the championing of practices that create a future in which all people of all kinds everywhere share equitably in the possibility of meeting their needs for survival and health.

More than 25 years later, the current state of poverty, hunger, environmental degradation, and destructive agricultural practices worldwide stands in stark contrast to the future reality of equity implied in the Brundtland Report’s definition of “sustainability.” In the fine print of *Our Common Future*, many of the responsibilities for creating hunger, poverty, and environmental damage, and the subsequent responsibilities for dealing with these problems were placed on countries in the Global South. However, further studies of the root causes of ecosystem collapses and pollution, as well as studies about the unequally high distribution of environmental consequences shouldered by the

poor (e.g., Roseland, 2000), point directly to the processes that create excessive wealth as largely responsible, rather than poverty itself. Predatory agro-economic policies such as dumping,[1] in conjunction with massive, mechanized, mono-cultural farming, tend to serve large agribusiness while being significantly destructive to ecosystems and people in poorer places in the world.

In light of the major inequities and other problems with agriculture, some farmers are responding by returning to indigenous knowledge and working with cooperative economic models. For example, in New Mexico, an organization called the Cooperative Development Center of New Mexico (CoDeCe[2]) is organizing to approach agriculture using ancient knowledge and practices that serve to challenge unsustainable, wealth driven agribusiness. CoDeCe organizes small plot organic cooperatives around the state of New Mexico for the purposes of community development, fighting poverty, and creating sustainable food sources and lifestyles. This study examines the stories of members of one CoDeCe cooperative, the South Valley Farming Cooperative farm (SVFC).[3] This cooperative is made up of two families. Two members compose one family, from Kenya, and the other 13 members compose an extended family whose members either grew up in Northern Mexico or New Mexico. I look at members' stories about working and living in organic farming cooperatives, the meanings they make for "sustainability," and the practices they deem "sustainable." I aim to better understand how cooperative members find themselves at once enmeshed

[1] A predatory economic practice in which agribusinesses grow food in the Global South and then "dump" the produce on foreign markets for a fraction of the production cost, or for much less than they charge in domestic markets (Gonzalez, 2004).
[2] Pronounced [ko-ðe'-ce] as if a word in the Spanish language
[3] Name of cooperative changed in order to maintain confidentiality

in the process of “making” the images, texts, and realities of “sustainability” and how these realities affect their livelihoods. By understanding how their stories shape their vision and uncertainty for the future of the cooperative’s work, I may be able to suggest communicative processes that may help members work through uncertainties and offer deeper reflection on their long-term goals. On a more general level, this study offers the deeper understanding of highly creative and collaborative ways of affecting change through justice driven sustainable practice.

Research questions

I build this study on the foundation of interpretive and critical scholars’ work that categorizes farmers’ stories as valuable discourses that have the potential to contextualize and nuance “sustainability” and “sustainable agriculture” (e.g., Agyeman, 2005; Milstein, Anguiano, Sandoval, Chen, & Dickinson, 2011; Shiva, 2006; Trauger, 2007). Milstein, Anguiano, Sandoval, Chen, and Dickinson (2011) argue that studying ecocultural discourse as it occurs in-situ in land-based communities can provide crucial insight into the construction of (agri)cultural and other ecocultural practices that are more equitable and potentially more sustainable. Farmers’ stories can become both a medium through which food narratives change and marginalized ecocultural practices can be preserved. The present study works to advance this notion by providing a case study of discourse about current, in situ practices within land-based community. Contextualizing discourse about sustainability can help deepen understanding about how people with specific and multiple cultural

orientations interact with their ecosystems. Studying CoDeCe in this way can provide insight into the possibilities these interactions have for equitable and durable ecocultural futures in the specific context of New Mexico. Nuance and context are crucial in a time when "sustainability" is employed to describe a myriad of potentially contradictory practices and lifestyles. For this study, I am asking three major research questions:

> **RQ1:** How do the stories of members constitute their understanding, acting, and visioning regarding the beginning of a place-based, cooperative approach to organic farming?
>
> **RQ2:** How do these stories constitute members visions of "sustainability"?
>
> **RQ3:** To what extent and in what ways do these stories envision a relationship between cooperative approaches and sustainability?

In sum, the study looks at how SVFC members talk about and make meaning about their perceptions and practices of cooperative community development and organic, small-plot agriculture, and how their understanding is reflected in, and informs, their discourses about "sustainability."

CoDeCe

CoDeCe is a nonprofit development center that organizes Nuevo Mexicano[4] farmers and communities who have chosen to engage in practices of living, producing food, eating, and teaching that attempt to challenge mainstream agribusiness and the poverty, hunger, and environmental and food inequality

[4] In the paraphrased words of CoDeCe director, Arturo Sandoval, "Nuevo Mexicano" is an intersection of multiple identities, possibly including, but not limited to, Mexican, Mexican American, Hispanic (Spanish), Latino/a, and American Indian.

created by agribusiness. CoDeCe works from the essential perspective that integrating organic agriculture, cultural heritage, cultural tourism, affordable housing, and sustainable lifestyles “into a comprehensive regional plan is a strong approach in promoting and conserving the unique culture of Nuevo Mexicano families and other communities” (cooperativedevelopment-center.org). CoDeCe traces the roots of cooperative development back to the late 16th century when Spanish colonization began, and even long before, when First Nation peoples used ancient farming practices; First Nation agricultural communities, potentially going back more than 1,000 years, shared acequias (dug-out ditches for water transportation and irrigation) in order to survive on their own agricultural practices in the desert (cooperativedevelopmentcenter.org). Cooperation was a necessity, and only through sharing equally in the labors and the yield of agricultural practices could communities survive. Important to the study of cooperatives is the fact that farmers and communities in New Mexico have relied on collaboration and cooperation to maintain acequias for over 500 years. Therefore, although the contemporary U.S. “cooperative farming” model is often said to be only 100 years old, the concepts of cooperation, and the related coordination of both communicative activity (communicating to properly dig out, direct, and flood the ditches every year) and agricultural practices, are deeply ingrained via generations of Nuevo Mexicano land-based communities.

Preview of thesis

In chapter 2 (Review of Literature), I look at the multiplicity and problematic “buzzword status” of the term “sustainability,” and, using extant

literature, explore how scholars have reframed "sustainability" in practices of eco-justice, deep ecology, and ecocentricity.[5] I also explore the argument that poverty, food production, and environmental damage are highly connected, systemic phenomena, and that these systems are often cyclical. It stands to reason, then, that people working to change these cycles for themselves or with others might benefit from attempting to address them in systemic, cyclical ways. That is, the cycles of poverty and ecosystem destruction might be broken down through cycles of sustaining and sustainable food production, community, education and economic development. In taking a communication perspective, I am studying farmers' discourse related to systemically sustainable practices, specifically within the institutional and historical structures that constrain and enable said practices and discourses in my CoDeCe case study site, the South Valley Farming Cooperative farm (SVFC).

I also look at the dearth of research that brings in the voices of people actually engaged in practices called "sustainable" or related to "sustainability." Specifically, rural farmers in cooperative communities are not adequately represented in (or even invited to) local, national, or global conversations about "sustainability," "sustainable development," and "sustainable agriculture." It is possible these voices may clarify some of the ambiguity surrounding "sustainability" and "sustainable development" by contextualizing discourse about sustainable practices in the practices, people, and places themselves. I also argue that, since farmer-activists in communities and cooperatives, and *not*

[5] Centered on whole ecosystems, as opposed to the opposite, "anthropocentricity," or that which centralizes human activity above all other nonhuman activity in ecosystems.

agribusiness or governments, are mostly the people who are experimenting with and developing sustainable community and agricultural practices, then these farmer-activists should have a much greater voice in the construction of knowledge about sustainability.

Specifically, I am studying how SVFC cooperative members talk, understand, vision, and act with regard to "sustainability" through their own conceptions of cooperative organic farming and "sustainable lifestyles." I am also interested in examining how the meaning of the word "sustainability" is constructed through the social and ecological practice of cooperating to eat, to live, and to grow. That is, I look at how members' accounts of their lived experiences might reflect, inform, and produce systemic approaches to minimizing anthropogenic climate change[6], poverty, and promoting social and economic justice.

In Chapter 3 (Methodology), I first explain how I use the theory of the Coordinated Management of Meaning (CMM) (Pearce, 2007; Pearce & Cronen, 1980) and Actor Network Theory (Latour, 2005; Law, 1992) as a framework for this study. I also preview the methodological assumptions that ground my study of cooperative farming and sustainability. Third, I describe the research process from beginning to end, including all background work, participant selection, interview process, data organization, coding, and data analysis. In Chapter 4 (Data Analysis) I explore and answer the three research questions analyzing direct participant communication collected through interviews. Finally, in Chapter

[6] Conventional, monocultural, pesticide-based farming practices are responsible for a great deal of the carbon emissions correlated with global warming (Shiva, 2006).

5 (Discussion), I situate the stories and discourse analyzed in Chapter 4 in the larger context of global agriculture, food system change, and the potential for ecocentric, sustainable environmental justice initiatives. I also explain the contributions the present study makes to EC, actor-network theory, and CMM. Last, I explain a program of studies that I will conduct in the future of which the present study is the first.

CHAPTER 2

Review of Literature

In the following review, I begin by examining current literature in environmental communication that helps to explain both the exigency for, and theoretical context of, the present study. Second, I look at existing literature on the contested nature of discourses about sustainability. In order to move forward from the dauntingly contradictory uses of the term "sustainability," I ground its use in eco-justice/environmental justice, deep ecology, and agricultural practices. Finally, I look at case studies of cooperative organic farms that mirror some of the practices CoDeCe describes in its mission statement. This review provides the foundation for the theoretical framework used in the analysis of CoDeCe members' stories about living and working in cooperative ways and sustainable practices.

Environmental Communication

Robert Cox (2007) wrote a generative article in the first issue of *Environmental Communication: A Journal of Nature and Culture* that helped to formally redefine the emerging sub-discipline of Environmental Communication (EC) as a "crisis discipline," or field of study that demands timely, highly ethical, and critical research. For Cox, EC needs to respond quickly and meaningfully to the ways in which discourses frame and influence how humans understand and act symbolically and materially with regard to the environment and ecosystems. This need emerged partially as the true depth of human-caused climate change was beginning to be understood. Lakoff (2010) argued that understanding how

we frame the environment through cultural discourses and effecting change in such discourses matters deeply, because discourse heavily influences material and symbolic action. In other words, what we say about the environment has real consequences for ecosystems and the lived experiences of all beings. Therefore, discourses about agriculture, architecture, pollution, human-nature relationships, and climate change matter; in fact, any way in which people communicatively frame any and all actor(s) in the natural world, and how they frame the nature of actors' relationships, matters, because such frames influence the very stability and structure of Earth's ecosystems, upon which all Earthly things imaginable depend.

Cox's (2007) and Lakoff's (2010) move toward EC as a crisis discipline and push to recognize environmental discourse as productive and important support the goal of the present study. Farmers' stories and discourse about sustainable agricultural practices are constituted by their cultural experiences and (re)constitute their actions in, and understanding of, ecosystems. Furthermore, farmers affect natural process to create sustenance for the entire human population, and their practices are fundamentally dependent on ecosystem health. Therefore, discourses that are constituted by, and constitute, their actions actually have consequences for all Earthly things imaginable. Whether or not what they do is "sustainable" affects the health of every ecosystem. Moreover, calling particular practices "sustainable" enables and constrains farmers' capacity to use various practices.

Cox (2007) proposed four postulates for the future as scholars continue to address environmental communication as a crisis discipline. First, he argued that "'Environment' imbricates material and social/symbolic processes" (p. 12). That is, when "environment" is framed in discourses, as well as when humans act on the basis of those discourses and the spectrum of ideology that presupposes them, material and symbolic process are (re)formed and (re)affected. Second, he claimed, "Social/symbolic representations of environment embody 'interested' orientations toward their object(s)" (p. 13). That is, within particular discourses about the environment, multiple orientations on a spectrum of environmental ideologies are embedded in multiple interests.

Ideologies often fall somewhere in the dialectic of anthropocentrism and ecocentrism (Herndl & Brown, 1996). Anthropocentric discourse celebrates and values scientific knowledge and constructed human interests over the needs and cycles of whole ecosystems. Through anthropocentric discourse (and ideology), humans are able to justify the destruction of ecosystems for what they believe is in their best interest (e.g., massive monocultural farms, use of synthetic pesticides). Ecocentrism is an ideal in which humans understand, speak, and act in ways that support natural cycles and help ecosystems to flourish. Environmental ideologies are often convoluted, contradictory, and/or hybrid, meaning multiple ideologies that contradict one another can be represented in the same discourse, even in the same utterance (Marafiote & Plec, 2006). Furthermore, looking at discourse often reveals that most language is neither purely anthropocentric or ecocentric; rather, utterances usually fall somewhere

toward one side of this spectrum, and can speak from different parts of the spectrum simultaneously.

Third, Cox (2007) wrote, “Social, economic and ideological contexts both enable and inhibit the production of representations of ‘environment’” (p.13). In other words, ecocultural orientations both constitute, and are constituted by, the ways in which people talk about and engage with the environment. Finally, Cox (2007) argued, “Dominant systems of representation of ‘environment’ influence societal deliberation about and/or response to environmental signals, including signs of deterioration of human health, climate, or ecological systems” (p.14). In other words, discourses that succeed in stabilizing over time through the means of multiple media have the tendency to constrain and enable particular thought and action regarding the environment; dominating discourses limit and/or enable the creative capacity for action in human-nature relationships, as well as the tools and frames people have for understanding action.

In light of Cox’s (2007) positioning of EC as a crisis discipline, Killingsworth (2007) responded by highlighting the more functional need, in addition to addressing global crises, to better understand how people talk about and act with regard to their environments through studying accounts of experience, culture, and discourse in situ. Killingsworth (2007) argued that this would provide more tangible options for EC scholars to fulfill an important ethical duty, defined in Cox’s (2007) call to action. This ethical duty is a push to support and enable equitable human-nature relationships; Cox (2007) views promoting more ecocentric human-nature relationships as ethical, not only because

ecocentrism tends to opt for better, more equitable material and symbolic experiences, but because it also promotes the health of ecosystems, again, upon which all beings depend. The present study is fundamentally grounded in this orientation toward EC; I look at farmers' discourse about sustainability and sustainable agricultural practices in the specific context and history of New Mexico. As Killingsworth (2007) argues, only through a deep understanding of culture and environmental practices in context can scholars begin to suggest what "ethical practice" or "ethical discourse" might look like for said context. For this reason, I also focus this study on how farmers' stories constitute "sustainability" in ways directly related to the work they do every day, rather than studying discourse solely as an abstract concept potentially laden with contradictory ideology. In the next section, I analyze extant literature that shows the great need to locally contextualize "discourse about sustainability" in the practices about which "sustainability" refers.

