Examining Agency in the Discourse of Rice Farming

by

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ABSTRACT

This dissertation is a detailed rhetorical analysis of interviews with rice farmers in central Java, Indonesia and documents published by the global NGOs United Nations Food and Agriculture Organization (FAO) and CGIAR. Using theories of materiality, literacies, and environmental rhetorics, I examine how seemingly distinct and disparate humans, organizations, and inanimates are actually entangled agents in a dynamic conversation. I have termed that conversation the discourse of rice farming. Studying local and global together challenges conventional dichotomous thinking about farming and food. Looking at this conversation as an entanglement reveals what Karen Barad has defined in Meeting the Universe Halfway as the intra-relatedness of all agents. I focus on rice farming because rice is a food staple around the world and a major component of global agriculture initiatives by FAO and CGIAR. I argue that farmers construct their jobs in terms of production, food sovereignty, and community. The NGOs construct agriculture in terms of consumption, food security, and poverty alleviation. In my project I emphasize the need for global agents to better account for how farmers construct agriculture. Accounting for how all agents impact the discourse of rice farming is the only way to come to an objective understanding rice farming’s impact on local and global scales. My argument adds to the field of environmental rhetorics because most published case studies are about the United States and thus are limited in their applicability. And it enriches global conversations about food security and food justice because it shares accounts from actual farmers who are often conspicuously absent from literature on those topics.
To Jason – my favorite human.
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Chapter 1

Introduction

“Crucial to understanding the workings of power is an understanding of the nature of power in the fullness of its materiality”—Karen Barad from Chapter One of Meeting the Universe Halfway

“[Rhetoric] includes the material environment, things, our own embodiment, and a complex understanding of ecological rationality as participating in rhetorical practices and their theorization”—Thomas Rickert from the Introduction to Ambient Rhetoric

“Cultures are continually co-produced in the interactions I call ‘friction’: the awkward, unequal, unstable, and creative qualities of interconnection across difference”—Anna Tsing from Chapter One of Friction

Introduction

This project is an exploration into rhetorical constructs and connections between six local rice farmers in central Java, Indonesia and two global NGOs. I analyze how seemingly distinct and disparate humans, nonhumans, and inanimates are actually entangled in a dynamic and complicated conversation, which I have termed the discourse of rice farming.

When I lived in Indonesia for a year as a teacher, I traveled the country spending most of my time visiting different parts of Java. I had the opportunity to meet a lot of local people. I learned over the course of that year how crucial rice and rice farming are to the various cultures of Java and Indonesia at large and to the livelihoods of a large percentage of the people I met. In Bahasa Indonesia there are four words for rice: padi is rice that is currently growing or in seed form, gabah is harvested rice that has not yet been processed, beras is harvested and processed rice that has not yet been cooked, and nasi is cooked rice. That the language distinguishes between these different stages of rice is, I think, indicative of the food staple’s integration into the very fabric of the country.
One word does not account for the different ways Indonesians know and encounter rice. In Java rice is particularly integrated into the culture because of the island’s central position in the Green Revolution. That year of living and traveling in Indonesia taught me the relationship between humans and food goes far beyond the consumer/consumed relationship as I previously understood it. People grow and produce food everywhere from the megacity Jakarta (where I lived) to the most remote rural villages of Java. And rice is the staple for them all.

In this project I provide an analysis of the ways local farmers describe how they enact the knowledges they have of their farms, their rice, and their jobs. I also analyze the ways local farmers’ knowledges intra-act with how global organizations describe what to do for the future of rice, farming, and food security. I use *intra-act* to prioritize the agency of all stakeholders (agents, in this dissertation) in what I have termed the discourse of rice farming. Karen Barad asserts, “[Agency] is a matter of intra-acting; it is an enactment, not something that someone or something has” (*Meeting the Universe* 178, emphasis in original). The discourse of rice farming is not simply made up of humans talking, it is full of intra-actions between human, nonhuman, and inanimate agents. When these agents impact each other, they are enacting their agency.

To examine the specific knowledges and enactments of those knowledge that rice farmers in central Java use to do their jobs (their literacies and literate practices\(^1\)), I provide a close examination of interviews and observations of six different rice farmers in central Java (Jawa Tengah in Bahasa Indonesia) and their farms. The farmers I met and

\(^1\) For the purposes of this dissertation, I define literacies as situated ways of knowing that lead to doing or making and literate practices as the enactments of those literacies. In Chapter Two I provide an extended explanation of both definitions.
talked with live and work around the small city of Salatiga, Java. I came to meet these farmers through the help of a Salatiga-based NGO, Serikat Paguyuban Petani Qaryah Thayyibah (SPPQT), which translates to United Farmers Union. Some of the farmers I met owned their own land, others did not. Most were in various stages of transitioning to organic farming methods, but one was not. Farm sizes ranged from the modestly small 1,000 square meters to 5 hectares (50,000 square meters). The similarities and differences between them reveal that there are multiple literacies necessary to be a rice farmer in central Java and the enactments of those literacies (literate practices) of each farmer reveal how important place is to the ways those knowledges are enacted. The one farmer not transitioning to organic speaks of farming as a means of supporting himself. He describes literate practices impacted by his particular economic needs and the functional physical tools and resources of rice farming. The farmer who owns the biggest farm, and leads an organic farming cooperative, speaks of farming as an essential component of being Indonesian. He describes literate practices impacted by the positioning of farmers in the country’s hierarchy. There are several knowledges, literate practices, and goals I highlight in this dissertation that the rice farmers describe when they talk about their jobs. Farmers who are transitioning to organic describe enacting their knowledges of organic inputs (fertilizers and pesticides) and methods. The farmer whose farm is at the bottom of a large, shared terrace describes enacting knowledges of when his farm will receive the most water from the top of the terrace. The context of local, specific farms in central Java matter to how farmers know, perform, and talk about their jobs.

To better understand the importance of local place for these farmers, in this dissertation I examine the knowledges, literacies, literate practices, and goals described in
documents published by the global NGOs United Nations Food and Agriculture
Organization (FAO) and CGIAR (previously known as the Consultative Group on
International Agriculture Research). As a branch of the United Nations, FAO provides
information for and councils member countries on policy changes by bringing countries,
industry, and nonprofits together. FAO shares information about the newest agricultural
or technological innovations and they advise member nations who are trying to determine
what policies to create. The member nations, including Indonesia, then create policies
which impact aspects of farming like what seeds, technologies, and inputs are available to
farmers like those in central Java and at what price. Because CGIAR is a consortium of
research centers, their relationships with governments is different from FAO. CGIAR
members research problems with the global food system and attempt to create solutions
primarily with agricultural and environmental science. They share their solutions with
NGOs like FAO and with individual countries, but they do not position themselves as the
link between expertise and policy in the way FAO does. CGIAR creates knowledge and
FAO brings that knowledge to its member countries. I chose these organizations because
of their strong influence on global and national policies regarding agriculture and food
security and because their frame of reference is, on the surface, in stark contrast to those
of the farmers in central Java. Rice, food, farmers, and farming are all discussed in global
terms. For FAO and CGIAR, local matters differently. The knowledges, literacies, literate
practices, and goals of these global NGOs are distinct from those of the farmers because
they often erase local context almost completely in service to global context.

I want to emphasize that local and global in this dissertation are distinct, but not
dichotomous. By distinct I mean that the rice farmers in central Java and the global
NGOs do have their own specific contexts. However, all of their contexts are entangled so even when their literacies, literate practices, and goals are distinct, the impacts are not. Two major components of my project are what Barad calls *diffraction* and *entanglement* in her 2007 book *Meeting the Universe Halfway*. Rather than uphold subject-object dichotomies by assuming language can fully represent any object or subject, I maintain that it is not possible to understand culture without nature or nature without culture. That is, language, culture, nature, knowledges (including literacies), nonhumans, inanimates, and literate practices have material impact on and are impacted by the discourse of rice farming. Hence my use of Barad’s diffraction and entanglement to study this discourse rather than the traditional subject/object method of reflection. Diffraction entails reading all of these agents in the discourse through each other and with each other; I read their intra-actions. Studying the central Javanese rice farmers’ knowledges and literate practices as part of an entanglement with the knowledges and literate practices of FAO and CGIAR, the physical farms, the nonhumans, the inanimates, and the cultures makes visible multiple aspects of power and control. In fact, examining local and global together challenges conventional dichotomous thinking about farming and food that makes production and consumption separate from each other. Looking at the entanglement reveals the intra-relatedness of all agents. Barad asserts that how we know an object (rice, farm, food) does not exist separate from how it is measured or spoken of, that is, “object and measuring agencies emerge from rather than precede the intra-action that produces them” (128). The discourse of rice farming is an entanglement precisely because knowledges, literacies, literate practices, nonhumans, inanimates, places, and cultures all
collide and emerge together. Accounting for that entanglement is the only way to come to an objective understanding of rice farming and its impact on local and global scales.

**Green Revolution and Food Security**

The Green Revolution (GR) is foundational to how agriculture and food security are now spoken of and performed at any level. In Chapter Two I detail how scientists, economists and anthropologists have measured the success of the GR. At this point, it is important to give a brief description of the movement and its impact on agriculture. The GR was an international attempt, funded in large part by American organizations like the Ford and Rockefeller Foundations, to curb what they saw as a global hunger crisis. It involved a fundamental change in agricultural methods by encouraging the use of machines rather than hand labor and pesticides and technology-enhanced irrigation rather than labor-intensive pest management and rainfall. The focus of the GR was on three major staple grains: wheat, corn, and rice. In addition to more technology and chemical heavy farming methods, the GR also involved creating new varieties of wheat and rice in laboratories. Through selective breeding and other methods, scientists created high-yield seed varieties that were supposed to grow more grains and faster. According to economists R.E. Evanson and D. Gollin’s 2003 article “Assessing the Impact of the Green Revolution,” there were two waves of the GR. The early wave occurred from 1961-1980 and the late occurred from 1981-2000. This distinction is important because the authors say that the early GR had a focus on increasing production by increasing inputs (pesticides, fertilizers). The late GR moved into place-specific breeding and varieties bred for biotic stress resistance. Basically, scientists and policy-makers learned from the first wave that growers and consumers of the high-yield varieties (HYVs)
showed a preference for local attributes that better reflected traditional seeds and that different locations had different stressors like pests and climate.

In Indonesia, there was evidence of the local pushback described by Evanson and Gollin. Gary Hansen noted in 1971’s *Indonesia’s Green Revolution* that after the first internationally developed rice seeds (IR 5 and IR 8) were planted, grown, and consumed in Indonesia, the government learned that consumers did not like the taste and that farmers were moving back to local seeds despite the government’s heavy investment in the GR. They changed their tactic and Indonesia began to develop their own seeds meant for Indonesian land, climates, and tastes. This did not come without its own economic problems, which I explain in more detail in Chapter Two. However, it is worth noting that there was local and global enfolding and friction over rice farming and food even in the beginning stages of the GR.

As I mentioned earlier, the impetus of the Green Revolution was the perception of an international hunger crisis. This growing concern from the developed world about access to food in the developing world has come to be called food security. In this dissertation I employ the definition of food security provided by geneticist and activist M.S. Swaminathan in “Achieving Food Security in Times of Crisis.” He explains it as, “physical, economic, social, and environmental access to balanced diet and clean drinking water” (453). Food security, then, is the ease with which every human individual can healthily sustain life. Food security is focused on global consumption rather than production. In Chapter Four, I examine how some of the central Javanese rice farmers are promoting food sovereignty as an alternative to food security. Food sovereignty focuses on giving farmers autonomy over their choices. It is a response to the nationalization and
globalization of rice farming and purposefully tries to re-localize it. In food security, production has been turned into the means by which every individual can access a balanced diet. It is therefore often in conflict with food sovereignty and the farmers in central Java because they are producers and have their own ways of knowing and doing their jobs.

**Materiality, Literate Practices, and the Discourse of Rice Farming**

Theories of materiality have appeared in the fields of rhetorical and communication studies since the early 1980s. Michael Calvin McGee’s “A Materialist’s Conception of Rhetoric” presents rhetoric as an object, or force, itself. McGee is followed by theorists in the 1990s like Ronald Walter Greene who argues that rhetoric is a multidimensional activity. Maureen Daly Goggin and Beth Fawkes Tobin emphasize the rhetoricity of women’s material practices such as embroidery as a way of expanding the realm of historical artifacts for rhetorical consideration. In the field of composition, Marilyn Cooper and Doug Hesse, Nancy Sommers, and Kathleen Blake Yancey have written of the material agency held by students (Cooper) and “ordinary objects” (Hesse, Sommers, and Yancey). Technical Communication scholars such as Michael Knievel and Clay Spinuzzi theorize about the effects of material engagement with technology on humanist considerations of knowledge making. Fields such as sociology and anthropology discuss materiality in terms of structuralism (human culture and experiences) as seen in the works of Pierre Bourdieu and Arjun Appadurai. Donna Haraway suggests a posthuman conception of materiality that merges human and machine in a way that is resonant of Heidegger’s example of the hammer in *Being and Time*. 
In my study I build my claim that elements of culture and nature are of equal import in the discourse of rice farming using the theories of Gilles Deleuze, Michel Foucault, and Bruno Latour. It is common to consider matter as a noun. For example, bodies (human and nonhuman) are material because they physically have matter. My dissertation requires that I also establish discourses, knowledges such as literacies, literate practices, and cultures as material. The verb matter needs special consideration as a synonym for the verb impact. Ideas, literacies, and literate practices matter to how the world changes; they are impactful. Barad explains, “Beyond the issues of how the body [the physically material] is positioned and situated in the world is the matter of how bodies are constituted along with the world” (160). Representations and ideas cannot fully reflect the reality of nature or bodies, but those representations are part of how the physically material are constituted with the world. Mattering is impacting. The agents I am concerned with that do have physical matter also matter because they impact. When I write of materiality, it is in this vein.

Deleuze theorizes that through problems, differences in thoughts and ideas are made visible. Problems are dialectical. His reconceptualization of what the goal of exploring problems should be – not to look for solutions, but to see what comprises the problem – has made it possible to point both to singularity (local) and universality (global). He has made it possible to give ideas an acknowledgement of agentive existence. If thoughts and ideas have agency, then they impact the creating and understanding of the world and in this way, they are material. Knowledges such as literacies, and the literate practices that enact those literacies, because they are made up of thoughts and ideas, are tangible. They are dialectical approaches to problems. Barad’s
use of entanglements echoes Deleuze’s description of problems in that both theorists aim to parse out the complexity of what may at first seem simple. Approaching this project by looking at entanglements reveals how the literacies and cultures of stakeholders interact with the more physical agents in the discourse.

Materializing the discourse itself takes another step. Foucault calls discourse “the power which is to be seized” (“The Order of Discourse” 53). Foucault is suggesting in “The Order of Discourse” that discourse has a material impact on the world because it holds power over economic and political decisions (Cloud 2-3). How we talk about ideas affects how they are enacted. To prove that discourse is power, Foucault explains that examining discourse from within rather than externally shows that there is no easy consensus on truth. Within discourse truth is not generally accepted and does not exist as an objective thing. Affirmation is scarce. It is the scarcity of affirmation that allows for power in a discourse, and because power is scarce, whoever seizes that power controls how the discourse evolves. How the discourse evolves has a material determination on how politics and economics are performed. What is important about Foucault’s materializing of power and discourse is that it rejects stability. The lack of consensus means power can shift. However, my conception of materiality requires a broader understanding of discourse beyond anthropocentric agents. Humans and their knowledges, literacies, and literate practices are not the only agents. Any of the agents I have described have the possibility to change and manipulate the discourse. For example, if a variety of rice requires too many inputs or too much water to grow, it will impact what seeds farmers choose in the future, how they talk about that variety, what inputs
they purchase, who they purchase their seeds from, and the price of the rice once it is harvested.

Latour argues in *Reassembling the Social* that Actor-Network Theory requires researchers to be a step behind what they research so as to examine the traces left by group and network formations. It is in the traces that we see doing and making and change. I contend that the discourse of rice farming leaves its own traces because all of the agents are intra-acting and changing it. It leaves traces, so it has materiality.

In addition to understanding literacies and literate practices as agentive and material, this project also requires a definition of literate practices that is more than the acts of reading and writing. In Chapter Two I provide a detailed theoretical background for my definitions of literacies and literate practices. At this point, I use Brian Street’s *Literacy in Theory and Practice* to provide a brief explanation of literate practices. He explains, “[Social] practices and conceptions of reading and writing […] [that] are already embedded in an ideology and cannot be isolated or treated as ‘neutral’ or merely ‘technical’” (2). Street offers two important elements in this description. First, literate practices are different for different people. In the case of the Javanese rice farmers, this includes practices of buying and selling, practices of farming itself, and practices of learning and sharing about farming. Second, Street ties literate practices strongly to context. In exploring the material intra-actions of the central Javanese rice farmers’ and FAO and CGIAR’s literate practices, the ability to focus on context as meaning-making allows for a deeper analysis of the discourse that includes the impact of agents other than the humans.
Place, Globalization, and Localization

To make the argument that there are material entanglements between many different kinds of agents in this discourse of rice farming, I establish that place can be, and is, local and global. By this I mean that context determines boundaries and meanings. One of the tasks of identifying the entanglements is figuring out “the means by which [agents] are attuned” (Rickert 13). How is each agent constituted in this discourse? In Ambient Rhetoric, Rickert extends Heidegger’s concept of situatedness which is the theory that “the world is what en-counters (us)” (13). Place and situatedness are deeply tied for the purposes of my project, though I use the term constituted because of my use of Barad’s notion of intra-acting. There are no inherent boundaries or contexts for place. It is in how agents intra-act with and encounter the world individually and together that boundaries become visible. An agent like the global organization FAO intra-acts with and encounters the world differently than a small farmer in central Java and differently than the farmer’s small rice farm. The knowledges and literate practices FAO or CGIAR describe in their published reports intra-act and entangle in the discourse on their own. Those intra-actions create new boundaries and meanings that become visible in what Latour calls their traces and what Barad and I call their entanglement. All of this boundary making and determining depends on understanding the constituted-ness of the agents. Determining what makes a specific place depends on context.

Considering place in this manner is difficult. I require good definitions of global and local. For those I look to Urry’s global complexity, Tsing’s explanation of friction, Cresswell’s Place, Rice’s regional rhetorics, and P. Goggin’s description of globalization.
These texts are analyzed in detail in the next chapter. For now, I provide a sketch of Urry’s global complexity and Tsing’s friction.