Discourses about Sustainability

Buzzword Status. In the past 25 years, the terms "sustainability" and "sustainable development" have become almost as widely used, accepted, distorted, and reused as the term "democracy." The environmental movement, environmental and biological scientists, politicians, social scientists, humanists, feminists, economists, business leaders, and others who speak and act in the name of "sustainability" and/or "sustainable development" have done so in order to accomplish highly diverse and sometimes strikingly contradictory goals (Christen & Schmidt, 2012; Connelly, 2007; Dobson, 1996; Peterson, 1997;

Shiva, 2006). As a result, “sustainability” and “sustainable development” are contested terms. Groups with varying amounts and kinds of agency employ different discourses about “sustainability” and “sustainable development,” each attempting to see their own prized environmental, social, economic, and/or political visions of the world realized (Christen & Schmidt, 2012; Dobson, 1996).

Tarla Rai Peterson (1997), an environmental activist and scholar of rhetoric, wrote in her book, *Sharing the Earth: The Rhetoric of Sustainable Development*, “*sustainability* has become a buzzword whereby conventional agriculture policy makers indicate their concern with ecology and the environment” (p. 11). Some argue the entire concept of “sustainable development” itself is an oxymoron, positing that the tenets of “development,” in most ways humanity has practiced it, cannot be “sustaining” or “sustainable” (Raskin et al., 2002, p. 89). Although “sustainability” may have achieved “buzzword” status, in many past and contemporary discourses, it is much more than an empty label. That is, the many different, often contradictory practices carried out in the name of “sustainability” have real material and symbolic consequences. Therefore, looking at the discourses located in practice and consequence is revealing.

Discourse and Practice. Peterson (1997) writes, “examining the discourse of sustainable development can reveal dimensions of this provocative concept which might otherwise be hidden” (p. 3). Part of this study’s purpose is to look at the discourses CoDeCe farmers produce about their practices in order to reveal contextual detail that nuances and deepens understanding beyond the

face value created by calling their practices “sustainable.” Donal Carbaugh (2007), ethnographer and environmentalist, makes the important connection between discourse and social and environmental practice: “the careful study of different and dueling environmental discourses can, with a careful consultation of places in the world, result in productively engaged actions” (p. 70). For the present study, looking at contextualized and nuanced discourse about sustainable practices and cooperative farming and living could lead to insights and recommendations for other communities attempting to engage in similar work.

Brundtland Report and Sustainability. Scholars who study discourses about sustainability, sustainable development, the environment, ecology, etc., (e.g., Christen & Schmidt, 2012; Connelly, 2007; Dobson, 1996; Peterson, 1997; Shiva, 2006) mostly agree that the terms “sustainability” and “sustainable development” became much more visible elements of mainstream talk and thought after the 1987 World Commission on Environment and Development () published *Our Common Future,* also known as The Brundtland Report. The WCED brought together the voices of environmental scientists, economists, national and world politicians, and developers to the United Nations to talk about “depleting environmental resources,” “environmental management,” and “sustainable development” (WCED, 1987).

Several rhetorical analyses show that the vague nature of this report has contributed to the arbitrariness of discourses about, and actions related to, sustainability and sustainable development (e.g., Christen & Schmidt, 2012;

Connelly, 2007; Dobson, 1996; Peterson, 1997; Shiva, 2006). The Brundtland Report produced the definition of sustainability that has probably received the most attention: sustainability is, at least, agriculture and development that ‘‘meets the needs of the present without compromising the ability of future generations to meet their own needs’’ (WCED, 1987, p. 46). Unfortunately, as Christen and Schmidt (2012) and Peterson (1997) argue, this definition and the grammar of the word “sustainability” (able to be sustained; able to last) allow for a dangerously simplistic interpretation of sustainability and sustainable development. Cheney, Nheu, and Vecellio (2004) write, “The original or literal meaning of the term is equivalent to permanence and implies notions of durability, stability, and eternalness” (p. 226). As a result, many people, groups, and organizations have naively asked only, “What can/should be sustained?” and have failed to ask “How should what we choose be sustained?” (Christen & Schmidt, 2012).

The report also makes the case that the current levels of poverty, hunger, overpopulation, (especially in the developing world), along with policies on and techniques of energy use, architecture, agriculture, hunting, and fishing, are depleting environmental resources and ecosystems at a rate not sustainable to human life in the long run. However, the authors’ call for action avoids specificity regarding the nature of changes in human policies and practices relating to the environment:

> The Commission's proposals for institutional and legal change at the national, regional, and international levels are

> embodied in six priority areas: “getting at the sources,” “dealing with the effects,” “assessing global risks,” “making informed choices,” “providing the legal means,” and “investing in our future.” Together, these priorities represent the main directions for institutional and legal change needed to make the transition to sustainable development. (WCED, 1987, p. 187)

The report develops each of these six goals to talk about who, in particular, needs to enact change, mostly pointing to governments, but leaves out of the recommendations any kind of specific action regarding specific regions of the world. The vague nature of these parameters for action and definition of “sustainable development” and “sustainability” invited many different interpretations in the subsequent decades.

One interpretation made by ecologists and politicians, particularly those living in the Global North, is a kind of thinking that says Global South countries are largely responsible for current environmental crises because of their overpopulation and poverty, and they are, therefore, responsible for making the greatest changes (Peterson, 1997; Shiva, 2006; WCED, 1987). Vandana Shiva, Indian ecologist, feminist, and activist, refutes this kind of thinking with a compelling argument; she (2006) argues that overpopulation and poverty in the Global South are, in fact, largely the results of colonization and the enclosure and

ultimate destruction of the commons[7] by market economy-based, privatized farming practices and predatory global food trade practices. Shiva argues that perspectives that place greater responsibility for environmental damage on the developing world also accomplish several goals for agribusiness giants: They successfully allow them to mask environmentally destructive practices that endanger livelihoods in developing countries by employing discourses of "sustainable agriculture" and "sustainability." At the same time, agribusiness has created a scapegoat, the Global South, for environmental and food production problems (Shiva, 2006).

In order to move beyond vague definitions of "sustainability" that many people and organizations have used solely for their own self-interest, discourses of sustainability need to be connected to actual human-environmental practices. The next section contextualizes several uses of "sustainability," "sustainable development," and "sustainable agriculture," and discusses a reframing of sustainability through deep ecology and eco-justice/environmental justice that challenges the human/nature binary apparent in much environmental discourse. The reframing is largely based on Shiva's (2006) three-part economic theory, which includes "nature's economy," "the sustenance economy," and "the market economy."

[7] Land whose use rights belonged to communities and which was shared and cultivated collaboratively for the sustenance of communities.

Sustainability, Eco-justice, and Agriculture

Organic vs. Conventional Systems. There exists a myth that organic farming practices do not and cannot meet the yields that conventional farming systems produce. After examining biological literature, I have found that this claim is largely a political one made on the basis of studies that compare organic systems that largely resemble conventional mono-cultural farms, the difference between them being that the organic systems use organic, instead of inorganic, fertilizers and pesticides. For example, Gabriel, Sait, Kunin, Benton, and Steffan-Dewenter (2013) looked at biodiversity and yield for cereal fields in the lowland of England and found that organic systems designed as equivalently as possible to their conventional control systems produced only 54% of the yield their conventional counterparts produced.

However, such studies fail to consider a crucial fact: the most advanced organic systems around the world, and even a great deal of the less-advanced systems, do not closely resemble conventional monocultural systems. In addition to using organic fertilizers and pesticides (if pesticides are used at all), organic farms are often substantially smaller, use multiple crop rotation (rotating more than two different crops) and intercropping (growing multiple kinds of crops right next to one another, often in alternating rows), employ alternative seeding methods, conserve water, and input less energy.

Oljača, Dolijanović, Glamočlija, Đorđević, and, Oljača (2010) studied the uses of organic and inorganic fertilizers and found little differences in the yields and nitrate leaching in the first two to three seasons on both organic and

conventional farms. However, multiple seasons later, the organic nitrate runoff was much lower than that for inorganic fertilizers, and organic yields improved substantially over time, which was thought to be a result of nitrogen and other nutrient build-up common with organic fertilizers. (Inorganic fertilizers are much more soluble and, therefore, rarely improve soil over time.) At the very least, this shows the importance of looking at the long-term effects of both kinds of farming. Panneerselvam, Hermansen, and Halberg (2011) showed that the use of intercropping in rice and wheat farms in the Indian provinces of Uttarakhand, Madhya Pradesh, and Tamil Nadu produced higher yields than their single-cropped organic and conventional counterparts. Nelson et al. (2011) found that organic intercropping or other polycultural cropping systems can substantially improve the microbial and fungal health of multiple kinds of soil. Solomou and Sfougaris (2011) found through their studies of multiple organic farms in Greece that the use of multiple organic techniques such as intercropping and organic fertilizers can increase interspecies biodiversity of flora and fauna, which can have multiple benefits for ecosystem health such as resilience against disease; higher and faster rates of, and more stable methods for, pollination, and the potential for more nutritious produce. Another study conducted by Bilalis et al. (2013) found that, in comparing conventional and organic maize and tomato farms in a semi-arid climate in Zimbabwe (a very similar climate to New Mexico), multiple alternative organic technologies reduced energy inputs by more than 25%.

Regarding yield differences, Seufert, Ramankutty, and Foley (2012), looking at globally aggregated data from hundreds of organic and conventional farm comparisons, found that yield differences were more due to context than anything else, with best practice organic farm yields, on average, only 5% to13% lower than those of conventional farms. However, organic farms with similar practices to conventional farms yielded, on average, 34% less. Badgley et al. (2007) looked at data from 293 farms all over the globe, statistically considering the multiple and varied practices of organic farms. They found, overall, contrary to myths showing organic farms as unable to produce equal yields, organic farms in the North and South produced yields just above those of conventional farms and just below conventional farms, respectively. The analysis of Badgley et al. (2007) also shows that if, over time, multiple and climate-specific technologies and best-practices are implemented, organic agriculture could entirely replace conventional agriculture in feeding the world with little to no reduction in yield, little to no increase in size of the global agricultural landscape, and substantial environmental benefits. In other words, although some of the varied results with regard to different climate and soil types call for better, long-term research regarding place-specific practices, the technology exists to feed the world organically and massively reduce the environmental degradation caused directly by conventional, inorganic, monocultural farming. Therefore, part of the work in making this shift is discursive, since changing discourse has the power to change practices, or at least open spaces for experimenting with organic technologies.

Global Agribusiness, Social and Environmental Degradation. Shiva (2002, 2005) argues that agribusiness models are at the heart of food inequality in the global South, despite how companies may attempt to greenwash[8] environmentally destructive practices. Agribusiness creates inequality through multiple socially and environmentally predatory practices. These practices include, but are not limited to, the enclosure of the commons, dumping, manipulation of the legal system to own genetic code and to make seed saving illegal, privatization of public water, and the destabilization and poisoning of ecosystems to the point of their destruction.

Many countries in the Global South have been negatively affected by the enclosure of public agricultural land. Since the advent of multinational agribusiness, massive conglomerates such as Monsanto have been purchasing land from communities (when communities are lucky) or finding ways to get local governments to remove indigenous peoples from their common agricultural land in order to allow multinationals to plough and plant hundreds of thousands of acres with one species (Adamson, Evans, & Stein, 2002; Agyeman, 2005; Shiva, 2002, 2006). This practice is designed for profit at the cost of local farmers and their environment. Farmers pay by both losing their common land and water, and by not being able to compete with agribusiness (Adamson, Evans, & Stein, 2002; Shiva, 2002). Ecosystems pay in the form of destabilization, destruction of biodiversity, massive water pollution from nitrate run-off, rapid soil erosion, and

[8] The intentional use of environmentally friendly or environmental justice-based language (including some uses of the word “sustainability,” since the word actually came out of the radical environmental movements in the 1960s) to dilute and twist public knowledge or perception of environmentally harmful practices (Tokar, 1997).

the rapid mutation of super viruses that adapt to GMOs *and* systemic pesticides (Shiva, 2006).

Enclosure of the commons is often paired with dumping. In this predatory practice, countries of origin are forced to export most of their produce, and it becomes impossible for the vast majority of local people to purchase what is left. Another issue arises when agribusiness corporations grow millions of acres of corn and soy (of course, on land formerly classified as the commons, where many people farmed for survival) to use solely for ethanol, creating a double loss for the Global South: space *and* food (Patel & McMichael, 2009). All of these practices acting together are now creating the guarantee of hunger. That is, many agribusiness corporations are taking advantage of global trade and environmental deregulation to gain maximum profit, but in the process are starving to death millions of people each year.

In addition to economic practices that create hunger, a great deal of uncertainty exists with regard to the demonstrated and potential health effects of GMO food. Although no conclusive research has shown GMO food to have direct negative effects on human health, the agricultural processes required to grow particular GMO products have clearly been demonstrated to have negative ecosystem effects. For example, many GMO seeds require very specific conditions to grow, usually under the application of a particular fertilizer and/or pesticide; in these cases, the fertilizers and pesticides are almost always patented by the same company that holds the seed patent. The class of pesticides used in the majority of such GMO crops is the “systemic pesticide”

class, or chemicals introduced in the seed and systemically produced in most or all other parts of the plant, including its seeds, pollen, fruit, etc. (Quarles, 2011).

Lu, Warchol, & Callahan (2012) tested the most common of the systemics, imidacloprid, on bee colonies after observing evidence that the systemic was largely responsible for Colony Collapse Disorder (CCD) in the United States. Bees often feed on the pollen of GMO plants treated with systemic pesticides and agribusiness beekeepers have taken to feeding bees cheaper, high fructose corn syrup made from GMO corn treated with imidacloprid. Their findings show that 94% of bee colonies treated with imidacloprid exhibited all symptoms of CCD, and none of the control colonies, which contained no traces of imidacloprid, experienced CCD. Although the study needs to be replicated in multiple climates, the evidence points overwhelmingly to GMO crops and their systemic pesticide counterparts. Even further, since GMO plants are resistant to their systemic pesticide counterparts, tests have revealed overly liberal use of these deadly chemicals in many agribusiness farms around the world (Quarles, 2011). Considering pesticide misuse and the mass deaths of bees and other insect pollinators, which are fundamental to the survival of most ecosystems, these farming practices may literally be a threat to all life.

Locating Sustainability in Practice

In light of the benefits of organic practices over conventional practices, it is important to locate sustainability in practice. One way to begin to resolve the ambiguity and relativism that now exist with what is done in the name of sustainability is to start connecting discourse to actual practices and analyze

where the two intersect and where they diverge. Understanding what "sustainability," "sustainable development," and/or "sustainable agriculture" mean to different people/groups requires looking at discourse about sustainability *that is situated and contextualized in social practice*. Because discourse is language that relates to social and material practices and realities (Cloud, 1994), locating discourse in the actual social context(s) that produced it might help clarify some of the ambiguity.