I use Urry’s global complexity theory to establish a context for Tsing’s patchwork approach to global and local. Urry theorizes global by looking at how agents move on grand scales. He uses the term globalization to distinguish that movement from the scale. Urry outlines two manifestations of globalization in his book *Global Complexity*: Globally Integrated Networks (GINs) and global fluids. A GIN consists of enormous numbers of messages that move in all directions simultaneously. They are complex, enduring and difficult to change because of the size and structure. International corporations are often GINS because they set up multiple interconnected nodes and attempt to replicate services or products across borders. Global fluids are unpredictable as they travel and are hugely affected by local people and situations. Urry details particular ways of tracing movements which connects him to Latour and Actor-Network Theory.

While the ability to map global movements is useful, Urry approaches globalization from a global scale. That is, he examines global movement from the big picture rather than from smaller, local pictures. It is a grand narrative. Urry’s definition of global does not make room for specific, local examples of, or reactions to, globalization.

Tsing’s *Friction* offers a way of determining the local agents, their boundaries, and how they intra-act with the global agents. As I have hopefully made clear by now, all of the agents in the discourse of rice farming entangle with each other and change each other (not to mention the discourse). As large and powerful as the global agents are, they are not the only agents in the discourse. My epigraph quoted her definition of friction as an unstable and unequal co-production. Tsing sees the local landscape as a lively actor in
how global forces change and emerge with local contexts. Human residents of that landscape often become invisible from a global perspective, but they are adapting to the forces that appear. Tsing’s theory allows me to argue for the visibility of local agents in the discourse. Her “patchwork ethnography” points to instances in which, though seemingly invisible to a global picture, local agents are intra-acting with global agents. If you look close enough, even the smallest of contexts can be made clear. It is at this point that Tsing’s argument and my own part ways. I, too, share the points in which local agents entangle with global. I explain in Chapter Four how local agents in central Java (human, nonhuman, and inanimate) to impact how the discourse evolves in the area and how that impacts the discourse in the larger, global place where FAO and CGIAR are constituted.

Methodology

In an effort to best see all of the agents and their entanglements, I conducted a qualitative rhetorical analysis of interviews with central Javanese farmers conducted using ethnographic practices and published reports from local and global NGOs. I performed interviews and observations of six rice farmers in central Java as well as supplementary interviews with a hired farm laborer and the brother, a teacher, of one of the farmers. To prepare for the interviews with an ethnographic approach, I used Street’s edited collection *Literacy and Development: Ethnographic Perspectives* and his earlier book *Social Literacies: Critical Approaches to Literacy in Development, Ethnography, and Education*. Street’s work emphasizes a “radical rethinking of what counts as literacy in the development context […] what counts as learning and education and who has the right to define it” (Literacy and Development 3). In the spirit of Street’s radical
rethinking, my approach when interviewing and observing the farmers was to concede expertise. In this dissertation I suggest that currently in the discourse of rice farming, the perceptible focus is on consumption and food. By interviewing the farmers about what they do, I attempted to widen the visibility. There is more to the entanglement between agents than consumption.

To do the work of extending what is visible, I looked to the literate practices, what Street calls “literacy practices,” between tradition, livelihood, culture, and social construction in regards to rice farming. I performed a pilot study before going to Java in order to hone the questions that could reveal those practices. In the pilot, I interviewed two Canadian wheat farmers over the phone. The pilot, described in detail in Chapter Three, lead to my decision to bring broad, open-ended questions to my interviews with the Javanese rice farmers. Questions for the farmers in the pilot stemmed from two basic research queries. The first, “What gives meaning to literacies?” And the second, “How do people make use of new literacies that are introduced, encountered, or developed?” Both farmers I interviewed in the pilot provided me with descriptions of how they gained their farming literacies and the ways in which they continue to improve their literacies or learn new ways of farming. Their responses to my open-ended questions such as “How do you continue to learn about farming?” gave me a much stronger understanding of each farmer’s unique context than the answers to the more specific questions like, “How do you see your role as a farmer within your nation?” The specific questions ended up being more leading than I anticipated and the answers were brief and unspecific. As a result, the actual questions I brought to Java were purposefully broad so that they could be altered or followed-up based on farmers’ interests and answers. As I learned more about the
culture of central Javanese villages, the farmers themselves, and Serikat Paguyuban Petani Qaryah Thayyibah (SPPQT). I honed the questions to be more relatable and context-specific. For example, because SPPQT promotes traditional and organic farming, many of the farmers I met were in some stage of transitioning away from the conventional farming methods introduced in the GR. My questions therefore also included asking for the reason why farmers were changing their methods, where they learned about organic farming, and where they learned which seeds to choose. Chapter Four describes each interview, as well as my observations of the farms, in greater detail.

The second element of my study was a rhetorical analysis. Chapter Two includes a more detailed account of the theories that have influenced my framework for the rhetorical analysis. Chapter Three includes an in-depth description of the framework of my rhetorical analysis. In brief, I chose to analyze the transcriptions of the farmer interviews, two “how to” videos produced by SPPQT on switching from conventional to organic farming, a packet produced by one of the farmers’ cooperatives on the importance of organic farming, three documents published by FAO, and two documents published by CGIAR.

I use Barad’s theory of entanglement as the framework for my rhetorical analysis. Entanglement as a theory is similar to Tsing’s theory of friction because both are attempting to explain how different agents and ideas meet and change each other. Tsing explains that friction is necessary for movement even as it alters what that movement looks like. For example, a global crusade for the protection of rainforests does not actually look the same in all of the places with rainforests that need protecting because the idea of protecting rainforests encounters specific places that enact the idea in specific
ways. I have chosen to use Barad’s entanglement because of how it is different from Tsing’s friction. Entanglement also accounts for when ideas and agents encounter each other. But Tsing’s example of rubber tires on a road suggests a linear relationship between encounter and the change that happens as a result. Conversely, entanglement suggests a nonlinear knot of multiple encounters leading to multiple changes. By studying the discourse of rice farming as an entanglement, I have been able to determine how multiple agents intra-act with each other in multiple ways and determine some of the many different ways each agent impacts the discourse.

The analysis itself was influenced by Kenneth Burke’s notion of “identification” as a way of confronting what makes something particular. As a starting point, Burke’s suggestion that we identify in order to feel validated as individuals was helpful in this analysis because it asserts a very specific way to gain autonomy and power. This idea was further developed in my rhetorical analysis by Latour’s “dingpolitik” which is an “object-oriented democracy” that emphasizes “what is at issue” in public debates as a supplement to conversations about who and how (Making 14, 16; emphasis in original).

The actual rice has different value and purpose depending on the agent representing it and on the intra-actions of the rice itself. There needed to be an emphasis on the what as a way of better understanding the literate practices of each agent. Rickert’s “rhetorical thing” also provided theoretical support by encouraging rhetoricians to value things not as they are represented by language, but because they matter “beyond all human language and modes of access” (193). Things, which I call inanimates, exist and have meaning in the world without the acknowledgement or representation of humans. Valuing inanimates in this way allowed me to separate the what the agents talk about (rice, water, pests,
economics, family, community) from their distinct representations so that they have an existence without language. This concept meant I could parse out the differences in representation, point to the temporality and contextuality of those representations, and determine the agency enacted by the ideas, inanimates, and nonhumans themselves. In approaching representations and descriptions (for this project those are both verbal and written) critically, it was important to determine what the context was for each agent intra-acting in the discourse of rice farming.

Chapter Outline

Chapter Two

This chapter is my review of literature. It contextualizes my theory and establishes the framework of the study. I review: theories of materiality, particularly those of Deleuze, Foucault, and Latour; literacy, literate practices, and identity, particularly those of Burke, Donehower, Hogg, and Schell and Deborah Brandt; theories of place, globalization, and localization with a focus on Cresswell, Urry, Tsing, and Goggin; theories of environmentalism and sustainability, especially the work of rhetoricians such as Killingsworth, Palmer, Waddell, Goggin, Herndl and Brown; theories of Green Revolution and food security, in particular those of G.S. Kush, P. Hazel, and Netra Chhetri; finally, documents for rhetorical analysis including interview transcripts from central Java and reports published by FAO and CGIAR.

Chapter Three

This chapter establishes the methodology of my project. I describe the potential contributions of the study as well as the limitations. I include my methodology, which is a rhetorical analysis of interviews conducted with ethnographic methods and published
texts. As such, I explain the details of my interviews, which includes travel to Java to interview and observe rice farmers. Finally, I map out the relationships between the major stakeholders so as to lay the foundation for Chapter Four.

Chapter Four

This chapter contains the data I collected from my interviews with central Javanese rice farmers. This includes detailed sketches of each study subject through organized descriptions of interviews and observations. The chapter is organized by major themes I noted over all of the interviews. I created sections for each theme and analyzed the farmers’ answers to examine their specific knowledges, literate practices, and goals. The purpose of this chapter is to comprehensively present all of the data from the interviews and an analysis of the ways agents, including the farmers, materially impact the discourse of rice farming through their intra-actions.