For example, "greenwashing" is the intentional use of environmentally friendly or environmental justice-based language (including some uses of the word "sustainability," since the word actually came out of the radical environmental movements in the 1960s) to dilute and twist public knowledge or perception of environmentally harmful practices (Tokar, 1997). Monsanto, the global agribusiness and GMO giant, exemplifies this well by calling itself a "sustainable agriculture company" (Monsanto, 2013). By comparing the social practices of organizations that use the words "sustainability," "sustainable development," and "sustainable agriculture" one can filter out most of global agribusiness as "greenwashed." I want to note that the present study is not primarily dedicated to whistleblowing on "greenwashers," although I believe that project to be important. Rather, by acknowledging that (1) eco-systemically "sustainable" practices must change as context changes, and (2) humans have not reached a functioning reality of sustainability, part of this study's aim is to look at the discourses of CoDeCe members as contributions to *one of the many* "sustainabilities" that could be possible. Shiva (2006) does help relocate

sustainability and sustainable agriculture in a philosophical and conceptual framework that will be very helpful for describing the discourse and practices of CoDeCe, which *is* the aim of the present study. Her framework is a three-part economic model including what she refers to as nature's economy, the sustenance economy, and the economy of markets.

Nature's Economy. Shiva (2006) offers a more complex and holistic description of "economies" that clarifies why global agribusiness is currently and historically destructive. She argues that any company or group that is focused on profiting in the "market economy" and less focused on the "sustenance economy" and "nature's economy" is unsustainable and largely responsible for damage to the environment and to people's livelihoods. Shiva defines nature's economy as "the production of goods and services by nature—the water recycled and distributed through the hydrological cycle, the soil fertility produced by microorganisms, the plants fertilized by pollinators" (p. 16). The use of the word "resource" here should not be confused with the anthropocentric use that only involves the human activity of harvesting "resources" from nature for human-centered development and progress. The "resources" of nature's economy are the composers of nature's symphonies; they are the fundamental parts and processes that create and maintain ecosystems.

This understanding of nature and nature's economy is helpful for a number of reasons. First, it breaks down the human/nature binary so common to environmental discourse; humans are not and cannot be separated from nature because in every way imaginable humans *are* nature. To clarify, I believe it is

helpful to think of ecosystems as extremely complex organisms, organisms of which humans are a small but important part. When our social, cultural, and/or environmental practices are destructive to ecosystems (or each other, because we are part of the same larger organism as the rest of the ecosystem) I refer to them as "parasitic." When our practices are both beneficial to one another *and* the rest of the ecosystem/organism, we are mutually symbiotic. In looking at CoDeCe as a case study of discourse about sustainable agricultural and community practices, I explore themes of both parasitic and symbiotic human practices.

Sustenance Economy. Second, looking at nature in this way also allows for the view of a "deficit of natural resources," (Dickinson, 2013, p. 319) or nature as being in a state of "deficit" at all, to be turned on its head. In viewing nature in all its creativity (including humanity), nature can be understood as *resourceful*. Nature and all of its human and nonhuman components are capable of organization, accomplishing both tumultuous and harmonious complex relationships, birthing and nurturing, destruction, and vast, limitless creativity. In this study, I will also look at farmers' discourse for themes of human-nature *resourcefulness*.

The "sustenance economy" is the system that "makes human production and reproduction possible," and includes "all the spheres in which humans produce in balance with nature and reproduce society through partnerships, mutuality, and reciprocity" (Shiva, 2006, p. 17). Therefore, that which "sustains" human life is the "sustenance economy" and that which "sustains" the

"sustenance economy" is "nature's economy" (p. 52). By this logic, the very first thing "sustainable agriculture" should concern itself with is nature's economy, again not over-emphasizing human life but emphasizing human life *as part and parcel to ecosystems*. This logic also has implications for "sustainability": Here, the "sustain" of "sustainability" is not just "enduring" but also "nurturing" and "caring."

Market Economy. Shiva (2006) talks about the third economy, the market economy, as the trading of foods, goods, and services. The advent of globalized agribusiness has brought about the destruction of "markets," which are naturally occurring places of trade that grow out of societies, in favor of "the market," which is a contrived space of trade, distant from the societies that support it. "The market" and its ideologies of growth are not based on the sustenance and nature economies, but rather on capital, which has an arbitrary value when compared to the nature and sustenance economies, which have empirically visible amounts of resources (again, "ecocentric" resources, or resources for *resourceful* ecosystems, and sustenance resources, or food produced by *resourceful* ecosystems). Mono-cultural, massive "cash-crop" farms and the pollution and waste required to maintain them are shown to be some of the greatest contributing factors to the depletion of ecosystem resources and, therefore, sustenance resources (Shiva, 2006). In short, the market economy of agribusiness does not function primarily to produce food. The market economy actually functions to create profit on the basis of destroying the sustenance economy and nature's economy. This system is neither sustaining (nurturing and

caring) nor sustainable (enduring and creating space for future generations of flora and fauna their and ecosystems to endure).

Justice, Discourse, and the Three Economies. Shiva (2006) calls for a reversal of the current formation of human priorities with regard to the three economies. Right now, almost all food trade and production are based on "the market," which is based on destroying nature's economy to produce less food (less sustenance) for more capital profit. Shiva calls for the base of all trade to move upward from nature's economy, to sustenance, to "markets" that naturally grow out of human society. Her reversal involves communities called "Earth Democracies." These are self-sustaining communities that are decentralized from the global market but are global eco-justice-minded and practiced. They begin with the foundation of nature's economy and place the utmost importance on creating, testing, and improving culturally and *ecosystemically* contextualized, mutually symbiotic ways of living, growing food (sustenance economy), and trading goods and services within communities and with other communities (economy of *markets*, not of *the* market).

Scholars have critiqued environmental movements, arguing they have avoided social justice issues and have discursively focused on "purely" environmental and "green" issues, reinforcing a human-nature binary, and ignoring the fact that burdens of environmental degradation are shouldered heavily by racial minorities and lower economic classes, especially in the Global South (Boardman, Bullock, McLaren, & Meacher, 1999). In response, Agyeman (2007) and Agyeman and Evans (2003) studied emerging discourses in Britain

regarding sustainability and justice, arguing that a new paradigm of discourse, "Just Sustainability," although in its infancy, is emerging from multiple environmental organizations, scholarship, and public/political activist groups. "Just Sustainability" involves the merging of "environmental justice," or the call to (re)pattern political, social, and environmental interactions in the attempt to create more equitable social realities with regard to environment, and "sustainability," or "the need to ensure a better quality of life for all, now and into the future, in a just and equitable manner, whilst living within the limits of supporting ecosystems" (Agyeman & Evans, 2003, p. 5). Stanley (2009) argues, through a case study of discourses surrounding the production of inequality in nuclear waste management and its effects in Canada, that scholarship should focus on the complex relational, discursive production of difference as a way of understanding environmental inequality, rather than looking at injustice as a "distribution" of effects. Stanley's study opens the door for not only inequality but also the relational production of difference with regard to all human-nature relationships. This is helpful to the present study, giving precedent to studying the relational construction of cooperative place-based agriculture and sustainability as an entrance into relating sustainability and practice. I do not focus primarily on the way SVFC members are working toward justice through "redistributing resources," but rather on how their stories and discourse envision sustainable human-nature relationships in agriculture in the South Valley.

Several other scholars move beyond naming the culprits of unequal distribution of environmental injustice to study organizations and human practices

that directly connect “sustainability” and “sustainable agriculture” to practices of environmental, social, and economic justice (e.g., Agyeman, 2005; Cheney, Nheu, & Vecellio, 2004; Maye, Holloway, & Kneafsey, 2007; Trauger, 2007) In the next section, I show that sustainable agricultural practices that mimic Shiva’s (2006) conceptual frame highly benefit from promoting and acting on environmental, social, and economic equity. The cases I highlight are cases of organic farmers who have adopted a cooperative economic model. Although other economic models exist, the cooperative model is growing and expanding in New Mexico, with now more than 15 new organic farming cooperatives initiated in the last six to seven years through CoDeCe alone, and many others through different networks of farmers. In addition, the cooperative model in New Mexico is designed to create equal economic benefits for farmers while providing food to multiple, smaller markets, which mimics part of Shiva’s (2006) model for a sustainable and equitable food system.

Sustainability Agriculture, Equity, and Cooperative Farming

Sustainability is directly tied to “social justice,” or human equity and liberation. Case studies (e.g., Agyeman, 2005; Cheney, Nheu, & Vecellio, 2004; Maye, Holloway, & Kneafsey, 2007; Shiva, 2006; Trauger, 2007) have shown that human equity is not only morally but practically beneficial to creating, maintaining, and sustaining (nurturing/enduring) food production practices that replenish both nature’s economy and the sustenance economy. In light of the current food crisis and the global levels of economic, environmental, and livelihood destruction described above, contemporary movements toward

“sustainability” may very well mean farming practices that are regenerative of ecosystems and nurturing of the local markets that naturally grow out of societies. In addition, a deeper look at the discourses coming out of and shaping practices that are regenerative to ecosystems and nurturing of local markets may aid in deepening and necessarily complicating sustainability as it relates to reorganizing and nurturing the three economies.

The justice and equity discourse about sustainable agriculture includes, at the very least, ecosystems, hydro-systems, biodiversity, cooperation, the commons, equitable social and economic practices, organic farming, and learning structures. However, most of the studies conducted about such systems lack the crucial voice of the farmers and community members themselves. In part this study aims to contribute by highlighting the voice of the organic cooperative farmer. Many scholars speak and write for and about “farming,” yet few bring farmers’ actual voices into the conversation as a discursive influence on the social construction of “sustainability” and sustainable agriculture. Carbaugh (2007) implores that we “explore the variety of discourses in view, while consulting the earthly places where each finds root. Just as biodiversity is an important principle in understanding ecosystems, so too is discursive diversity important in grasping human ecocommunities” (p. 70). Below are examples of a few studies that have looked at cooperative farming and have incorporated farmers’ voices and discourses as valuable to the global conversation about sustainable economic and farming practices.

Cooperative farming. Equity-based agriculture has existed for thousands of years. Although the ideas inspiring cooperatives are ancient, contemporary cooperatives in the United States are a little over a century old. They vary by function; some are based on manual field labor, others on seed distribution, marketing, and branding, others on research and innovation, and still others include education, tourism, and/or any combination of all these activities. The one major aspect all cooperative agricultural enterprises share is the cooperative economic model, which involves all members sharing equally in the profits and benefits of the cooperative. Management or leadership is usually decentralized and shared by members, but the manner in which it is shared varies from cooperative to cooperative. Some U.S. cooperatives, although not organic, have reached memberships of more than 1 million farmers. Most organic cooperatives are smaller in size as well as market share for overall U.S. agricultural production (USDA, 2010). Below, I provide reviews of a few different case studies of organic farming cooperatives in the United States that are similar to CoDeCe in that they incorporate continuing education and community empowerment into their models. In addition, I review Shiva's (2006) studies of cooperatives in India, since their political activism mirrors part of CoDeCe's mission, which is to better opportunities for local land-based communities through existing resources and structural changes.

Trauger (2007) studied two cooperative organic farming models in Pennsylvania (also connected to other places in the Northeast US) –the Tuscarora Organic Growers (TOG) and the Women's Agricultural Network

(WAgN) -- and found cooperative farming models favor equity among farmers and natural environments because they encourage “distributive justice” that “seeks to balance rewards with contributions” (p. 44). “Cooperation” is a concept widely used in organic farming organizations that include social justice as part of their mission. Trauger studied the cooperation in WAgN and found “WAgN is explicit about sharing leadership, and no formal hierarchy exists in the organisation. Leadership is ‘taken’ by actors within the organization, and as such, the distribution of rewards is typically proportional to the contribution” (p. 51). In addition, WAgN is an educational organization:

> WAgN members enthusiastically share with each other all manner of information about their farm operations. This creates a situation where many, rather than few, can succeed, which is central to the long-term health and sustainability of agriculture, WAgN, and the sustainable agriculture social movement. (p. 51)

WagN is an example of long-term practices that are “sustaining” and “sustainable” in all three of Shiva’s (2006) economies. In WAgN, communication, resources, knowledge, leadership, costs, benefits, and relationships are more or less equitable. The practices, the women, and the terrain are “sustaining” (nurturing and caring) and “sustainable” (enduring).

Trauger (2007) compares WAgN with TOG, and in the second case, the dominating nature of “the market” (Shiva, 2006) limited the ability for equity and justice in the three economies when the farm grows substantially in scale. WAgN

had 631 members in 2007, while TOG was many times larger and, because this was the case, the only venues available to sell sufficient produce to stay profitable were national and global markets. In order to stay competitive with giant agribusiness, TOG farmers “employ a diversity of low-wage labour strategies… As a result, very little control of the production, or over working conditions, is extended to these rural ‘others’” (Tauger, 2007, pp. 46-47). In addition, racial, cultural, and language differences (mostly white operators and mostly Mexican migrant farm laborers) created further distance between hierarchical positions in the organization. It appears that while agribusiness giants still dominate and maintain “the market” rather than “markets” that grow out of human activity, the scale of cooperative-based farming that is “tri-economically” sustainable and equitable is limited (Shiva, 2006).

Farmers’ cooperatives in India have also become highly active in the politics of water and land. For example, Shiva (2006) studied conflicts over water rights of all major rivers in India. Privatization and “the market” economic policies related to privatizing water have had devastating effects for millions of people throughout India, especially those in rural farming communities. Shiva (2006) effectively dispels myths proliferated by corporations that privatization of water will bring cheaper, cleaner water to more people because it will be given a market value. This, in fact, has never been accomplished by any privatization effort in India. The reality is that policies, once again, favor profit margins and “the market” and the simultaneous devastation of communities and people through starvation and lack of water supply. Shiva (2006) worked with several

agricultural cooperatives to organize community members and farmers to stop the diversion of a dam (Tehri Dam in Uttaranchal) on the Ganges River. Shiva also studied the cooperative community's use and understanding of water. Quoting a petition drafted by several cooperatives of farmers and their communities, Shiva writes "we do not need privatization or river diversions to address Delhi's water problems. We have shown how with equitable distribution and a combination of conservation, recycling, and reduction in use, Delhi's water needs can be met locally" (2006, p. 178). Shiva helps to ground "sustainability" in ecocentric practices that have been proven to benefit ecosystems and human equity as a fundamental construct for the health of ecosystems. She urges food communities to resist agribusiness by reclaiming the commons, creating and feeding alternative markets in resistance to the tyranny of the singular "Market," and nurturing cooperative communicative organization within the food system to encourage better human-nature interaction.

Her case is helpful in understanding the necessity of common water rights for equitable, ecocentric food systems. This is relevant to the present study because the cooperative I examine could not exist in its current shape and capacity without the collective water rights afforded by the land grant system and acequias flowing through the South Valley. It is also relevant in that it reinforces the argument that agribusiness, no matter how well greenwashed, is ideologically and practically opposed to equitable, sustainable food systems, furthering the case for studying cooperative, ecocentric food models.

Summary

In many ways, the term “sustainability” has been co-opted by large agribusiness corporations in an attempt to discursively construct their public images as environmentally conscious, while their practices remain environmentally destructive. In spite of greenwashing, many scholars have begun to reclaim the term, grounding it in ecocentric ideologies and practices. The present study brings in the vital voices of cooperative farmers in order to understand how “sustainability” is being (re)patterned through the practices, stories, and discourse of people enmeshed in ecocentric agriculture. In the following chapter (Chapter 3: Methodology), I explain the research process, provide background information on the case examined, and explain the procedures for data collection, analysis, and discussion used in the current study.

Chapter 3

Methodology

In this chapter I explain the methodology of the present study, including both theory and method. I begin by summarizing and explaining the theory of the Coordinated Management of Meaning and actor network theory, two theories that I use to build the analytical framework applied to farmers' stories and discourse in the analysis. I also provide the details of all research procedures, including participant selection, interview protocol, transcription, translation, and data analysis. Finally, I explain how I used the methodological framework to analyze farmers' discourse in the data analysis conducted in Chapter 4.

Coordinated Management of Meaning and Actor Network Theory

In the present study, I rely primarily on the theory of the Coordinated Management of Meaning (CMM), originally developed by Barnett Pearce (2007) and Barnett Pearce (1989), in order to lay out my methodological assumptions. CMM is particularly well suited for a study of discourse about sustainable agriculture and cooperation because the major goal of CMM is to understand how different processes and patterns of communication create social worlds and how, through intervening in those processes, we might be able to make better social worlds (Pearce, 2007). Considering the understanding from the literature above that better natural worlds and human-human and human-nature relationships are, or should be, high on the agenda of sustainable agriculture (Agyeman, 2005; Agyeman & Evans, 2003; Shiva, 2006), a research methodology that aims to "make better social (and natural) worlds" seems highly

fit for considering just sustainability. I propose that the tenet of “making better social worlds” should also consider human-nature relationships, moving upward from anthropocentric conceptions of communication to focus on human-nature communicative worlds. A focus on better human-nature relationships supports Shiva’s (2006) model for sustainable food systems, and more generally, opens the door to relational approaches to fighting inequality on an ecosystem level.

I also rely on actor-network theory (ANT) originally developed by Latour (2005) and Law (1992). ANT provides a framework for viewing the social as primarily performative, and therefore, for understanding meaning as emergent from the interactions occurring between and among multiple actors in very complex networks, as opposed to being prescribed through existing structures (Latour, 2005). That is, meaning, identity, organization, and institutions are not constant but emerge from interaction. In ANT, as Littlejohn and Cole (2013) put it, “what appear as macro structures (such as organizations, knowledge, social institutions, etc.) are actually the effects of constantly (re)patterning various types of material, human and non-human, through communication” (p. 8). This position on the social is entirely aligned with the assumption CMM makes about social and natural worlds; they are made and remade in interaction, and therefore, are constantly emerging.

ANT offers a helpful lens for understanding human-nature relationships. That is,

> anything can be an actor because everything has the potential to act, even outside of direct human intervention.

> For example, humans may give function and characteristics to objects in interaction but in doing so those objects become actors, they are productive and essential to interactional contexts (Littlejohn & Cole, 2013, pp. 8-9).

Furthermore, nonhuman aspects of nature communicate through the way they interact resourcefully and productively with one another, as well as respond to human action. In looking at SVFC farmers' discourse about cooperative organic farming and sustainability, larger (re)structuring narratives of "nature," "the environment," "organic agriculture," and "sustainability" can be seen as actors in the network of patterning and (re)patterning interactions from which meanings emerge for farmers as they (re)engage in cooperative agriculture. While looking at farmers' stories, I am also looking at how their stories enable and are enabled by larger (re)structuring narratives of "nature," "the environment," etc., that have gained relative stability in shaping their social-environmental worlds.

Ontologically speaking, I assume that communication is a social, interactive process through which people come to understand, describe, interpret, and act upon or on behalf of themselves, their relationships, environments, values, desires, needs, etc. Communication is also constructive, in that it produces meaning and structures and is structured by social, economic, political, and environmental actions (Pearce, 2007). In order to further break down the human-nature binary, I also assume here that the environment and nature are at once part of our physical bodies (Bell et al., 2002) and also have communicative capacities of their own, outside of human language (Carbaugh,

2007). That is, the environment “communicates” in that it is perceived, understood, interpreted, and responded to by humans and human action, and responds to human action by changing shape.

CMM is also a theory and method of action. If people are going to study the way that processes of communication influence and build the way they understand other people, their relationships, and the social-environmental worlds around them, then action research concerning communication should be about building “better social worlds” through better communication practices. A “better social world,” according to Pearce (2007), is one in which both material resources and symbolic resources are more equitably distributed. Material resources might include food, living space, money, access to healthcare and wellness, physical safety, and/or financial security. Symbolic resources are tools and spaces for communicating—for making social realities. In “better social worlds” people have more equitable access to quality interactions and relationships (symbolic resources) that influence material worlds. The case studies of cooperatives presented in the literature review above show that, in most cases, environmental and human equity are better for sustaining (nurturing and caring) and sustainable (enduring) worlds, including human life and livelihood in and among ecosystems. In the next section, I detail the way that CMM’s three original and fundamental constructs—“coherence,” “coordination,” and “mystery”—help to support and craft my research questions.

Coherence, coordination, and mystery

Pearce (1989) and Pearce (2007) identified the three most basic concepts of CMM as “coherence,” “coordination,” and “mystery.” Coherence

> refers to all those processes by which persons invent, test, and tell themselves and others stories that make intelligible the world around them, tame the terrors of history, make familiar the unknowns that go “thump” in the night, and give acceptable accounts for their successes and failures in coordinating with other persons. (Pearce, 1989, p. 66)

In short, coherence refers to how people make sense of the world around them and draw meaning from the many interactions in which they engage. Coherence is both reflected in what actors say and do, and is reconstituted as certain kinds of interactions are repeated.

Coordination, the second core concept of CMM, “refers to that process by which persons interact in an attempt to bring into being their visions of what is necessary, noble, and good, and to preclude enactment of what they fear, hate, or despise” (Pearce, 1989, pp. 32-33). Coordination is the process of interaction through which actors in social worlds position and emergently define themselves and other actors, both human and nonhuman. Actors may share in the process of coordination around an object (e.g., family, organic farming, sustainability), but often do not share in the same coherence.

Finally, mystery

> is the recognition that the human condition is more than any of the particular stories that make it coherent or any of the

> particular patterns of coordination that construct events and objects of the social order. It is a reminder that no matter how deeply enmeshed one might be in a particular range of stories, there are other stories in which one might find one's interpretation of the world. It is a way of looking around the edges of the events/objects of any particular social reality to see that they bear the marks of human agency, and that they might have been constructed very differently. (pp. 22-23)

Mystery involves the opportunities for coordinating and making meaning (coherence) outside of the presently perceived possibilities available. Looking at mystery involves moving upward from the present coordination, meaning making, and storytelling that constructs human-nature communicative worlds and considering ways in which new kinds of coordination could make new meaning and potentially better human-nature worlds.

For Pearce, communicators express their meanings through stories. By listening to the stories that participants tell, researchers and others can begin to grasp the lived experience of those participants. I therefore rely on participant stories (and the larger narratives they enact through discourse) in interviews to address my three research questions. All three questions address coherence, coordination, and mystery in various ways. The first research question aims to explore all three of these dimensions of CMM—coherence, coordination, and mystery—in regard to the cooperative itself:

RQ1: How do the stories of members of the SVFC cooperative constitute their understanding, acting, and visioning regarding the cooperative?

This question addresses coherence in that it attempts to get at the way cooperative members understand, make sense of, and signify their membership in the cooperative and their understanding of the cooperative itself. This question addresses coordination in that it seeks to understand how members act with one another. That is, it attempts to look not only at how members understand and make sense of the cooperative, but also at how members act together in order to accomplish the meaning making and sense making they have. Part of coordination is about accomplishing goals, but another part concerns doing things together in ways that make sense, in ways that have "coherence" for members. In this way "coordination" is highly connected to making "coherence." Action is related to the making and understanding of meaning. Finally, this question addresses mystery by seeking to discover what members might still be unsure about, what they take for granted in coordination and coherence, and what, given the opportunity, they might envision making in relation to the cooperative.

The second research question looks at coherence, coordination, and mystery in regard to ideas about sustainability and members' relationships to it.

RQ2: How do these stories reflect and construct ideas about "sustainability?"

This question concerns the ways members might construct unique meanings and frames for understanding "sustainable agriculture."

The third question concerns the implications the cooperative has for the larger human-nature project of "cooperation" and "sustainable agriculture":

RQ3: To what extent and in what ways do these stories envision a relationship between cooperative agriculture and sustainability?

Themes of meaning making and cooperation and coordination strategies will help to construct what "sustainability" and "cooperation" actually mean for members in relation to one another. Themes of mystery that emerge from the interviews will hopefully speak to how this study might help illustrate ways of communicating to make better human-nature worlds around cooperation, sustainable agriculture.

As a researcher, I value work that helps build better, more equitable social worlds for and through human and human-nature relationships. CMM is primarily a theory of human development or a practice of "developing persons" (Creede, Fisher-Yoshida, & Gallegos, 2013). Pearce (2009) sees communication as both creative of symbolic meaning and lived reality, and never of only one or the other. By taking a perspective that links both symbolic meaning and action in an irreducible and reciprocal dialectic (Creede, Fisher-Yoshida, & Gallegos, 2013), I value research as a form of transformative action. It is my hope that through the process of engaging in dialogue about their own lived experiences of sustainable practice and through seeing my research,[9] cooperative members may gain further insight into the crucial role they play in changing human-nature communicative worlds, including physical, terrestrial spaces enduring the greatest anthropogenic environmental crisis the world has ever faced. It is also

[9] I will conduct member checks after I interview all 15 members of the cooperative. This will occur after I defend the thesis.

important to me that the research be immediately practical to the aid of the cooperative.[10] Therefore, I also take a critical approach by examining, describing, and interpreting the contextualized historical structures that constrain and enable cooperative members' sustainable practices. The thesis will also be converted into an organizational report with suggestions for member-led communicative process intervention and idea generation. In the next section I describe the way that critical theory, specifically concerning structure and agency, and culture as a site of struggle, can inform and add to CMM's interpretive approach.

Culture, structure, and agency

Many critical theorists see cultures as located in the "struggle" or "tension" between individual agency and dominant structural imposition on individual agency (e.g., Halualani & Nakayama, 2010; Sorrells, 2012). Sorrells (2012) defines culture as a site of "contestation where meaning-making is a struggle, not a stable entity, and culture is understood as a resource, exploited for economic development and activated for empowerment" (pp. 182-183). In the case of CoDeCe and SVFC, for example, culture may be viewed as, but not limited to, the struggles to maintain and teach Nuevo Mexicano heritage, to grow economically independent in ecologically sustainable ways, and to achieve said economic independence while maintaining their existence as land-based communities (cooperativedevelopmentcenter.org, 2014).

"Structure" usually refers to the way larger, macro political and social contexts of government, education, media, economic markets, religion, and other

[10] Of course, it is up to cooperative members to decide whether or not my research is useful to their needs in any way.

institutions ideologically and materially constrain and enable agents' actual and perceived agency. Agency can be defined as individual and collective ability to control, make choices in, and change their environments and interactions. As Giddens (1981) writes, structures are "both the medium and the outcome of the practices which constitute social systems" (p. 27). That is, agents or actors (both human and nonhuman) act and communicate in ways that are *structured* by their previous institutionalized experiences and their *structured* communication and action is *structuring* of the contexts and institutions in which they live. Structure is, therefore, best thought of as a process, a transitive verb, (i.e., communication is *structured* by contexts and *(re)structures* contexts), rather than as a noun or state (i.e., communication is stuck in a *structure*) (Sewell, 1992).

Moreover, I value the union of theory and praxis. That is, to theorize and to research is to begin to transform the world. I also firmly believe in this case that praxis begins in the research itself, in the reflective process, but that reflections must also inform future, long-term action regarding sustainable practices, with CoDeCe and other similar endeavors of sustainable existence. I believe that the research process can be transformative for me, as well, and that I can learn a great deal from SVFC members. I believe it is possible that this research project could be of direct benefit to members of SVFC; however, the existence and nature of such possible benefits is for SVFC members, not for me, to determine. I am positioning myself as a concerned researcher but acknowledge that only members of SVFC may rightly evaluate the benefit of my research to their communities. In the next section, I describe the process I went

through in order to begin research at SVFC with the support of CoDeCe, moving from when I first met Arturo Sandoval up until the present moment.

Research Process

Background research. In order to begin this study I conducted background research on the organization, including a field study conducted in Dr. Tema Milstein's course, Culture, Sustainability, and Change.[11] During this field study, I met Arturo Sandoval, the director of CoDeCe and the Center on Southwest Culture. I was drawn in and inspired by Sandoval's devotion to community organizing and his belief in the cooperative model. He sees this model as a means of bringing communities out of poverty, but also as an ancient way of preserving culture, and a present way of resisting oppressive economic and social structures brought on by colonization, first by the Spanish and later by the United States. CoDeCe's mission is as follows:

> The Cooperative Development Center of New Mexico creates and supports sustainable lifestyles for Nuevo Mexicanos and others through organic agriculture, heritage and cultural tourism and affordable housing. The cooperative model assumes that integrating organic agriculture, cultural tourism and affordable housing into a comprehensive regional plan is a strong approach in promoting and conserving the unique heritage and culture of Nuevo Mexicano families and other communities.

[11] CJ518, Department of Communication and Journalism, University of New Mexico, Spring 2013

This model will provide an economic base for long-term sustainability by meeting the needs of the present without compromising the ability of future generations to meet theirs. We are re-focusing existing resources to achieve a 21st century income and sustainable lifestyles for traditional land-based communities.

The cooperative model has been an established form of working together for the common good among Nuevo Mexicanos for several centuries. Communal land grants and acequias—community-owned irrigation systems—have been in place in New Mexico since Spanish colonization began in 1598.

In addition, Native American communities up and down the Rio Grande Basin and across New Mexico used communal irrigation systems for centuries before European colonization occurred. This communal model was, and is, also an integral part of Native Americans' social and religious practices.

CODECE began operations in fall, 2010, in Truchas, New Mexico. In less than two years, CODECE has helped create five co-ops and has identified six other communities who have expressed interest in forming co-ops with CODECE support. (CoDeCe, 2014)

I also did background reading about the organization, including a number of internet-published speeches Sandoval gave between the time from the cooperative center's inception and the present day. These speeches gave me a useful understanding of the organization's macro-vision. The field study and the background reading I did were helpful when I decided to contact Arturo to see if I could be of any use to the organization and whether CoDeCe would be willing to let me conduct research.

I met with Arturo in October of 2013 for the first time after the CJ518 field study. We talked in depth about the cooperative model as a way of organizing communities and that, in order to accomplish "sustainability," much more than just organic farming was necessary. Sandoval spoke of his vision for the cooperative to create space for community healing from the centuries of oppression and economic and social marginalization experienced as a result of colonization. For Sandoval, "sustainable lifestyles" means living and learning in ways that are economically, socially, psychologically, and ecologically nurturing, stimulating, and healing. He explained that he envisions the ideal cooperative as a place where multigenerational dialogue and learning can occur to begin to address the community needs for achieving this kind of "sustainability." At this point, I suggested that a potentially helpful place to start would be to interview cooperative members about their stories and visions for the cooperative in relation to sustainable living. In comparing the members' experiences, stories, and desires for the cooperative and identifying their vision for "sustainable living" with the larger organizational mission and vision for a sustainable model, I

explained it could be possible to gain more insight and identify possible initiatives to move toward the larger mission. After this conversation, Sandoval told me my thesis might be of some help in moving toward the long-term vision he has for the organization and for organizing in general.