Chapter Five

Chapter Five is an analysis of the data I collected from the reports published by FAO and CGIAR and texts published by SPPQT (the local NGO I worked with) and a central Javanese farmer cooperative. This includes detailed summaries of each document. The chapter is organized by major themes I noted across the different texts. I created sections for each theme and analyzed the ways each document discusses each including their specific knowledges of the themes, the literate practices they describe as necessary to enact, and the goals they aim to achieve by enacting those knowledges. The purpose of this chapter is to comprehensively analyze the ways agents, including the NGOs, materially impact the discourse of rice farming through their intra-actions.
Chapter Six

Chapter Six presents conclusions from an analysis of the data presented in Chapters Four and Five using the theoretical framework described in Chapters Two and Three. This chapter includes my diffractive reading of all agents discussed in both Chapters Four and Five. I focus on the intra-active friction between global and local and how that is materialized in policies of food security, poverty, and malnutrition. My goal in Chapter Six is to further extend what is visible in the discourse of rice farming beyond the notion of food and consumption and to further explain the contributions I describe in Chapter Three. In doing this, I address how the discourse is shaped by agents materially intra-acting. Finally, Chapter Six explores the possibilities of extending this study in the future. This includes a discussion of the potentials in increasing the timeline for ethnographic research and using different theoretical lenses for studying the central Javanese rice farmers.

Appendices

In Appendix A, I provide brief biographical sketches of each of my interview subjects. I refer to these sketches throughout Chapters Four, Five and Six. Appendix B includes summaries of the published texts I analyze including the reports from FAO and CGIAR, the training videos from SPPQT, and the packet on organic farming produced by the farmers’ cooperative run by one of the farmers I interviewed.
Chapter 2
Review of Literature

Introduction

I argue in this dissertation that how agents in the discourse of rice farming intra-act with each other impacts the future, locally and globally, of rice farming and farmers. Place and context impact how human agents understand and describe rice farming. How they observe determines what they see and what they do not see. Agents impact each other physically, for example, when farmers grow the actual rice plants in the field or when rats eat certain crops. But their knowledges and literate practices of farming impact each other as well. For example, when the FAO declares that biofortification of staple foods is the future of food security and farmers either agree to purchase the new seeds or decide to plant indigenous seeds instead. Place, context, literacies, literate practices, humans, nonhumans, and inanimates all materially impact each other.

The idea that how we observe is impactful extends to the theoretical lens used in the dissertation which comes from Barad’s Meeting the Universe Halfway. Barad, a feminist theoretical physicist, uses Neils Bohr’s theory of quantum physics to make a claim against conceiving of the world as made up of distinct humans and nonhumans that have inherent properties. Bohr’s theory posits that “our ability to understand the world hinges on our taking account of the fact that our knowledge-making practices […] are a part of the phenomena we describe” (26). Extending Bohr’s argument, Barad states, “[T]here aren’t little things wandering aimlessly in the void that possess the complete set of properties that Newtonian physics assumes […] there is something fundamental about the nature of measurement interactions such that given a particular measuring apparatus
certain properties *become determinate*, while others are specifically excluded” (19, emphasis in original). The observation itself and the apparatuses that carry out an observation impact the results—they matter. Barad calls the impact of a measurement apparatus the “cut.” This cut designates what gets measured and how, and what gets left out. In this dissertation I have made my own cut by observing the discourse of rice farming as a material entanglement of material agents. Included in my observation are the rice farmers of central Java, global NGOs FAO and CGIAR, local NGOs SPPQT and a farmer cooperative, nonhumans, and inanimates that impact the work of rice farming. Excluded by that cut are governments, specifically the Indonesian government, other NGOs (both local and global), other rice farmers, and a host of other agents. My cut has been purposeful, but just as the agents impact each other, the cut impacts what is known and unknown. As Barad makes clear, this is not a weakness of observation, nor does it mean my observation cannot be objective.

It is with this framework in mind that I present my review of literature. By using Barad’s theory of diffraction and entanglement as the framework for this project, I am emphasizing the material impact of all agents in the discourse of rice farming. I analyze what emerges from the intra-actions between the agents. This way of observing differs from the subject/object dichotomy often associated with rhetorical analysis wherein the researcher acknowledges little or no role in affecting what is observed. I acknowledge the role of my particular apparatuses in this project, myself included. The literature that has influenced my project is thusly impactful and guides my project to something fuller than a reflection of already assigned dichotomies like subject/object, living/nonliving, or global/local. The literature is organized into five sections entitled:
The first section includes my discussion of scholarship from physical scientists, anthropologists, and sociologists dedicated to analyzing the effects of the Green Revolution and its success in alleviating poverty. I organize this literature based on what I observe to be an evolution of the perceptions of the GR and the goal of globalized agricultural policies and practices. Analyses of the GR early on discuss its successes as a global, top-down way of solving poverty by increasing yields and decreasing food prices. The literature later focuses on the problems of the GR that stemmed from not integrating local farmer knowledges and local consumer tastes into how new breeds of rice were developed. These scholars call for more attention to be paid to local contexts and shift the focus from poverty to hunger alleviation. The last part of this section includes scholarship dedicated to global food security. I argue food security is the next, and current, trend in globalized agricultural policies.

The Materiality and the Discourse of Rice Farming section includes my review of literature that helps establishes how I theorize about the materiality of tangible nonhumans and inanimates as well as intangible ideas like literacies, literate practices, and discourse. I also present a more detailed explanation of the difference between literacy and literate practice that I introduce on pages two and three in Chapter One. The explanation of that distinction serves as a precursor to the next section, Literacies and
Literate Practices. I draw from Deleuze, Foucault, Latour, Barad, and Rickert to establish both the materiality of intangibles and how those things are impacted and impact tangibles like humans, nonhumans, and inanimates. I also draw from Gee, Street, and Brandt to explain why I consider literacies to have material impact. My purpose for this section is to map out a major theoretical component of my dissertation. I have chosen not to fully define literacies or literate practices in this section, focusing instead on how they are material, because the literate practices of the rice farmers in central Java and FAO and CGIAR are the primary focus of my rhetorical analysis. I therefore provide more analysis of this in the Literacies and Literate Practices section. This section includes further discussion of Street and Brandt as well as the scholarship of Donehower, Hogg, and Schell, Cooper, Masny and Cole and Goggin. I present in this section a detailed description of the malleable and contextual nature of literacies and how their enactments in the form of literate practices are worthy of analysis in order to gain knowledge about how agents in the discourse of rice farming impact each other.

The section, Place, Globalization, and Localization includes my mapping of how to understand local and global places and the importance of place to how agents’ intra-act and describe their actions. I begin by examining the similarities between Cresswell’s definition of place and the literacy scholarship and Barad’s materiality. I also examine how Goggin, Rice, Urry, and Tsing explain the relationship between global and local. The final section of the literature review is dedicated to situating my project within the larger field of environmental rhetoric. In Public Participation and Environmental Rhetoric, I first discuss scholarship from communications studies that focus on public participation. Specifically, I examine how the work of Simmons, Grabill, Cox and others
helps me frame the central Javanese rice farmers as participants in the discourse of rice farming. I do not spend a lot of time in this dissertation discussing the farmers as a public, but this scholarship enables me to consider how farmers currently access the discourse and how they alter it despite not being in positions of power like FAO and CGIAR. I transition into the field of environmental rhetoric where I discuss key texts from Killingsworth and Palmer, Goggin, Herndl and Brown and others that emphasize the need to better integrate the public into conversations about environmentalism and sustainability and the need to better understand humans’ position as part of the environment rather than separate from it.

The conclusions I draw from the Green Revolution and Food Security chapter are included later in Chapter Five in order to frame why FAO and CGIAR continue to understand the GR as a net positive and why they present food security as the natural next step to the GR. The theories I develop in the Materiality and the Discourse of Rice Farming and the Literacies and Literate Practices sections are evident in Chapters Three through Six. I emphasize the ideas developed in Place, Globalization, and Localization as crucial to how central Javanese farmers and global FAO and CGIAR intra-act with and understand rice farming in Chapters Four, Five and Six. Finally, I return to environmental rhetoric as a field in Chapter Six to situate my own scholarship and suggest the contributions this dissertation makes.

Green Revolution and Food Security

In Chapter One of my Dissertation, I briefly explained the Green Revolution (GR) as the impetus for the current understanding of rice farming as a global practice and food security as a global goal. I return to this argument again in the beginning of Chapter Five
to establish the differences in perception of the GR depending on whether the human
agent has a local (central Javanese) or global understanding of rice farming. The GR was
a massive global change to how farming is done. It included the incorporation of
mechanized farming practices to replace physical labor, an increased application of
chemical fertilizers and pesticides, and the incorporation of technology into irrigation
practices. The GR also involved new seed varieties developed to be high-yielding so as to
grow more food in shorter time periods. Creators and supporters of the GR intended to
alleviate global poverty which was starting to show itself in dramatic ways in the 1950s
and 1960s. By having more staple grains available, costs could be lowered and therefore
low-income households would need to spend less money on food staples. Additionally,
farmers would increase their wealth because they would be selling more of their crops.
This section outlines the texts I use to explain the GR generally and in Indonesia
specifically. Scientific and anthropological texts published shortly after the GR reached
its unofficial endpoint in the 1980s and texts published more recently emphasize the
continued value placed on a global approach to farming that writes of the GR in terms of
poverty alleviation. These texts include: Lipton and Longhurst’s *New Seeds and Poor
People* (1989), Hazell and Ramasamy’s *The Green Revolution Reconsidered* (1991),
Tribe’s *Feeding and Greening the World* (1994), Conway’s *Doubly Green Revolution*
(1998), Khush’s “Green Revolution: The Way Forward” (2001), and Evanson and
Gollin’s “Assessing the Impact of the Green Revolution” (2003). They have in common a
reflective nature on the successes and failures of the GR to alleviate poverty and reduce
global hunger. Together they provide strong evidence that NGOs like FAO and CGIAR
believe they *need* to be involved in reducing rates of poverty and hunger.
Also included in this section are texts that alter the narrative of the GR and shift the language toward food security as a central focus rather than poverty alleviation. Hansen’s *Indonesia’s Green Revolution* is a text published early on in the GR that reveals local realities of farming during that movement. McConnell and Keys, Swaminathan, Hayami and Ruttan, Chhetri and Easterling, and Chhetri and Pashupati have all published texts that indicate the need for a shift in mindset from top-down directives to learning from the bottom-up how farmers are responding to changes in things like the environment and the seeds available for planting.