Sampling and interviews. Participants for this study were identified using purposeful convenience sampling (Lindlof & Taylor, 2010). I conducted several interviews within one community cooperative partially upon the request of the director of CoDeCe. The director hoped that over the next two years, I could conduct interviews and participant observation with the cooperative members to culminate in a longitudinal study that could potentially initiate new programs, ideas, and more productive organizational processes. The present study looks at the initial set of interviews with SVFC cooperative members. The study consists of 7 interviews, which lasted from 45 to 80 minutes, all with members who are actively engaged in the cooperative. The interviews consisted of various questions and sub-questions aimed at answering the three research questions. Questions focused on how and why members got involved with the cooperative, asking for their "stories" about getting into organic farming. Other questions focused on how they understood the term "sustainability," focusing on stories about how they relate with their natural environments.[12] CMM focuses on the importance of stories in the construction of social and environmental worlds. In this particular case, the interviews were about members' stories about

[12] See Appendix A for a sample interview guide.

cooperation, communication, and sustainable living, and the relationships between cooperative organizing and sustainability.

The participants in the present study are all farmers at a particular cooperative, the South Valley Farming Cooperative (SVFC) located at South Valley Learning Center,[13] a historic landmark and community environmental education center located in the South Valley, an area southwest of Albuquerque, NM. Participants were seven cooperative members, all from two families: one is a large extended family whose members either grew up in Mexico and immigrated here recently, or grew up in New Mexico in the South Valley; the other family is originally from Kenya. Each of the participants has had different life experiences with farming, ranging from little to no experience, to gardening as a hobby, to running family farms professionally. In addition, their children or other relatives often come to volunteer at the cooperative.

The interviews occurred in community settings at the cooperative. With IRB approval and informed consent, I recorded all interviews and transcribed each interview myself using verbatim transcription (Lindlof & Taylor, 2010). I am an advanced Spanish speaker, and some of the interviews were conducted in Spanish. I transcribed these interviews as well, and also made translations into English. Each of the translations was checked and approved by a native Spanish speaker. The process of establishing rapport and conducting interviews varied from participant to participant depending on what happened in the field and on when we were able to find a quiet place to conduct the interviews. In order to get

[13] Name of learning center changed in order to maintain confidentiality

to know the participants, I volunteered with the cooperative every weekend for about 10 hours for two months before conducting interviews.

Introduction to analysis. Once the interviews were conducted and transcribed, I used the transcriptions to perform a thematic analysis of members' stories focusing on the three basic concepts of CMM, coherence, coordination, and mystery (Pearce, 1989). The analysis is also focused on themes directly tied to the three research questions asked in the present study: members' ways of making sense of their work and their future visions for the SVFC cooperative, members' understanding of sustainability, and the relationships members envision between the cooperative's work and sustainability. These three clusters also corresponded to the three major concepts of CMM—coherence, coordination, and mystery—described at the beginning of this chapter. As the interviews and analysis began to develop in more depth and specificity, more exact and particular themes emerged under the three major categories.

Method of Analysis

Open coding. The analysis I conducted for this study involved looking deeply at the interview transcripts. Once the transcripts were complete, I began by using the process of "open coding," which allowed me to engage with the data and identify salient categories that emerged from each interview, not necessarily giving precedence to any themes in the interviews that were directly related to theory described in the review of literature above (Emerson, Fretz, & Shaw, 2011). I used open coding with the knowledge that not everything I coded would become a "categorized theme," but that I would be able to point out themes that

seemed important in the interview without being preoccupied, at least at first, with their immediate connection to theoretical concepts.

Preliminary theme identification. After the first round of open coding, I turned to a preliminary categorization of salient themes, this time focusing on theoretical constructs of place-based cooperative farming, community, family, heritage, resistance to agribusiness, sustainability, and sustainable practices. At this stage I also paid scrupulous attention to converging and diverging themes, as well as any themes that were salient in the data but may not have come up in the original survey of literature. In this preliminary stage, I focused on interpretation, taking care not to slip into critique (Emerson, Fretz, & Shaw, 2011).

Focused coding. Once the preliminary selection and description of themes was complete, I moved into the third stage, or "focused coding" (Emerson, Fretz, & Shaw, 2011). Focused coding involves "a line-by-line analysis of selected notes" and "building up and, in some cases, further elaborating analytically interesting themes, both by connecting data that initially may not have appeared to go together and by further delineating subthemes and subtopics that distinguish differences and variations within the broader topic" (Emerson, Fretz, & Shaw, 2011, p. 190).

Theme and subtheme identification. In this stage, I identified specific subthemes of cooperative farming and living, sustainability, and sustainable practices. Again, subthemes included theoretical constructs developed in the literature review as well as those unanticipated yet important subthemes that

arise from the data. Theoretical constructs included, but were not limited to, cooperation, human-nature relationships, eco-justice, collaborative and continuing education, and eco-cultural orientations.

Analysis. In the final stage of the method, I turned to an interpretive analysis of themes and subthemes. The first part of the analysis is heavily interpretive, focusing entirely on the content of CoDeCe members' stories and analyzing themes and subthemes using the framework of CMM's three principal constructs(coherence, coordination, and mystery). I introduce each major theme and its subthemes separately and analyze each using the three-part CMM framework. Then, I interpret all themes for convergence and divergence in (1) meaning for members (coherence), (2) communicative practices (coordination), and (3) visions, hopes, and dreams for the future of the cooperative (mystery).

Discussion. Following the interpretive analysis, I engage in a critical discussion of the structuring and (re)structuring of stories (discourses) and communicative practices that I interpreted in the analysis section. The discussion includes, but is not limited to, a critique of the communicative practices based on salient macro-level structures (e.g., the influence of major agribusiness, economic, and political histories such as colonization) that enable and/or constrain members' communication about cooperative farming and sustainability and their ability to achieve that which they desire or dream for the cooperative and/or their communities. Once the thesis is approved, I will then convert it into an organizational report and present it to Arturo Sandoval for further discussion.

Chapter 4

Coherence, Coordination, and Mystery in Place-based Cooperative Farming and Sustainability at South Valley Farming Cooperative

The present analysis is a CMM-based look at SVFC members' stories and discourse related to place-based cooperative organic agriculture, sustainability, and the relationship between this specific kind of farming practice and the meanings members construct for sustainability. Based on CMM, I assume members relationally engage in constructing multiple meanings they deem important to this specific way of orienting toward place-based food through community and economic relationships, family, heritage, education, resistance to agribusiness, and sustainability. This assumption is also grounded in several examples below. I analyze the data collected in the seven interviews through the lens of the three RQs previously identified in the study. In the section titled "Place-based cooperative organic agriculture at SVFC," I analyze members' stories and discourse in order to answer RQ1: How do the stories of members of SVFC cooperative constitute their understanding, acting, and visioning regarding the cooperative? I show how members make sense of, and draw coherence from, their cooperative work with regard to community, family, heritage, resistance to agribusiness, and continued education. In the section titled "Sustainability at SVFC," I respond to RQ2: How do these stories reflect and construct ideas about "sustainability?" I look at members' stories to show how they make sense of "sustainability" through the lens of human-nature relationships. Finally, in the section titled, "Sustainability at SVFC: Relating

human-nature relationships and place-based cooperative organic agriculture," I respond to RQ3: To what extent and in what ways do these stories envision a relationship between cooperative agriculture and sustainability? I examine how members envision a relationship between their understanding of "sustainability" and how they make sense out of the cooperative's work.

Although I analyze these themes separately, I also aim to demonstrate that they are deeply interdependent and form a network of actors, meanings, and actions. Furthermore, members' understandings of sustainability are multiple and have both material and symbolic implications for human-nature relationships, both in general and those specific to SVFC. Finally, members envision broad and deep, yet at times contradictory, relationships between their meanings and practices of place-based cooperative organic farming.

Place-based cooperative organic agriculture at SVFC

Supporting Local Economy and Community. In order to begin to understand the meanings that emerge from SVFC members' stories about cooperative farming, I first turn to a crucial concept: community. When given the interview prompt, "Please tell me about why the cooperative is important to you and what it has meant to you to be beginning this kind of work," every member I interviewed identified community as fundamental to understanding what place-based cooperative farming means to them. Under the large and often ambiguous conceptual umbrella of community, members identified several specific themes, and each theme takes on multiple meanings. For example, one member, Miguel, explained the interdependent material relationship the South Valley community

and the SVFC cooperative (and other coops) have. After identifying community as important, he further elaborated on the reciprocal importance the South Valley community has for the cooperative and the importance the cooperative has for the community:

> Growing the food is connected to the community because we need to get the resources from the community. We're obviously not getting the water from Colorado or anything; we're not getting the resources outside of the vicinity of the South Valley… And then another way would be who you supply the food to. You're not going to be supplying it to people out of state, at least at first. You're going to be supplying it to individuals who are also in the vicinity of the South Valley and then probably Bernalillo County.

In this case, community and SVFC are interdependent in an exchange of material benefits. On one hand, SVFC receives the benefit of the land grant community, in which the community owns the rights to the land and water. CoDeCe has been able to secure land and water free of cost for several years for SVFC to use, all based on the support of the community and local and state government. As another member, Isaac, stated, "with the support we have received from the community, the land is free, the water is free, we are provided with organic seeds, basically everything is free. All we have to do is work." In return, the community receives the benefit of healthy organic food at a discounted price. For example, Carlos, the president of SVFC, explained, "about

250 families in the South Valley are now able to purchase our produce at 50%, and the other 50% is subsidized by the food stamp program." The ability for families who participate in the food stamp program to purchase local, organic produce provides immediate material and health benefits for the community, since fresh organic foods are not often available to food stamp participants, usually due to a lack of government support or other blocks to access.

In addition to the materially interdependent relationship of the South Valley community and SVFC, community is also symbolically meaningful in multiple ways to members of SVFC. Several members draw on deep relational constructs when they talk about the connections between their cooperative and the community. For example in response to the question, "If you could do anything in the future with this cooperative, what kind of work/projects/activities would you want to engage in?," Marcy spoke about the important goal of the cooperative

> …to be recognized in the community as a group that is providing healthy food at a reasonable price and that we are sustainable and contributing positively towards the community. We need to get to a point where people trust us and know that we will always be there to provide good, organic, healthy food for them... It is about trust and reliability and being sustainable. Trust and reliability are sustainable when you have a good relationship with the people that you are providing your food to, and you trust them and you know they will be there for you next year.

Just as the material relationship between SVFC and the South Valley community can be considered interdependent, Marcy demonstrates in the above example that most members also consider the symbolic domain of the community-SVFC relationship to be interdependent. Marcy sees deep relational constructs including “trust” and “reliability” as definitive of SVFC orientation toward the South Valley community. Here, trust, as Marcy and other members later described, means not only knowing about how your food was produced, including everything from the seeds and the fertilizing techniques, to pest control, and water and nutrient conservation, but also cultivating healthy relationships with the human beings that helped to produce the organic fruits and vegetables. The community-SVFC cooperative relationship members envision is mutually nurturing and sustaining (read: supportive, and providing sustenance).

SVFC members make sense of the ways in which they coordinate with community in multiple ways. From the coordinated community support they receive, they draw gratitude and supporting resources. They also understand themselves as trusted providers of healthy food and enablers of healthy food system relationships. Members express mystery regarding the manner in which their farm will influence community members’ food choices and exactly how community members will come to recognize and know SVFC as a trusted provider of organic food and valued community organization. In the next section, I analyze how members draw coherence and mystery from their cooperative work with regard to “family.”

Family. Another functioning actor in the coordination of meaning for SVFC members is “family.” Members draw coherence in that family becomes (1) a mechanism for communicatively effecting systemic change (through children) regarding food and human-nature relationships in their communities, and (2) a source of dialectical tension between members’ orientations toward decision making as both hierarchical and as cooperative and equitable. The cooperative is entirely composed of two families: one, a large extended family (13 members), and the second, a small immediate family (husband and wife from Kenya with their son occasionally volunteering). Although analyzing all of the deeper family dynamics that play as actors and affect meaning making at the cooperative is beyond the scope of this study, in interviews, members often told stories about the cooperative from their positions as parents. For example, one participant, Fernando, a parent of two children who volunteer regularly at the cooperative and an uncle of another member, talked about family in response to the prompt, “Please tell me about why the cooperative is important to you and what it has meant to you to be beginning this kind of work”:

> If you can affect a child, that child will affect the family. If the family is affected, the whole community will be affected. And that is everything to me. I love being out here with my family, even if my children eventually decide to do something else…I know they will learn something enormously valuable. Even if they are not aware of it, they will learn about healthy food and all of the work that it takes

> to create healthy food and appreciate everything nature does to help us be healthy. At least, it is what we are trying to do here.

"Family" here means nurturing children's learning in ways that are oriented toward community and health with a foundation in nature. As Fernando talks about affecting his children and younger family members, he envisions their coordinated actions of learning about healthy organic food and community as powerful; that is, he sees agency emerging systemically through the coordinated action of teaching children experientially. Coherence for Fernando comes from children as the embodiment and transference of healthy food, the center of family change, and subsequently the impetus for whole communities to shift around food through families. In addition, Fernando's comment illustrates a narrative of valuing work ethic, especially health-oriented community work rooted in engaging with nature. Finally, Fernando enacts the "nature as actor" and *nature as resourceful* narratives, rather than simply talking about nature as a passive pile of "resources" for human use.

In another instance, in response to the question, "what has the cooperative meant to you personally?" Isaac talked about how his son needed to complete community service for a school project. Isaac was waiting for his son to realize that every time he came to the cooperative to help on the weekends he was doing "community service." Isaac said, "I don't want to tell him directly that he can use this for school. I hope that the time he spends here…the work we are doing and the people he is surrounded by here will make him realize that what

we are doing serves the community." In this example, Isaac hopes that the members' coordinated actions of planting together, learning about patterns of growth and how to nurture growth of plants together, and problem solving with others will help his son to draw meaning from what the cooperative does with "family" and "food" as also rooted in serving "community."

The second way family became an actor was outside of the individual family identities themselves. Family was enacted as a way of getting things done, of accomplishing tasks and making decisions for the cooperative. One way this was accomplished was through employing family as a way of hierarchical organizing. In an interview, I asked Carlos, the president of the coop, if he could talk about a decision-making process I had witnessed the previous week while volunteering at the cooperative. The whole cooperative was meeting to discuss several tasks and a plan for applying for a grant. I noticed that for the most part only three or four of the 15 members were speaking at the meeting. Carlos spoke regarding the others' silence saying,

> That is not difficult. We have the meetings, I mean, everybody is sending messages all the time. It's difficult to get 15 people to agree on something, but most people are following two or three other people. It's family so they usually follow what we say, they do what we say. So that's easy.

In this case, the coordinated patterning of meetings involves some members leading and others following in silence. For Carlos, coherence is drawn

from coordinated leading, speaking, and silence to mean that decisions are "easy" and based on the perception that family will follow what the elders say.

Although some members understand this as hierarchical organizing based on positions in family, others draw coherence from silence to mean an opportunity to rethink the communicative patterns that are (re)structuring decision making. For example, Isaac discussed the same event, saying,

> Not everybody was contributing, and that's part of the difficulty in this sense. People don't have the same level of understanding of this, especially the younger people. And they might feel a little intimidated when people are talking about a grant and applying for a grant, and they don't know what we are talking about… But then there are people who have written and applied for grants and gotten grants and so on. So unless the people who know lower themselves to the level of the people who don't know, it will be an unequal kind of thing.

Isaac's comment regarding the same moment shows that he draws very different coherence from coordinated silence at meetings. For Isaac, because of its multiple generations, age differences, experiences, family is something that poses a challenge that could be overcome through equitable communication, learning, and decision-making. However, Isaac does not orient toward the family component of the cooperative as denoting hierarchy. What is left on the margins,

as mystery, is who becomes responsible for catching up those who are “behind” in certain knowledge areas.

Family is a complex and deeply enmeshed actor in this cooperative, and it is necessary to admit that achieving a deeper understanding of these dynamics is not only beyond the scope of this study, but would require a much longer ethnographic endeavor. Even an ethnographic study would probably be flawed because of access and trust issues with any researcher, regardless of time spent with the cooperative. However, with regard to how family becomes an actor in the coordination and coherence of doing organic farming at SVFC, family and children are envisioned as deeply and positively affecting interactions from which agency emerges to change the community for the better with regard to food, health awareness, and respect for the resourcefulness of nature. However, tensions exist in the way different members draw coherence with regard to family and communicating knowledge and decision-making. In the next section, in response to RQ1, I examine members’ stories and discourse about the meaning of place-based organic food, which gets directly at how they make meaning out of their work.

Traditional Farming and Heritage. SVFC members’ stories about heritage are also telling of how they construct meaning through farming and make sense of their practices. For some SVFC members, heritage defines the cultural practice of cooperative farming as primarily *traditional* and secondarily *organic*. In addition, the coordinated practice of planting, pulling weeds, conserving water, and sharing common food space based on natural

relationships allows members with multiple cultural backgrounds to feel and express a sense of "home."

Upon being asked how he felt about the cooperative choosing to engage specifically in *organic* farming, Miguel, a farmer of Mexican descent who was born in New Mexico, responded,

> …most of the individuals here in the South Valley, when you think about growing *organically*, uhmm, well *organic* really isn't a very proper word. I would say *organic* is more of an American word. I would say it's *traditional*. I would say it's a *traditional* method…we more are *traditional* farmers. It's a method their ancestors used and their people before them used. And it was organic. There were no pesticides or herbicides; it was a traditional method and you can connect that to organic.

First, the use of the word "traditional" reinforces the position that this kind of cooperative, place-based, organic, family-oriented farming practice is not simply, and perhaps not even primarily, an income supplement for low-income families, but is instead a *cultural practice*. In addition, Miguel makes a point to differentiate what SVFC does from what the mainstream U.S. American organic movement does, in that SVFC engages in agricultural and cultural practices that belonged, first, to indigenous, First Nation peoples in the time before Spanish colonization, and then later, Mexican and Mestizo[14] farmers, pre-U.S. colonization.

[14] People who identify both with Spanish heritage and indigenous, First Nation heritage.

Miguel went on to say, in response to the question, “what does this work mean to you?,” that as children and community members begin to participate in this kind of farming, they will “connect with their roots, get their minds going on their history. It [will] connect them to how they got where they are.” Here, Miguel posits that through interaction in spaces of *traditional* farming, South Valley community members and SVFC Mexican-American, Chicano, and/or Nuevo-Mexicano members who grew up farming construct meaning related to their ancestry and history, and feel a sense of home and belonging. This speaks to the power of context and ongoing, (re)patterning narratives and interactions in the construction of cultural meaning for members. Even though the practices (read: actual farming techniques such as composting, water conservation through drip irrigation, natural forms of weed management, intercropping, and multi-crop rotation) that occur at SVFC are quite similar to those at many small farms that consider themselves primarily part of the mainstream U.S. organic movement, the various actors involved in the complex communicative network of SVFC, including “community,” “family,” and now, “history” and “heritage,” demonstrate that many SVFC farmers draw stronger coherence in the form of traditional and cultural identity from their practices than identifying with the U.S. *organic* community.

In response to the question, “How did you get involved in organic farming?,” Marcy draws on similar experiences from her own childhood in Kenya, saying,

> Growing up in Kenya, I always had a garden… So food was never something that was separate from our home. We would eat mostly from where we lived, except for a few exceptions…. My mom would allocate little fields to us kids and we would grow whatever we chose.

Marcy relates the farming practices of SVFC to those she and her family practiced in their small community in Kenya when she was a child. The convergence of the home, the community, and organic food (everything was "organic" in Kenya at that time, although they did not use the word) in New Mexico for Marcy is "nothing new" and "makes her feel right at home."

Isaac, Marcy's husband, spoke similarly in response to a question about how they saw their relationship with nature when they were farming back home in Kenya. He told a story about how he would spend time with his father, a farmer by trade and for family subsistence, teaching new farmers through bringing them to observe how veterans used different practices and techniques. At the time, he simply saw small-plot, all-organic, pesticide-free, community-based practices as "the normal way," and "part of the culture." Only upon arriving in the U.S. and seeing massive, mono-cultural farms being sprayed with pesticides did he begin to realize the stark contrast between what he knew from home and what was/is being done in the U.S. He, too, felt like he was "going back to his roots" when he was invited by a family friend to join a CoDeCe organic, *traditional* farm. He retraced his memories of travelling to farms with his father and said he felt right at home.

Marcy's and Isaac's comments about their experiences of "feeling right at home" and "going back to their roots," when compared with Miguel's comments, have important implications for meaning surrounding "place-based agriculture" in SVFC. First, the Kenyan members can meaningfully and symbolically transcend their present "physical place" in the South Valley when the practices and interactions occurring in that physical place are (re)patterned in culturally similar ways to patterns they carry with them from "home." In other words, the Kenyan members construct meaning related to their own heritage by interacting with others who are (re)connecting with their heritage. This happens not only because the agricultural practices are patterned similarly, but because the communicative, cooperative practices are being (re)patterned in similar ways. In the next section, I demonstrate that part of this (re)patterning, for several farmers, Kenyan, Mexican, and U.S. born, constitutes envisioning resistance to the global agribusiness model.

Envisioning Resistance to Agribusiness. Several SVFC farmers envision their place-based, family and community-oriented, traditional, organic practices as a form of philosophical and economic resistance to the injustices and oppression created by giant agribusiness. In response to RQ1, members make sense of their work and envision the future of the cooperative as a political endeavor. Responding to a question about what this practice meant for him, Isaac said, "the idea that someone is willing to sit in the dirt and pull weeds by hand when this is one of the most technologically advanced countries where you could spray it with some Round Up and…get a tractor to till it, and we are doing it

by hand, is certainly a political choice." Isaac went on to talk about the colonial history of New Mexico, and practice of the traditional method as a move to challenge both cultural colonialism and multinational agribusiness, through the practice of Nuevo Mexicano heritage.

Similarly, Miguel talked about the political and economic aspects of traditional farming in New Mexico. He argued that buying organic is not enough, that resistance requires withdrawing all forms of support for major agribusiness, whether economic, political, cultural, or environmental. He envisions SVFC as being part of this resistance: "So the only way to resist big agribusiness agriculture is not necessarily just to fight it, but also to not support it. And this is the best way not to support it." In response to the question, "why specifically organic?," Carlos talked about weighing the perceived ability to produce more weight in food per year with GMO, monoculture, topical and/or systemic pesticide farming, versus the perceived and actual health benefits, the aesthetic benefits, and the ecological benefits of growing organic:

> Yeah, it's true that, organically, you cannot grow as much as you do in big production farms with chemicals; they do better because they alter the system. But in organic, the finished product is much, much better, you know the flavor, the health, it's a healthier product. You are not afraid of eating it and you do not disturb the environment. So in the longer run it is much, much better to produce organically.

Carlos described the benefits of growing traditionally/organically as being both short-term and long-term. Short-term benefits include being more aesthetically pleasing, holding better flavor and nutrients per pound, avoidance of exposure to and/or gestation of pesticides or herbicides, and conservation of soil, water, air, and fossil fuels. Long-term benefits include the ability to work in harmony with nature to produce fear-free sustenance. This also shows that even experienced farmers such as Carlos do not always have the most up to date information on the development of new practices. As I will argue in the discussion section, the potential for these long-term benefits to be realized may largely depend on the ability of SVFC members and other organic/traditional farmers and cooperatives to be able to shift food narratives in their community. An example of a narrative shift would be from “my food comes from Walmart because they have everything you need” to “we go to the farmers’ market to pick up the healthy, organic food our neighbors and friends collaborate with nature to grow right here in the South Valley. This is how our grandparents, great grandparents, and so on, used to do it.” They hope to accomplish this narrative shift through (re)patterning interaction around food in their communities.

In another example, when prompted to tell a story about how he began to understand his own interest in organic farming, Isaac told a story about arriving in the U.S. and working at Disney World on the Flower and Garden Festival:

> Amongst the things we were showing was how to churn butter… And kids…when you tell them this is how you make butter, they say, “No…you buy it from the store”…and so you

> ask them, “Well, where do you think the one in the store comes from?” And they think it’s manufactured by some machine somewhere. And you have to explain, even that machine needs milk and milk comes from cows and so forth… So that basically shows you how little the majority of people know about where their food comes from.

This story relates well to the SVFC members who desire to challenge the narrative of dislocation between local practice and the food Americans eat. This story is also a helpful entrance into the next section, which shows how members make sense out of their work through envisioning the SVFC cooperative as a community hub for learning about sustainable agriculture.

Education and Communicating Learning. SVFC members envision their cooperative as a community learning center. This is illustrated through several stories they told about education in multiple contexts, including internal learning for members, more formal educational opportunities for community members, especially children, and a more general desire to educate the public on a political level that might affect policy. Members envision coordinating around their own learning experiences in multiple ways and draw different kinds of coherence from both engaging in present learning and imagining future learning. In addition, members imagine multiple ways of coordinating to create educational opportunities for the community. Finally, they tell stories (some stories are imaginative and hopeful; others reflect current and past experiences) that constitute place-based agricultural education as a way to affect public policy.

In response to the prompt, “please talk about the ways in which you interact with other cooperative members,” every member who I interviewed used some form of the phrase “learning experience” to describe specifically the way they interact with one another, while working both on and off of the farm. However, the ways in which members coordinate around learning are varied and at times in tension with one another. For example, a tension exists between those who have years of experience in farming becoming leaders based on their knowledge and brand new farmers who learn by researching techniques and then coming to the cooperative to try them. Marcy demonstrated the former piece of this tension as she explained how, each day, members arrive and decide on tasks:

> When we get to the garden, every time we have different tasks that we decide ahead of time together...We would have asked a group member to research and gather materials and information ahead of time and share their knowledge with the rest of the group via email on how best to approach the task. Whoever has a different approach will share theirs and we decide on how to best deal with the task. Depending on the task, the person with the most knowledge will take on the lead and guide us all.

Here, Marcy demonstrated that coordination around decision-making is more or less equitable, since a different person is designated to do the research each time a new task or project is brought up. However, in order to better understand

this reoccurring and (re)patterning interaction, it is important to consider the multiple and potentially contradictory meaning behind the phrase “the person with the most knowledge will take on the lead, and guide us all.” Based on Marcy’s account of the process from research to action, if the process is equitable, the person doing the research would lead the action. For Marcy, being a member of a “cooperative” means learning equitably and taking equal responsibility for the learning experiences of fellow members. However, several other actors are at play in constructing “learning cooperatively.”

For example, Isaac, a lifelong farmer with decades of experience, who also now works and teaches at UNM, complicated the equitable description of coordination around learning. In response to a prompt to tell a story about interacting and learning with other cooperative members, he talked about a cover that was used to protect some sensitive plants from a possible freeze in late April. Many of the brand new farmers saw how well the plants under the cover were doing and decided to transfer this observation and apply it to another context, planting some herbs that are extremely sensitive to cold, thinking they could just cover them if they were in danger of being exposed to frost. Isaac framed this as a specific kind of learning experience:

> We learn…this slowly, and sometimes you don’t want to overwhelm people by saying, “No you can’t do this”…If you already put some of those plants out that are delicate, you will lose them. But at the same time, If you always tell them no, they may not value it and they may get tired of it. But if

> you let them try their method, and learn by testing out their own ideas, when the work gets difficult or cumbersome, they will be very unlikely to quit, because they will want to see their ideas in action.

Isaac's story demonstrates a key interaction pattern that constitutes, in part, the dynamics of members' learning at SVFC. The pattern allows for new members to suggest ideas and learn by experimenting, failing, and trying new methods rather than learning solely from the authority and control of experienced members. This kind of learning works collaboratively, rather than hierarchically, as was seen in the example of family dynamics. The story and the interaction pattern also assume a kind of responsibility that Isaac sees the more experienced farmers as having; he sees experienced farmers as responsible for allowing less experienced farmers to learn by failing because they will own and value their successes more. However, Isaac expresses mystery concerning how to communicate his desire to nurture this sense of responsibility and specific type of learning in the cooperative.

Carlos echoes Isaac, but also introduces the tension of the bottom line: "It is a learning experience. I am trying to motivate the young people in the cooperative to be persistent, even if they do small things, everything counts. But the point at which we are going to succeed or fail is going to be the reinvestment of the money we make." The reality of the economic imperative to, at the very least, breakeven in the first year of the cooperative enters as an actor in (re)shaping coordination. Learning by experimenting, failing, and manipulating

the experiment is far more monetarily expensive than learning by the knowledge and authority of experienced members. Therefore, members find themselves drawing different meaning for the way they learn to work. They have to balance the ability to build value and commitment in new farmers by facilitating their emotional investment through experimentation with the necessity to make as few mistakes as possible and sell enough quality produce to remain above water. Therefore, making sense of the work as a "set of learning experiences" may take on very different meaning for different members, or simultaneously take on multiple and potentially contradictory meanings.

Isaac also framed what others called a "tension" as a "balance" between learning, developing commitment, respecting the knowledge of "farmers who have been doing this for millennia" and having the openness to "experiment with new methods and technology." Most members presently maintain a good deal of mystery around their own learning. They are "hopeful that they will learn enough to become successful and sustainable," as Carlos said. Yet, as Isaac noted, they

> …are sometimes unsure about what they are supposed to do, because even the leaders have not engaged in this kind of cooperative organization. Even Carlos, who has farmed for a long time, will have ideas in his head but may not communicate them with the rest of the group and so they don't always know what to do.