I have established two groups of texts dedicated to the GR and global food security. One supports the overall results of the GR. The other moves the conversation to what comes next and suggests changes to how food security is approached in the future. Both have drawn from and contributed to the general available knowledge about farming and food. Elinor Ostrom’s *Understanding Knowledge as a Commons* offers a way of conceptualizing knowledge that is useful for framing the literature about the GR. Ostrom, an economist, conceives of knowledge as a commons: “a general term that refers to a resource shared by a group of people” (4). Knowledge as resource is the accumulative assimilation of data and information into something useful. Unlike limited resources, a knowledge commons is not subtractable. When someone obtains knowledge from a commons, that knowledge does not cease to exist for use by someone else. Seeing knowledge as a shared resource also ensures measures are taken to sustain and maintain it. By conceptualizing of knowledge in this way, Ostrom is able to suggest that there are multiple types of knowledge and therefore multiple commons, rules for governing those commons, and questions to use when analyzing those commons. Ostrom explains that
analyzing a knowledge commons includes asking about equity, efficiency, and sustainability. In terms of equity, we should be interested in “issues of just or equal appropriation from, and contribution to, the maintenance of a resource” (6). Analysts should also consider the “optimal production, management, and use of the resource” (efficiency) and the sustainability of “outcomes over the long term” (6). Ostrom shows knowledge to be dynamic and growing rather than shrinking. In essence, the optimal kind of resource. The GR, while accumulating an unlimited knowledge commons, dealt with the very limited resources of land and water. As the GR progressed, scientists and policymakers were adding to their knowledge of how the wide range of cultures and land and climate types adapted to the new farming technologies and grain varieties. They were simultaneously dealing with the limits of consumer taste, water access, and land capabilities. Their knowledges were collecting in a commons from which they could draw global conclusions and project for future iterations of high-yield agriculture. The literature in this section reveals a strong desire for sustaining human life (ensuring food security). I examine the equity, efficiency, and sustainability of their knowledge as a commons.

My analysis of the GR knowledge commons begins with Michael Lipton and Richard Longhurst’s 1989 book *New Seeds and Poor People*. They argue that a larger gap developed between rich and poor farmers because of the GR. Those who *could* purchase new technology and new seeds benefited. Those who could not, found themselves further pushed into poverty. The point Lipton and Longhurst are making is that the goals of achieving higher yields and reducing food prices were met, but the goal of reducing global poverty was not. When Lipton and Longhurst asked why, when they
analyzed that knowledge commons, they discovered that countries able to produce excess crop yields were exporting their excess instead of feeding their poor. This increased the income of poor countries, but did nothing for the incomes of the farmers. They suggest that any new research into another GR should take countries’ socio-political environments into account and consider farmers’ purchasing power as well.

Similarly, in *Feeding and Greening the World* Derek Tribe claims that the biggest concern should not be whether or not we can grow enough food, it should be the lives of rural farmers. Tribe argues that new iterations of the GR should consider the economic realities of farmers shifting away from subsistence farming and towards commercial farming. It is true that commercial farming leads to more employment and higher incomes which leads to smaller families. However, farmers are forced to be conservative in any changes they make because they are initially so expensive. Additionally, use of high-yield varieties leads to loss in diversity. Continuing down the path created by the GR means accepting that there will be less food diversity as a reality of trying to achieve food security. Tribe suggests a different path which calls for more on-farm research and a slower, steadier approach to agriculture changes. It is not a revolution we are looking for, but steady, considered change.

The next four texts look more specifically at global, physical effects of the GR. I want to point out that the early focus on poverty alleviation was a key theme in all of the texts exploring the causes and effects of the GR. More recent texts show the shift from phrases like poverty alleviation and towards the phrase food security. The emphasis is less on the notion of noble charity and more on the notion of justice.
Peter Hazell and C. Ramasamy argue in *The Green Revolution Reconsidered*, a book published in 1991, that while the GR might not have changed the distribution of income, it alleviated absolute poverty. They were specifically looking at South India and the proportional benefits for groups like landless laborers and small farms because yields increased with the HYV breeds. Gordon Conway also argues that the GR was necessary for poverty alleviation, but acknowledges problems like oversubsidy which often led to overfertilization. For Conway in *Doubly Green Revolution*, future action needs to involve detailed farmer involvement and access to cheap credit in order to have chances to innovate as a way of contributing to hunger and poverty alleviation. His insistence on all stakeholders being involved in agricultural development comes from a desire to avoid repeating the mistake of letting “expert” knowledge flow unidirectionally. In this insistence, Conway echoes public participation scholars like W. Michele Simmons and Jeff Grabill who emphasize the importance of equal participation from all agents. *Doubly Green Revolution* also points to the need for developing countries to invest in developing their own seed varieties. Conway, like Tribe, notes that local tastes were not interested in the generic rice varieties being developed in the early version of the GR. Poverty alleviation is the ultimate goal, but ensuring local impact in how to achieve poverty alleviation is the new model.

By 2001, solidly post-GR, Gurdev Khush explains in “Green Revolution: The Way Forward,” that plant genomics (HYVs and GMOs) are the future. This is a distinct turn from measuring what happened before to thinking about what is next. Khush is especially interested in genetic modifications that allow for shorter growing periods and therefore extra crops in a year and better biotic stress resistance so that plants require
fewer chemical inputs (fertilizers, pesticides). He looks to continued scientific advancements for the answers to poverty-driven hunger. He makes clear, however, that the way forward also includes more discussion of the public role in preventing private monopolies of seeds or technologies. The purpose of any future GR is still to get food to the poor.

The last text in this group dedicated to the GR’s poverty alleviation is Evanson and Gollin’s 2003 “Assessing the Impact of the Green Revolution.” They mark two waves of the GR. The early GR occurred from 1961-1980 and the late GR occurred from 1981-2000. This distinction is important because the authors say that the early GR had a focus on increasing production by intensifying the use of inputs (fertilizers and pesticides). Evanson and Gollin estimate that 80% of production increases in the early GR came from intensified input use. The late GR moved into place-specific breeding and varieties bred for biotic stress resistance. The shift came after scientists and policy-makers noticed that general breeds did not suit local places. Each developing country had particular biotic stresses and particular tastes not accounted for in the rice developed elsewhere. Evanson and Gollin do argue that the increase in production was overall beneficial to developing countries because lower production would have given farmers in developed countries incentive to intensify their own production and sell to poorer countries at higher costs. However, they emphasize the dynamic nature of the GR in noting that those in charge were learning from the knowledge commons.

Hansen’s 1971 publication, *Indonesia’s Green Revolution*, marks the shift in the two groups I have established in this section. While it was published early in the first wave of the GR, its dedication to a specific place, Indonesia, and how the farmers in that
place interacted with the GR is very different from the texts that look in hindsight to the overall successes or failures of a global movement. Therefore I use it to distinguish between texts that take for granted the idea that poverty alleviation or food security need to be approached globally (top-down), and texts that are suggesting more time be spent learning from the bottom-up. Hansen writes a detailed outline of how Indonesia interacted with the GR. Published in 1971, it reveals early responses to the GR as well as points of friction and farmer involvement. Hansen argues that despite the GR being a top-down approach, the farmers were interacting with and changing the new knowledges, seeds, and inputs they encountered. Early on, the government was heavy-handed in mandating certain inputs and mechanisms. This resulted in farmers setting up black markets to sell excess inputs and those they did not want to use. Hansen also examines the market-response to early HYVs which was heavily negative and resulted in Indonesia beginning to develop their own rice varieties more attuned to local tastes. Even in the early years of the GR, and despite heavy influence from the government, farmers and consumers still found ways to be active agents in the face of continued forward movement by the GR more globally.

My review of Hansen’s extended description of local responses to changes in rice farming methods and available seeds for planting leads to the second group I have established in this section. There is a shift in the literature from a focus on poverty alleviation in texts reflecting on the GR to a focus on food security in more contemporary texts. William J. McConnell and Eric Keys suggest in Moran and Ostrom’s Seeing the Forest and the Trees that the future of agricultural development is a cautionary approach. Enacting untested practices, as in the GR, proves that consideration of specific places is
necessary. However, in-depth case studies, though great for understanding the particulars of a place, are not generalizable. McConnell and Keys explain, “The fundamental questions driving agricultural change research concern the ability of societies to produce sufficient agricultural products under changing conditions, such as land scarcity related to demographic growth, or environmental change” (325). But they still see agriculture as a global practice, so specific studies cannot achieve the goals of broad policies or practices. Instead, they recommend standardized case studies from which a representative sample can be drawn to create usable statistical information.

Subsequent scientists interested in topics such as food security have continued to reveal an interest in changing the discourses in order to change the practices. But much of this scholarship calls for a more extreme approach than the cautionary road laid out by McConnell and Keys. For example, in 2010, Swaminathan asserted in “Achieving Food Security in Times of Crisis” that malnutrition continues to increase because of the continued centralized approach to analysis and action. In the article, he calls for a drastic change in how science and politics approach hunger and by association farming by claiming the power should be given to small farmers. Swaminathan called for a shift in how global food security is understood. His definition of food security, “physical, economic, social, and environmental access to balanced diet and clean drinking water,” comes attached to his assertion that it is a right not to be hungry (453). Rather than an understanding of food based in yields and control over nature, we see in the language an understanding of hunger based on holistic methods – local and global in scale.

Yujiro Hayami and Vernon Ruttan echo the call to develop solutions from the bottom-up in Agricultural Development: An International Perspective. They point to
static agricultural technology as characteristic of less developed countries. Additionally, they call for innovative and inclusive research policies that are endogenous to the specific countries rather than exogenous. Broad, sweeping, one-size fits all solutions, hallmarks of the first iterations of the GR, are no longer seen as globally viable.

Geography, agriculture, and climate change scholars Chhetri and Easterling suggest that movements towards food security must now involve aspects of climate change adaptation. They write in “Adapting to Climate Change” that science needs to study how farmers and their supporting institutions interact to adapt to changing climates in order to improve readiness for major changes. Studying farming based on climate change can help improve land-augmentation technologies as a substitute for traditional land expansion practices. By thinking of the farmers in terms of agents rather than passive recipients of technology, science can better address the uncertain future of global climates. Chhetri and Pashupati Chaudhary make the links between climate change, farming, and food security explicit in “Green Revolution: Pathways to Food Security in an Era of Climate Variability and Change.” They explain that the Green Revolution could not eradicate hunger because of its reliance on traditional scientific knowledge and its debilitation of local knowledges and adaptive capacities. The lack of advancement in agricultural technology since the Green Revolution is proof of the limitations of traditional science. The integration of food security with agricultural science has created a need for expanding knowledges about farming.

Whether the scholarship has as its driving concern poverty alleviation or food security, there is an observable trend in increasing the role local farmers and specific places play in future policies or movements meant to curb global hunger. The literature
reviewed in this section has as an underlying starting point the notion that hunger, particularly poverty-driven hunger, needs to be addressed. The scholarship evolves as the knowledge commons grows so that it is now obvious that local situations and farmers need to be consulted even for changes made globally. The next step, I contend, is that the food security movement needs to take into consideration not only farmers’ economic situations, local consumer tastes, and land capabilities, but also the physical, societal, personal, and cultural connections between farmer and farm. How do farmers know their jobs and how do they talk about their jobs? In the next section I present theories that I use to materialize discourse and the literate practices of human agents in order to better answer that question.

Materiality and the Discourse of Rice Farming

This dissertation argues that agents in the discourse of rice farming entangle as they interact in different ways. Chapters Four and Five are rhetorical analyses of the interviews I conducted with farmers in central Java and the published texts of two global NGOs and two local NGOs. The theory I develop in this section is returned to in the introductions to both chapters. In this section, I establish how material agents like inanimates (rice, water, pesticides) and nonhumans (pests) come in contact with, impact, and are impacted by humans (farmers) and human institutions (global and local NGOs). Human agents interact with each other and these other agents through practice, like doing the work of rice farming, and through talking about their practices. I identify the central Javanese farmers’ as agents in the discourse. The ways they know their jobs in order to do their jobs are their particular rural, place-based rice farming literacies. Their actual work of rice farming and how they talk about rice farming are literate practices. They are
an enactment of the knowledges required to do rice farming in central Java. Those literate practices are entangled in material interactions with the other practices and agents (human, nonhuman, inanimate) they encounter in the discourse. I also identify the local and global NGOs as agents in the discourse. The ways they know agriculture, and particularly rice farming, are their own specific place-based literacies. The global NGOs, FAO and CGIAR, use these literacies to inform their reports on the global state of rice farming (and agriculture) and present goals for the future. The reports reveal the knowledges (including literacies) these NGOs have about rice farming and they describe the types of literate practices the NGOs argue need to be enacted to achieve their goals of global food security, poverty alleviation, malnutrition eradication, and climate change adaptation. The rest of this section presents the literature I use to define materiality and theorize how discourse and literate practices have material impact. The next section expands my definition of literacy and literate practices.

In Chapter One I explain that my use of the term materiality is in reference to an agent’s impact. The agents in the discourse of rice farming all matter to how the discourse is shaped and changed because they all impact each other as they respond to each other. Observing intra-actions makes visible certain characteristics of each agent and how each matters to the discourse. For example, the Indonesian government sponsors certain rice varieties that are developed by scientists working with CGIAR\(^2\). Those seeds are sold at government-sponsored farming cooperatives and farmers who utilize those cooperatives end up purchasing one of the state-sponsored varieties. The government of

\(^2\) See Chapter One for an explanation of the relationships between the NGOs, the government of Indonesia, and the farmers.
Indonesia is impacted by the NGO and responds by selling only those selected rice varieties. The choice to only sell certain, scientifically developed, varieties impacts the farmers who respond by also purchasing the chemical fertilizers and pesticides needed to grow those varieties successfully. A farmer’s use of chemicals as inputs into the soil impacts the soil, the water, the rice, and the pests living in that particular ecosystem of that particular farmer. The nonhumans and inanimates of the ecosystem respond in ways like soil degradation, water quality reduction, and pests that develop immunity to certain chemicals. The farmer responds by adding more pesticides or fertilizers to encourage the rice to grow. It is an entanglement of responsive impact loops because all of the agents have material impact on each other in varying ways and with varying results. I use Barad’s theories of entanglement and objectivity to help explain this type of materiality and my measurement of it because Barad argues that the current notion of objective reality or truth is problematic. There is no essential-ness of a thing that can be identified and measured. The way something is measured will determine what characteristics are seen so that epistemology and ontology are more related than traditional dichotomous identifications of subject and object allow. Analyzing the discourse of rice farming requires a way of measuring that takes into account the fact that the nature of knowledge and the nature of being cannot be easily distinguished and that knowledge and being are, in fact, impacting each other. For this project, I measure the discourse of rice farming by examining it as a dynamic entanglement of material agents. Like the human, nonhuman, and inanimate agents, the literate practices of the central Javanese farmers and the NGOs have material impact in the discourse.
Deleuze offers a process for measuring ideas as material. He takes issue with the belief that understanding a “problem” means acknowledging that a solution is possible – the idea that if a solution is possible, it is a true problem. Deleuze argues that seeing problems in terms of potential solutions, in terms of true and false, is ineffective. Instead, he sees problems as “the differential elements in thought” (“The Image of Thought” 162). Problems are “always dialectical” (164). It is solutions that are singular. Problems reveal differences in thoughts and ideas because “we never know in advance how someone will learn” and therefore we do not know until solutions are suggested what makes an individual (165). By presenting problems as dialectic differences in thought, Deleuze makes solutions ways of understanding the specific contexts of individuals. His theory also reifies Barad’s theory of measurement that it is not possible to understand an agent or an idea before their characteristics are revealed. The characteristics that are revealed are inextricably tied to the way they are measured and where they develop.

Those who organized and implemented the Green Revolution approached the problems associated with food security with the idea that rice (and wheat and corn) farming was the solution. It was a mistake in measurement and a mistake in the assumption of generalizability from what was discovered through that measurement. Rather than repeat that approach, I have chosen to measure problems so that I focus on specific agents. For example, one farmer in central Java has created a cooperative with fellow contract farmers (those who rent the land they work) with the aim of stabilizing rice prices in the area. The problems of farming such as land degradation, cost of inputs and seeds, and government intervention are dialectic and complex. The literate practices
– how they are addressed and described by the agents in the discourse of rice farming – reveal singular solutions that help identify what makes each human agent individual.