It is probable that members may need to collectively revisit their approach toward learning, since "some members are already losing interest and considering that

their time may be more valuable to them" doing other things. In addition to constituting their own learning through the balancing and tension of experimentation and reinvestment, SVFC members also discursively constitute their hopes and visions for incorporating community-based education as a way of making further sense of their cooperative endeavor in place-based food.

Every member I interviewed noted community-based education as an inherent and mutually benefiting practice for SVFC and the community residents of the South Valley. Marcy mentioned that the potential to engage in community education was a primary reason for her to get involved as a member of the cooperative:

> I want us to be able to have students from local schools out here in the field, and teach them practically what it takes to grow healthy, organic foods, and about farming, conservation and sustainability in general. I think the educational aspect is very important.

Members see the community-based educational aspect of the organization as important in that it may help change and (re)pattern interactions about food in the South Valley. They see their space, located near a historic agricultural trading hub, as being inherently valuable. Miguel said, "I think it is going to be very influential, especially because our location is at the South Valley Learning Center. That has a lot of historical value, and it's always been a trading post since the 1800s. So that's huge." Isaac expanded on the importance of this

location when responding to a prompt about why the cooperative was important to him:

> South Valley Learning Center… belongs to the city—it's there for posterity—it doesn't belong to one person…It's a very good place to do this, because they already have educational functions there. This is just one extra step in doing that. And there is no better teacher than somebody who is already doing it.

Here, Isaac envisions South Valley Learning Center as a commons for the South Valley and the SVFC cooperative as well as a potential public learning space for future generations. Carlos summarized the vision he has for community-based educational relationships, saying,

> Socially, it is a beautiful thing to be able to make money by being able to educate people on how to eat better, how to live better, and how to get into areas of work that are kind of extinguishing. You know with these big corporations you know, doing everything by machines, these kinds of jobs have disappeared.

In response to a prompt asking him to describe the relationship members have with their community, Fernando added to Carlos's understanding of cultivating appreciation for organic/traditional farmers by paying homage to nature:

> When we are out here we are connecting *con la naturaleza*, we are connecting *con la tierra. Esta es la cosa más bonita*

> *para nosotros. Y es mejor que todo lo que hagamos sea orgánico. Sin los químicos hay que trabajar mucho más para que resulte en un buen producto. Al trabajar más con la tierra para producir algo más saludable, más natural, se conecta más con la naturaleza y el medio ambiente. Esperamos que los niños aprendan que esta conexión es importante y que continúen vivir, trabajar y comer así durante sus vidas*. [15]

Here, members envision (re)patterning the way children interact regarding food, changing the narrative from one about the stuff their parents buy in stores to one about the *common* sustenance that people can work in unison with nature to produce in the *commons*. Members also seek to shift the narratives about farmers that children are exposed to from those about a dying and invisible human component of a largely mechanized industrial food complex to those about the people who work tirelessly alongside nature to create sustenance for human life and share in a cultural practice and heritage extending deep into the past. SVFC members recognize the children of the community as the future beneficiaries of their endeavors and, thus, seek to invest their time and energy into these children. Very much in the spirit of CMM, Miguel said, “So I think that

[15] When we are out here we are connecting with nature, we are connecting with the land, which is a very beautiful thing for us. It is much better that everything we do here is organic. With chemicals a great deal more work is required to produce a good product, and upon working so much more with the land, with nature, to produce something healthier, we form a stronger connection with nature and the environment. We hope that the children will learn that this connection is important and that they continue to live, work, and eat in this same way throughout their lives.

this is something that will involve a lot of different aspects of learning other than just growing food. It's going to develop them as human beings."

Beyond teaching children through traditional farming, SVFC members have also talked about the farm becoming a space for experimentation with new organic techniques for mitigating weeds, repelling harmful insects, working with greenhouses, hydroponic technology, and a plethora of more advanced agricultural practices. Isaac discussed allowing a few university students a semester, possibly Biology MS students from UNM, to experiment with new methods. Most members also recognize these educational opportunities as an avenue to drawing public funding such as environmental education grants.

Summary

SVFC members' stories and discourse constitute multiple kinds of meaning they draw from their work. The most salient ways they make sense of their work have to do with community, family, heritage, resistance to agribusiness models, and education. Members envision their relationship with the South Valley community as mutually beneficial, nurturing, and sustaining. They draw on multiple kinds of community interactions, including the close relationships they believe communities should have with the people who grow their food and the processes through which they engage equitably with ecosystems to do so.

Members also make sense of the work they do through family. First, the SVFC cooperative, like many CoDeCe cooperatives, is composed entirely of two families. Parents envision their children as the key to changing food at the community level, through changing individual families. Parents see their children

growing up with ecocentric, nature-based narratives about their food, which they repeat each season they participate in the cooperative. They envision these children sharing these narratives with their friends, families, schools, and thus, effecting positive and healthy change in the South Valley food system. In addition, a tension exists between younger cooperative/family members, specifically, their coordinated silence, and older cooperative/family members, in the decision-making process. The tension occurs when some members consider decision-making as “simple” because “family will listen and do what [they] say” and those who believe decision-making should be a much more collaborative and equitable process.

Furthermore, heritage plays an important role in the way members understand their work and communication at SVFC. First, some members, especially those who grew up farming in northern Mexico and New Mexico, see their practices as *traditional*, primarily, and *organic*, secondarily. *Traditional* invites multiple generations of farmers to reflect on and connect with how their ancestors lived through the cultural practice of connecting with the land for nurturing and sustaining sustenance relationships. *Organic* positions the cooperative in the U.S. movement and opens the door to multiple markets around the state of New Mexico.

Members also make sense of their place-based cooperative farming practices as a form of political and economic resistance to agribusiness. Their stories reflect a desire to change food narratives in the South Valley from those about manufactured commodities purchased in multinational stores to narratives

of deeply cultural and ecosystem-centered relational practices that produce nurturing and sustaining forms of sustenance. Finally, they envision their work in the cooperative as best effecting such changes through educational initiatives, both among cooperative members in order to gain knowledge and experience working with multiple organic technologies, and among community members, collaborating with local schools in and teaching children about place-based organic farming, food, and the cultural history, heritage, and newer technology that informs their practices. In the next section, I examine how members' stories and discourse reflect their understanding of "sustainability." Below, I directly analyze members' communication in order to respond to RQ2.

Sustainabilities at SVFC

Apprehending the concept of sustainability in discourse at SVFC, just as the literature suggests, was quite a complex task, and often required looking below the surface of what members said to get at deeper understandings. By looking at the stories members told about their work and visions for SVFC, I was able to see how individuals make sense of "sustainability." First, each member made some reference to the Brundtland Commission's definition, whether they knew where the idea came from or not. Although the Brundtland Commission's definition has been spun in anthropocentric ways that have ultimately allowed for agribusiness giants to greenwash their environmentally harmful practices, most SVFC members constructed deeply local and ecocentric coherence from interacting with this definition. I believe this is principally because the definition, as shown in the literature review, is vague enough that members were able to

use their own deeper understandings of human-nature relationships to make sense of it. As I demonstrate below, members' deeper understandings result largely from repeated cultural and experiential interactions from which they have drawn ecocentric meaning.

Moments in which members directly tried to define sustainability as an abstract concept were rare; the vast majority of the time, members relied on talking about sustainability relationally, that is, as being constituted by nurturing human-nature relationships with particular qualities. For example, Fernando, when prompted to talk about what sustainability meant to him, said:

> *No sé de verdad lo que quieres decir cuando dices 'sostenible,' pero en cuanto a mí, es respetar la naturaleza y asegurar que todo que haces, el trabajo, la comida, la manera de obtener la comida, la manera de vivir, todo…Tienes que respetar la naturaleza y entender el rol que tienes en la naturaleza*.[16]

Fernando's understanding of sustainability is one in which all human actions are carried out with primary concern for their relationship to nature and the ecosystems in which they occur.

Several other members also talked about the importance of valuing ecocentric human-nature relationships. For example, when prompted to talk about sustainable relationships between humans and other members of

[16] I'm not exactly sure what you mean when you say "sustainability," but for me, it is about respecting nature and assuring that everything you do, your work, your food, the way you get your food, the way you live, everything… You have to respect nature and understand the place you have in nature.

ecosystems, Marcy told a story about how she tends to watch wildlife shows with her children regularly, and how they always ask her why the cameraperson does not save animals who are being hunted and killed by other predatory animals. She then connected the response she always has for her children with her more general thoughts about the kinds of human-nature relationships she sees as sustainable:

> I think we need to let nature run its course. Nature has been capable of accomplishing and balancing life, and we often think what we are doing is good in an effort to help, but it more often destroys nature. It might seem to work, but the consequences are far-reaching and not always immediate.

For Marcy, nature is a powerful and balancing actor in the relational construction of sustainability, yet most human actions, even if well-intentioned, interrupt or even destroy natural processes that balance life. She went on to say that humans need to alter the way we act in ecosystems with an emphasis on abandoning many of our current environmental practices.

She also stated that farmers should work to “help nature along a little bit” as it balances life by deeply studying and learning about lifecycles and finding ways to encourage those cycles to flourish. (One example she gave was composting to add nutrients back into soil where human practices have rapidly increased erosion.) Marcy points out that farmer who use conventional practices might assume they are “helping nature along” through techniques such as adding inorganic fertilizers, or genetically modifying species to produce particular traits.

Yet these are not “natural” processes; they occur nowhere else in nature but among humans, and only humans have falsely constructed them as “natural.” For Marcy, reaching sustainable human-nature interaction, then, would first require the humility to listen to and learn from nature’s cycles of life. Such interaction would also require looking deeply at culture and making meaningful reinvestments in the kinds of ecocultural interactions that work in balance with natural cycles, that encourage equity, and that recognize nature and ecosystems as fully fledged actors in the constitution of healthy ecological relationships (e.g., indigenous knowledge and human-nature orientations).

In response to a prompt about how he grew up interacting with his environment, Isaac focused on his own experiences with such ecocentric cultural interactions as he relayed several stories about the relational orientation to nature that people are taught where he grew up in Kenya. He learned to interact within his local ecosystem through stories and fables. For example:

> …there are certain trees you don’t cut—the story you are given could be to scare you into not cutting it. And ultimately you discover that that tree does a certain thing. Then there are trees you don’t plant in certain places, for example, near a river bank. You might be told a story about it why it’s not planted there, it may not be true, but you realized… that that tree maybe uses too much water and… it will drain that little spring. And there are numerous things like this, sometimes, there are so many, I mean, it’s just part of the culture.

Isaac went on to tell several different stories that guided human activities with nature where he grew up such as fishing, hunting, planting, harvesting, what materials to use for building, what seasons a particular practice could and could not be carried out in particular locations, and so on. Each story had a cultural component; these components were sometimes spiritual or religious, and at other times were children's fables or allegories with characters that became cultural archetypes with deep human-nature relational teachings. From Isaac's view, in each of these stories, nature was seen as active, as having many complex interacting components from which inherent value could be drawn. For example, he explained that as hunter/gatherers, in the stories, "there was never a time that you would find hunters killing more than they needed for any reason," and that "the overall effect of every story was to conserve the environment and that you live in harmony with the environment and ecology…You relate with it, it relates with you, and it was sustainable."

In another example, responding to the question, "what does sustainability mean to you?," Marcy talked about sustainability in reference to the future, with a focus on human life and human actions:

> For me, sustainability is about us being able to do what we need to do today to meet our needs, but doing it in ways that will allow future generations, one, two, three generations down the line to survive and thrive. It is about us living in ways that 50 to 100 years down the road people won't say, "well if the people living back then would or would not have

> done what they did, we would not be facing this problem now."

Marcy employs the narrative that human actions must be oriented in ways that allow us "to meet our needs today without compromising the ability of future generations to meet theirs," which comes directly from the Brundtland Commission's definition of sustainability (WCED, 1987, p. 48).

Carlos told another story that constructed nature as a central actor in the relational constitution of sustainability. We conducted our interview at his house, where he talked about his all-organic garden in which he produced enough tomatoes, chiles, and other vegetables to can and eat with his family of four for the entire winter and spring of 2014. He talked about how his little garden could be replicated on a much larger scale:

> All you have to do is listen to and learn about nature. Because that's the way nature creates tomatoes and that's the way that nature creates all of those things. I mean the compost that we create artificially, nature does it by when the trees in fall get the leaves down, animals die, and the material disintegrates and the leaves and all these things become compost for everything. So it is a cycle of nutrients for the earth and that is nature. That's how we need to recreate the process and create food that way, in my mind.

Here, nature is, once again, understood as a fully-fledged actor in the relational construction of sustainability, specifically, sustainable sustenance. Carlos sees

nature as having vast knowledge and as an active creator from whom humans must learn and mimic in order to (re)pattern human-nature interactions in ways that construct sustainable realities. This relational orientation to sustainability directly supports the first two levels of Shiva's (2006) three-part economic model for agricultural eco-justice, which places the natural economy as the basis for all sustenance economies.

Summary

Although, in one way or another, each member referenced the Brundlandt Commission's vague and anthropocentric definition when talking about "sustainability," most members then went on to interpret that definition in deeply ecocentric ways. Members made sense of sustenance by placing nature and healthy ecosystems as the foundation of any food system. They expressed "sustainability" as being materially measurable through the overall health of an ecosystem, human practices that listen to, learn from, mimic, and/or adapt to natural (life)cycles, and symbolically measureable through ecocentric cultural stories and understandings of human-nature relationships. The next section responds to RQ3 by looking at how SVFC members envision their work in the cooperative as related to the way they make sense of "sustainability."

Relating Place-Based Traditional Agriculture and Sustainability at SVFC

The final portion of the analysis responds to RQ3: "How do members' stories envision a relationship between their work and sustainability?" There are several important relationships between each major aspect of place-based traditional/organic cooperative agriculture at SVFC and sustainability that

manifest in the comparison of members' stories and discourse. Although the relationships analyzed in this section do not make up an exhaustive list, they do represent the connections members described as the most valuable to realizing their visions for the future work of the cooperative. The discursive constructions I analyze here include the way SVFC members envision relationships between sustainability and the multiple ways they make sense of their work, including community, traditional farming, education, and resistance to agribusiness.

Most members envision the success of the cooperative in terms of its "economic sustainability" as directly tied to and dependent upon members' maintenance of particular kinds of relationships with the natural world and their environments. For example, when asked how he saw the connection between the cooperative's work and sustainability, Isaac defined the foundation of the SVFC as an entity as the environment and nature. Relating nature's input to the ability of the organization to be successful in financially supplementing low-income families, he said:

> Evidently for you to make that sustainable income, everything else has to be sustainable. There's no way that income can be sustainable for you if your practice itself is not sustainable because you have to continue to produce the same quality and quantity for that income to be sustainable. And in a sense, this is one way of doing both. You can say take care of this and the other will take care of itself.

When Isaac says “this is one way of doing both,” he is specifically talking about being able to take care of the environment (e.g., conserving water in a desert, replenishing the soil with nutrients through composting, avoiding the use of harmful chemicals, etc.) in ways that also produce “sustainable incomes” (read as both nurturing and lasting) for families who have struggled and/or are struggling. Isaac sees the connection between sustainability and the cooperative partially in the creation of more equitable human-human relationships by directly affecting human-nature relationships in mutually beneficial ways.