Foucault emphasizes a similar approach to analyzing discourse. In *Archeology of the Mind* he attempts to answer a question very similar to the one with which Barad deals. He asks, “By what criteria is one to isolate the unities with which one is dealing” (5). How do we see all of the agents at work? In this text he emphasizes that in order to fully understand the impact of a statement, we must look to its relations with other statements, other groups of statements, and other events that are both similar and different in nature. Discourse is revealed when we are “free to describe the interplay of relations within and without it” (29). By seeing each statement individually as an agent and discovering how it interplays with other statements, we can determine the features of a discourse. Foucault’s language emphasizes the materiality of discourse and it is an early version of what Barad calls entanglements. As an example of what Foucault suggests, I point to a moment with the first farmer I interviewed, Pak Mohamed. I asked him if he thought food security was important and he chose to answer by discussing how important he thinks food sovereignty is to the future of farming. I brought a question from my analysis of the reports by FAO and CGIAR, and he intra-acted with it by bringing in his own belief about what will solve the problems he faces as a farmer. Our foray into the discourse of rice farming revealed that there are distinct differences between what global NGOs have to say about farming and what a small farmer has to say. A feature of the discourse was revealed in the statements used to access it, and because the focus of the conversation was his experience as a farmer, his statement shifted how the conversation continued. Food sovereignty continued to be discussed while food security was not.
Foucault adds to this framework in “The Order of Discourse.” He explains “discourse [...] is the thing for which and by which there is struggle, discourse is the power which is to be seized” (53). When we observe from the outside, we can observe a discourse to be exclusionary, restricting, institutionalized and bent toward “the will to truth” (55). Barad claims that since we can no longer take for granted ontology or causality, “power needs to be rethought” in terms of, among other things, agency and ethics (Meeting 23). Analyzing discourse in this way reveals that truth is not generally accepted and does not exist as an objective thing. Affirmation is scarce in a discourse. It is that scarcity of affirmation that makes power material in a discourse because it impacts how agents behave as they attempt to gain power. The global NGOs attempt to gain power through their reports by suggesting global policies that will impact how rice farming happens in the future. The farmers attempt to gain power by making their own choices about what to farm and whether those choices align with those suggested by the global NGOs.

The theories of Deleuze and Foucault suggest a chain reaction of materiality. Solutions matter to how individuals are identified, according to Deleuze, and Foucault explains they should be understood in relation to other agents. Agents attempt to steer the discourse of rice farming in search of affirmation and power. The intra-action between me and Pak Mohamed illustrates this. His particular knowledges about rice farming impacted his response to my question which dictated how the conversation continued. He took over power in that interaction. This is a vital component of my project. It is possible to enact power within the discourse of rice farming on a local level like Pak Mohamed’s farm. I extend Foucault’s notion of “statement” to literate practices and argue they are
material as well. As enactments of specific ways of knowing, which I explain shortly, they are distinct components of the entanglements within the discourse of rice farming and they have the potential to be affirmed as powerful. This is why I asked farmers to explain their farming processes, how they learned about farming, and where to buy and sell their seeds, inputs, and products. How they know, do, and talk about their jobs impacts how they understand other knowledges about rice farming and how they respond to them.

Deleuze and Foucault offer, in their critique of pure objectivism, an opportunity to understand solutions as singular, power as accessible, and truth as subjective. Latour’s theories of object-oriented democracy and Actor-Network Theory further solidifies the materiality of discourse, ideas, and power. Latour asks important questions regarding materiality and representation in “From Realpolitik to Dingpolitik.” I want to explore his questions, “How do [public assemblies] manage to bring in the relevant parties? How do they manage to bring in the relevant issues?” (34). These questions arise as Latour works out the benefits of shifting to a democracy that not only considers who but also what: “the matters that matter [. . .] need to be represented, authorized, legitimated and brought to bear inside the relevant assembly” (16). Latour’s use of the verb “matter” in relation to what he identifies as objects is worth extrapolating in light of Deleuze and Foucault’s materializing of discourse, ideas, and power. Latour materializes ideas by positioning them as objects about which people debate publicly. His argument is to bring those objects into the debates because they matter. And, like Barad, he emphasizes the importance of the measuring apparatus: “An object-oriented democracy should be concerned as much by the procedure to detect the relevant parties as to the methods to
bring into the center of the debate the proof of what is to be debated” (18). Where he stops short is in assuming the objects can be well represented by humans rather than situating them as agents distinct from humans. However, my own use of “matter” echoes Latour’s and my decision to analyze multiple agents in the discourse of rice farming is strengthened by his emphasis on determining what counts in a debate and how it counts.

Latour also offers a means of performing the type of measurement I have established as necessary for revealing the materiality of each agent in the discourse of rice farming. In *Reassembling the Social*, he introduces via Actor-Network Theory that the idea of the “social” needs to be rethought. The social is not material for Latour because that presumes stability and stagnancy. Social groups are not the starting point for research, but the end. This is how I approach the discourse of rice farming. To understand its shapes and changes, and the characteristics of the agents who participate in it, I look to the knowledges and literate practices of the human agents and how they impact or are impacted by the nonhuman and inanimate agents. Their intra-actions are dynamic. That is what Latour calls the social: “a very peculiar movement of re-association and reassembling” (7). By tracing those connections, how agents re-associate and reassemble, I can see the discourse.

The human agents in the discourse of rice farming are not intra-acting with the other agents randomly. Their particular literate practices, developed in their specific places and because of their specific literacies, are *how* the human agents interact in the discourse. Jim Gee explains in “What is Literacy” that there are as many versions of literacy as there are secondary uses of language (the primary being the oral use to which a person is introduced as a child). In its most general form, Gee defines literacy as “control
of secondary use of language” and he ties these uses directly to the different discourses to which an individual is introduced. Similarly, Street states, “literacy is a social practice […] that is always embedded in socially constructed epistemological principles” (“What’s New in New Literacy Studies”). Street and Gee see literacies as malleable and multiple. Even more than that, they see them as not limited to the ability to read and write. Approaching literacies in this way means we need context for determining meaning. For my purposes, literacies are defined as socially constructed ways of knowing that lead to doing or making.

Brandt asserts in *Literacy as Involvement*: “We make social reality, including social structure, over and over again in the interactions and interpretations in which we are engaged” (34). The ways in which we know (already established as socially constructed) in turn engage with other ways of knowing to create a social reality. As Latour explains in ANT, that social element is not stagnant but dynamic. Over and over again, agents negotiate social structure and the social structure dictates what gets counted as valuable. Discourses are social, Brandt tells us, because to be involved in them is to be part of a “we.” But Foucault explains that power in a discourse is not equally distributed even if discourses are social. One or some agents will shift the discourse to reflect their interests and take control of the power. Brandt makes clear that “To give something a name is automatically to take most of the other potential names away” (73). That is an assertion of power. Names matter and how we name comes from how we know the world. It is hard to contextualize a theoretical concept such as food security. But it is a crucial component of this dissertation because food security is a name given to solutions to a host of problems (poverty, hunger, malnutrition) by the global agents (FAO and
CGIAR) that participate in the discourse of rice farming. It has been dominating the discourse. Food sovereignty, in contrast, is a name given to solutions to a different set of problems (farmer autonomy, farmer livelihood) that is changing the discourse. Brandt determines that meaning-making comes from shared ground. The ways of knowing rice farming (the literacies of rice farming) vary from agent to agent. Those literacies inform the agents’ literate practices – the ways they enact the work of farming and talking about farming. Measuring how those literate practices interact with the other agents in the discourse of rice farming shows where there are instances of shared meaning and where there are instances of asserting power. This dissertation examines the entanglement that is the discourse of rice farming to analyze the knowledges and literate practices of the central Javanese rice farmers, the global NGOs FAO and CGIAR, and the local NGOs SPPQT and Pak Mohamed’s farmer cooperative. The analysis examines how their particular knowledges and literate practices intra-act with other agents and the discourse of rice farming.

The measurement I have used in this project is rhetorical. The “cut” I have made, as Barad would call it, is in framing intangible happenings (ideas, power, discourse, literate practices) as material because they are impactful. Additionally, I measure how they entangle as they intra-act with and impact physically material entities like humans, nonhumans, and inanimates. This is how I have chosen to observe and understand the discourse of rice farming. Rickert’s claim that rhetoric is ambient adds credence to my decision to choose a rhetorical measurement for a subject often studied scientifically or economically. He writes, “[Rhetoric] includes the material environment, things, our own embodiment, and a complex understanding of ecological rationality as participating in
rhetorical practices and their theorization” (*Ambient Rhetoric* 3, emphasis in original). Rhetoric is ambient. Rickert defines ambience as “the active role that the material and informational environment takes in human development, dwelling, and culture [. . .] it *dissolves* the assumed separation between what is (privileged) human doing and what is passively material” (3, emphasis in original). Just as Barad claims we cannot distinguish subject from object or measured from way of measuring, Rickert asserts that how we dwell in the world (a concept he takes from Heidegger and elaborates) is a part of how we know the world. This project does not assume that human doings (in particular literate practices) are privileged. Instead, in making them material, it opens the possibilities for other material elements in the discourse to be revealed as agents.

**Literacies and Literate Practices**

I explain in the previous section how and why I perceive of literacies as more than the ability to read and write and how I position the literate practices of human agents in the discourse of rice farming. I now extend my definition of literacy and include theories of literacy that emphasize multiplicity, sociality, and rurality.

There are definitions and uses of the term “literacy” in many disciplines. My own definition draws from sociocultural and sociolinguistic theories. For example, scholars in the New Literacy Studies like Gee and Street adjust how literacy is used in order to challenge the notion that there is one type of literacy that is the goal of learning rather than a means to learning. They emphasize literacy as a social practice instead, a way of communicating. I also draw from the theory of multiple literacies, described later in this section, which not only differentiates between types of literacy and contexts in which literacies are used, but also emphasizes modes of communication beyond writing. I take
from Brandt’s ethnographic studies that literacies are culturally and socially embedded and that there are sponsors of literacy that impact how individuals learn and connect to others.