Most members also understand their success in the cooperative as fundamentally based in healthy, bio-diverse ecosystems. Their understandings of the farm’s relationship to community, family, culture/heritage, resistance, and education all rest on the foundation of supporting, caring for, and where necessary, replenishing the ecosystem. For example, Miguel said,

> There is a big relationship between the cooperative and life…The health of your air, water, and land relates to the health of the people, and the health of your people relates to the health of their relationships...healthy people are more likely to have a healthy relationship.

Similarly, Isaac said, “If you want to be sustainable in the long-term, everything you do in your natural environment must be in harmony.” Miguel talked about how, physically, he felt “better while working on the farm than anywhere else.”

The concept of “health” for SVFC members in these examples is not a human-centered construction, although overall human health can become a

partial indicator of ecosystem health. For Miguel and Isaac, more general and widespread health requires living, working, and eating insync with natural cycles *and* maintaining equitable relationships with human and nonhuman actors. Here, healthy, symbiotic human-nature relationships, including both material-based interactions (e.g., working the soil with compost, conserving water in the desert through drip-irrigation, caring for plants in completely natural ways, paying close attention to and not interrupting natural cycles, "listening to" and adapting carefully to ecosystem changes based on human presence/action, etc.) and symbolic meaning drawn from said interactions (e.g., ecocentric cultural stories, harmonious eco-physiological states of being, respect for the limitless creativity and resourcefulness of nature, etc.) are *prerequisites* for healthy, symbiotic human-human relationships, such as "equity in community and economy," "family," and "community-based education." The fact that both the patterning and structuring of interactions *and* the kinds of coherence drawn from said interactions are perquisites is a particularly *communicative* phenomenon. For SVFC, only through living and interacting harmoniously with ecosystems can people begin to understand sustainable sustenance economies.

SVFC members also envision the cooperative's orientation toward learning and creating educational opportunities as related to sustainability. For example, in response to the question, "If you could do anything with the cooperative in the future, what would you do?," Isaac talked about how, if the cooperative succeeds and is able to remain on the land adjacent to the South Valley Learning Center,

> It will always be there, and generations of kids or of other people could use the same thing…and they could learn new methods with it. The good thing is that when you are doing this, you won't just be teaching them. You might find amongst the people you are talking with or you are teaching, people who have done different, more sustainable practices and they are working with you and introduce that to you, so it could be an exchange.

Isaac understands the sustainability as highly related to the cooperative's orientation toward learning and education. In order to continue to develop more sustainable practices, both lasting and nurturing, members need to be given a place to experiment and share their knowledge and experience. Isaac went on to talk about how the "creativity and openness of young people will be crucial, because they are willing to explore new practices, that might be more sustainable, that I am afraid to try, or would simply never think of." Education becomes not only an avenue for recruiting more people to learn and continue the current practices, but also to bring creative capacities to develop even healthier and more productive human-nature interactions.

Members also expressed mystery with regard to relationships between sustainability and their cooperative's work. When asked if there was anything he was uncertain about, Miguel demonstrated great mystery with regard to the current potential for changing ecosystem health through their farming practices:

> "Do we have the time in order for this to reverse what we have already done? Okay, it's gonna be beautiful and it could possibly lead to a whole new type of lifestyle, and a whole new generation. But do we have the time to reverse the changes which have already been done?"

Miguel went on to expressed his uncertainty of being able to reverse "changes" humans have made to the "ecosystem, not just in the South Valley, but the ecosystem of the whole world." Similarly, Andrés said,

> "*No estamos seguros de…si es posible que podamos cambiar las pautas destructivas que existen en la agricultura ahorita. Esas compañías son bien poderosas y tienen muchos recursos. Yo creo que si es posible, pero tendríamos que cambiar la manera de pensar de nuestros políticos.*"[17]

These two examples demonstrate the fundamental uncertainties many members expressed with regard to the relationship between their work and sustainability. Members are uncertain about whether their work will be able to be part of a larger food system shift, and, knowing they will have to effect change politically to accomplish such a shift, whether and how they will be able to do so.

Summary

[17] We are not sure…if it is possible to change the destructive patterns that are common in agriculture today. Those companies are very powerful and have a great deal of resources. I believe it is possible, but we would have to change the way our politicians think.

Members envision their cooperative work and their conceptions of "sustainability" as intricately connected to one another. Their understanding of "economic sustainability" (nurturing and sustaining as a food system, with community, farmers, and the ecosystems in and with which they interact) is entirely dependent on maintaining healthy, ecocentric relationships with their ecosystems. They see multiple farming practices such as composting, intercropping, multi-crop rotation, avoiding pesticide use, and conserving water through drip irrigation all as moving toward a more ecocentric relationship with their natural environment, focused on producing the best relationship, not the most profit at the expense of the relationship. They also see the components of education and resistance to agribusiness as fundamental to reaching these sustainable human-nature-sustenance relationships, because they currently do not exist anywhere but in tiny patches around the globe.

In the final chapter, below, I discuss the above interpretive analysis through the lens of Shiva's (2006) model for ecocentric nature-sustenance-market systems. I look critically at the interpretations above to find further points of mystery and make preliminary recommendations for communication processes that might encourage members to create clearer goals for the ways in which they make sense of their work and the visions they have for the future of the cooperative. Finally, I explain the limitations of this study, as well as make recommendations for further research.

Chapter 5: Discussion

The present study advances Killingsworth's (2007) notion that the discipline of EC benefits from both in situ and phenomenological, or experiential, approaches to studying discourses. Furthermore, I argue that in order to truly understand how environmental discourse and practice are interdependent, practices and language must be looked at side-by-side. As SVFC members' define their own practices as sustainable, they do so through reflecting on and reframing the ways in which they culturally learned to understand human-nature relationships. At SVFC, Place-based sustenance communities are understood as sustainable largely because of the kinds of relationships they create, and the possibilities they offer for people to have a better quality of life through directly (re)patterning human-nature relationships to fall more on the ecocentric side of the spectrum. Moreover, by rediscovering and publicly engaging with more ecocentric heritage stories (through education initiatives), SVFC members envision advancing and nurturing more ecocentric human-nature relationships. Because this study looks at emerging meaning at the very beginning of an initiative, it offers unique insight into what members truly want and how they envision their desires becoming realized, all while they gaze into the murky future of challenges, successes, failures, and ultimately, profound ecocultural learning experiences. In order to continue the ethical duties Cox (2007) proposes, EC research should continue to look deeply at what place-based, ecocentric leaning practitioners have to say about their communities, their heritage, their work, and

their ecosystems, especially as these meanings emerge and evolve during new endeavors, such as cooperative agriculture.

According to Shiva (2006), a sustainable food system, or any system that humans require for survival, must be based on, first, taking care of nature's economy, placing it as the foundation for any human structure, both material and symbolic. This means that farming as a human practice, in order to be entirely sustainable, must not violate or interfere with any of nature's existing lifecycles.

Global agribusiness models are fundamentally incompatible with Shiva's (2006) foundation for sustainable food systems. Global agribusiness is designed to dismantle natural relationships, from the genetic level, rearranging and altering the basic components of life, to the relationships that flora and fauna have with one another in ecosystems. In looking at SVFC members' stories and discourse, it is clear that their hopes for their cooperative are close to what Shiva (2006) proposes for sustainable agriculture. Members position the way they make sense of their work as moving toward ecocentricity and practices that work in conjunction with natural cycles. However, in SVFC, a good deal of mystery still surrounds members' understanding of how their work will be affected by factors, such as, the size of the farm, the possibilities for recovering soil that has been damaged for generations, and the possibilities for continuing to work within nature's economy in a soon-to-be fully arid climate, based on long-term climate change.

Participants are also uncertain about whether their practices are actually taking advantage of the resourcefulness of nature's economy. Each member is at

a different level of knowledge and the tendency to allow new farmers to learn by experimenting and failing demonstrates that some are not yet in tune with nature's economy to the degree that others are. Even the most experienced of farmers at SVFC are not completely aware of the most advanced methods of intercropping, seeding, crop rotation, natural compost composition, or water usage that will gain the best microbial soil health, use the least amount of water as efficiently as possible, and still produce the most nutritious and robust fruits, vegetables, spices, and herbs. Finally, members are uncertain about the extent to which agribusiness models have destroyed ecosystems and created irreversible climate change, and whether, even if it were immediately possible to replace all agribusiness with localized small plot farms, the ecosystem destruction could be reversed. In the face of such daunting odds, members of SVFC have no choice but to focus on what they can do locally.

As Shiva (2006) argued, sustainable, healthy, resilient sustenance economies require biodiversity which, in turn, requires that ecosystems are both restored and allowed to run through many cycles of life, building up the natural economy from which intra- and inter-species biodiversity gain their ability to flourish. A helpful way to encourage biodiversity is through the creation of manageably sized commons. One of the many ways in which members envision SVFC as becoming a commons is through education; they see their place-based practice as becoming meaningful for the community when agricultural and environmental theory, practice, and heritage intersect in educational experiences of current and future generations, all on the grounds of the cooperative and

through the members as teachers. Members view this commons as having the potential, albeit ambitious, to eventually expand into the larger South Valley through multiple cooperatives, creating a self-sustaining and entirely localized food system for the South Valley.

However, members also express a great deal of mystery with regard to this kind of sustenance economy. They know that changing narratives is fundamental to inspiring people to want to support a local economy. Yet, affording organic produce is not currently an option for everyone. The establishment of the food stamp program, in which the 250 families SVFC is set up to support can purchase organic produce from SVFC at roughly half price, is a rare occurrence. Most localities in the U.S. do not offer such support. In addition, the power of global agribusiness to corner the market and support companies like Walmart which, in turn, invest in the eminent destruction of local businesses, constructs a tall fence between SVFC and their eventual hopes of bringing healthy organic food to all of the South Valley. At the very least, their efforts will require the continued support of local government, multiple forms of NGO funding, and the trust and support of the local community. For this reason, their need to simultaneously educate children, families, schools, and other similar organizations in the South Valley and greater Albuquerque area is crucial. In addition, members may need to remain capable of influencing local policy to continue to support their efforts, an ability they currently receive from CoDeCe.

In addition to building a loyal customer base and stabilizing productivity on the farm, part of SVFC's strategy must incorporate affecting narratives about

agriculture, and continuing to find communicative avenues for affecting the way their communities see food. Part of this may be possible through their presence in local farmers' markets. Shiva's (2006) final stage of a health food economy is the economy of markets, in which multiple community-based and locally-supported markets replace the singular profit driven "Market" currently dominated by multinational agribusiness. According to CoDeCe, New Mexico currently has several farmers' markets and enough CSAs (Community Supported Agriculture) that there is not enough organic food being produced to meet the market demand. Maintaining a presence and loyal customer group in these markets will be crucial for SVFC to accomplish many of the structure shifts members have deemed important.

In order for the multiple levels of meaning SVFC members use to make sense of their work to be realized as projects and initiatives that flourish, the members may also need to address some of the certainty they have described. The initial recommendation I make is to propose a SVFC meeting in which all members are able to express the multiple levels of uncertainty they have described in these interviews in an equitable format. This may involve me presenting the findings of this study to everyone in an organizational report detailing the desires everyone has described and locating exactly where each member has expressed mystery and uncertainty, through member checks with each participant. Then, members could individually write suggestions for working through uncertainties they have and present them to the group, or decide to

leave some of the more difficult uncertainties for a later date at which time the financial and physical stability of the cooperative will have been secured.

In addition to EC, the present study proposes an adaptation to actor-network theory regarding to whom and what the theory bestows the privileged status of “actor.” I propose “actors” should be expanded to account for nonhuman interactions in nature that are occurring all the time, even if repeated human interactions in particular places and times do not yet legitimize them as such. This proposal opens the door for EC researchers to (re)analyze environmental discourse in order to uncover essential nonhuman ecosystem actors that are silenced and/or ignored, but that may play a crucial role in catalyzing discourse that constitutes more ecocentric human-nature relationships and practices. In the context of SVFC, if the concept of more ecocentric actor-networks can be utilized in order to better understand and value interested actors, new possibilities for creative collaboration in cooperative farming may arise.

Finally, I propose that CMM can be a productive theory in gaining deeply descriptive and interpretive insight into the way that people ecoculturally interact with other human and nonhuman actors and draw meaning from their interactions. As I have demonstrated in the present study, actors’ ecocultural stories are powerful and productive in building eco-social worlds of meaning. In other words, stories constitute and justify ecocultural practices such as place-based organic cooperative farming. CMM’s focus on stories allows for researchers to use it as a helpful guide in understanding how specific human-nature interactions create and recreate particular meaning for the people

involved, including what actors still do not understand about their relationships. In addition, this study demonstrates how, through the process of visioning, actors can engage with their own mystery and define the limits of their current and learned ecocultural stories. For scholars, engaging with ecocultural mystery may much needed insight into the limits of our current ways of addressing environmental communication as a discipline of crisis.

Future research

This study is the first in a program of studies that will occur over the next two years, and will incorporate several principals of Community-Based Participatory Research (CBPR) (Minkler & Wallerstein, 2008). In the present study, I interviewed seven members; In the near future, I will be conducting member checks on my interpretations of the data from those seven interviews. The member checks will consist of me meeting with as many interviewees as possible (or with those who are willing to meet again) and going over my interpretations of their stories, asking them if my interpretations were accurate, and giving them an opportunity to add anything if they so desire. These meetings will also give me a second chance to add questions or change any existing questions on my interview guide. After the member checks, I will conduct interviews with the remaining eight cooperative members, and incorporate all new data through the same process used to transcribe, organize, and analyze the current data.

In addition, this study was constrained to by the nature of the organization; SVFC was incorporated less than one year ago, and is in its first season of

planting and harvesting. Therefore, a great deal of the meaning members constructed for the organization was visionary. For this reason, further research has been proposed to, and approved by, the director of CoDeCe, and will involve a minimum of a two-year longitudinal study in which I will conduct participant observation and ethnographic field research with SVFC. This will include the incorporation and assessment of the collaborative process (or a similar one) for addressing uncertainties I describe above. The study will also include at least two more sets of interviews, one set occurring one year from the present study and another at the two-year mark.

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Appendix A

Interview Guide

1. Can you talk a little about how you got involved…

   …in organic farming?

   …in the cooperative?
2. Please tell me about the work that you do day to day?
3. How does your work in the coop relate to the rest of your life?
4. Please tell me about why the cooperative is important to you and what it has meant to you to be beginning this kind of work.
5. If you could do anything in the future with this cooperative, what kind of work/projects/activities would you want to engage in?

* * *

6. How would you describe your relationship with the other members/families that are part of the cooperative?

   …with regard to the community?

   …to the cooperative?
7. CoDeCe's mission talks about working for "sustainable lifestyles": Can you talk about what sustainability and sustainable lifestyles means for you?
8. How does your work in the cooperative relate to sustainable lifestyles?
9. How do your relationships with other members in the cooperative and the community relate to sustainable lifestyles?