Goggin provides a critical mapping of the literacy ideologies of computers and composition scholars in *Professing Literacy in Composition Studies*. While I am not using a definition of literacy that foregrounds writing or composing in multimodal forms like a computer, I take from Goggin’s text his emphasis on the argument that literacies are always situated and his emphasis on ideologies as opposed to objective texts. He explains, “The bottom line […] is that texts themselves are not neutral, but are imbued with the ideological assumptions of authors and readers, and their meanings and intents are constructed in time, place, and space” (18). He goes on to argue that literacies are “situated acts of communication related to cultural and material objects” (18). In Chapter Five, I analyze the ideologies inherent in the reports published by the NGOs. The reports themselves are literate practices because they are enactments of a particular way of knowing (the ability to write). However, I am more interested in this dissertation in the descriptions of other literate practices FAO and CGIAR argue should be enacted in order to achieve their global goals of things like food security and poverty alleviation. For example, the FAO describes the need to move forward with improvements to food systems (harvesting, packaging, transporting, selling) in order to feed more consumers. They are describing enactments of very particular ways of knowing like machine use, marketing, and economics. Goggin’s explanation of ideologies combined with Marilyn Cooper’s argument, analyzed in the next paragraph, serve as guidance for how to read those published, written texts.
Cooper takes on a fairly traditional view of literacy in *Writing as Social Action*. Cooper offers support for Brandt’s assertion that literacy and context are tied. Cooper, like Gee, Street, and Brandt, sees literacy as social in positive and powerful ways. She explains, “The contextual knowledge writers draw on most heavily is the beliefs they share with their readers about the world they inhabit” (126). Bracketing for a moment the emphasis on traditional literacy (reading and writing), the focus on shared beliefs between writer and reader is worth considering, especially in light of Goggin’s suggestion that writers and readers bring their own ideologies to a text. It seems very plausible from my reading of the FAO and CGIAR reports that the authors did indeed assume they shared beliefs with their readers on the importance of poverty alleviation and food security and the role of their organizations in achieving them. However, FAO and CGIAR authors and Cooper fail to consider relationships beyond those of reader and writer. Cooper herself believes that texts are social, but it is not possible to decide that the sociability is always agreeable or can be relegated to writer and assumed reader. There is a maintenance of top-down values in this conception of literacy that is less useful for my own understanding of literacy than it is for how I approach the texts published from the top-down perspective.

Brandt’s concept of literacy sponsors helps in extending my concept of literacy. Her theory helps establish how the farmers learn about and understand their jobs in general and their jobs in relation to global food security. She explains in *Literacy in American Lives*, “literate abilities originate in social postures and social knowledge that begin well before and extend well beyond words on a page” (4). Context is clearly important to what counts as valuable and what counts as literacy. Sponsors of literacy are
“any agents, local or distant, concrete or abstract, who enable, support, teach, and model, as well as recruit, regulate, suppress, or withhold, literacy – and gain advantage by it in some way” (19, emphasis added). Brandt’s explanation that literacy is socially-driven offers several components to this project. First, she dictates that sponsors can be local or far away. In determining what literacies the small farmers in Java use, it is important to consider that how global organizations frame rice farming and food security matters to them whether they want it to or not and whether they have read their texts or not. Second, Brandt emphasizes that some sponsors are abstract. This allows me to conceive of the cultural history of the region and inanimates like the rice itself as playing a role in how the farmers know their jobs. For example, rice that takes longer to grow or does not have high yields will impact how the farmer interacts with the crop for that growing period and what varieties of rice the farmer purchases in the future. In Chapter Four, I recount one farmer’s detailed description of just such an example. Finally, Brandt is mindful of the fact that literacy learning is not always positive for the learners. Being taught one way of doing or knowing does not mean that is the best or most beneficial way. I spoke with a retired farmer who remembered when a government official convinced him to take part in the methods promoted in the GR. He learned how to farm using more chemicals and HYV seeds and came to regret his decision later in life. All of this means that determining which literacy sponsors have helped or hindered the farmers in shaping what they know leads to materializing their specific literacies in order to see the ways they are enacted as literate practices. This is a necessary step because both written and oral discussions reveal distinct literate practices from global NGOs and
central Javanese rice farmers that each help to constitute themselves in the discourse of rice farming.

Since Javanese rice farmers inhabit rural places, Donehower, Hogg, and Schell’s theories help in understanding the context their literacies provide. These authors explain that rural literacies are “particular literate skills for sustaining rural life” (Rural 4). They point to the perpetuation of dichotomies in the tendency to define “rural” by what it is not: “When rural people and land become seen solely as economic, political, or military resources to be mined and exploited they become wholly subjected to the wider field of force” (Reclaiming the Rural 8). Instead of rural being represented as not-urban, Donehower, Hogg, and Schell suggest in Rural Literacies that it be represented in terms of sustainability. Sustainability suggests adaptiveness and responsiveness. It suggests active involvement. The work of reclaiming rural involves once again making rural situations public rather than relegating them to “over there.” This makes the farmers in Java more visible and validates previously unrecognized knowledges and literate practices that are reacting with and adapting to global impositions. For central Java, this means acknowledging how the farmers do, speak, and write of their jobs. What Donehower, Hogg, and Schell offer are the ways to find and the ways to see the farmers’ literate practices as enactments of rural literacies that are entangled in the discourse of rice farming.

Suffice it to say that by examining literacies as agents of change in the discourse of rice farming, this project finds itself in the process of what Burke has termed “identification.” Burke explains in Rhetoric of Motives that identification means confronting what makes something particular. This can be done by determining what the
thing relates to or by changing it and thus substantiating its nature. For Burke, this confrontation is important in regards to the power science holds over society. Science and applications of technology are not inherently good. Social movements controlled by particular voices assert those things are good. In this dissertation, I study relationships that exist in the discourse of rice farming. In doing so, I am identifying multiple agents, each as a particular component of the nature of that discourse and therefore as potential controllers of it. In including global NGOs like FAO and CGIAR in my analysis of this discourse, it might be easy to determine that their literacies – the situated ways they know rice farming – are inherently good because they have control of the discourse. However, this project is enabled by the assertion that the discourse of rice farming is dynamic and co-created. Burke states, “Where the control resides, there resides the function of ownership, whatever the fictions of ownership may be” (33). There is possibility, his words suggest, that another agent in the discourse currently controls it or can in the future control it despite the fiction that it is owned by those global agents. If the farmers have the function of ownership over the discourse they are part of, they can change implicit values and force adaptations by using their own literacies. Interacting with Pak Mohamed and the other farmers who spoke of food sovereignty forced me to adapt my approach to this dissertation and no longer take as a given that food security is as local as it is global, but a way FAO and CGIAR attempt to show their ownership.

As detailed in the previous section, Gee, Street, and Brandt make clear there is not one type of literacy, but endless types. Diana Masny and David Cole further explain the importance of reconceiving what counts as literacy in Multiple Literacies Theory. They emphasize multiplicity as a term as opposed to singular terms like media literacy, or even
rural literacy. Multiplicity, Masny and Cole posit, “[attests] to the fact that the harder that one analyzes a concept, idea or notion – the further one is able to differentiate between different aspects of that ‘unity’” (2). In the context of this project, multiple literacy theory (MLT) allows for the possibility that each farmer may have his own literacies of rice farming and enact their own specific literate practices. Those literacies would fall under the definition offered by Donehower, Hogg, and Schell, but they are not the same from farmer to farmer. Multiple literacies as a term (and here we see the importance of naming again), emphasizes that “power flows very much from local interactions that cause changes and transformations in micro-systems that direct power from the bottom-up and into macro-systems” (5). This distinction, Masny and Cole claim, is different to the one held by the New London Group (NLG) which argued for multiliteracies. According to Masny and Cole, the NLG’s concept of multiliteracies was coined to account for changing technologies and changes to the way people communicate. Reading and writing static, standard texts is no longer the only or dominant way of communicating. Multiliteracies was a pedagogical theory and model meant to help teachers incorporate multimodal technologies into the classroom. As a response, Masny and Cole discuss this explanation of multiliteracies as maintaining the hegemonic, top-down organization in which systems and organizations hold the power. MLT is an attempt to shift who and what counts as powerful and account for the fact that meanings are not “fixed in a standard western democratic or civil direction” (5). Their reconceptualization of power and literacy proves valuable for my project because it encourages the farmers’ literacies to be powerful without relying on FAO to “teach” them the correct ways to know rice farming or enact their knowledges. Most of the theories I have discussed so far have
created the possibility, but Masny and Cole assert it to be true. We see literacies wrong if we do not see literate practices as dynamic and transformative (6).

*Place, Globalization, and Localization*

The purpose of this section is to emphasize the role of place in how all of the agents intra-act in the discourse of rice farming. I argue FAO and CGIAR describe rice farming and agriculture more generally from their specific global places as urban institutions attempting to make global changes to how rice farming works. They globalize how rice farming is perceived and in their reports make standard their goals for the future of rice farming. I argue global is a place distinct from more local places like central Java because the impacts of understanding rice farming on a global scale are that individual farmers’ understandings are not present. Theorizing of place as impacting the literacies and literate practices of human agents also allows me to more fully analyze how the farmers’ farms and communities determine the farmers’ understandings. Cresswell makes an argument in *Place* that can explain why literate practices are dynamic and transformative and specific to context. At its core, Cresswell explains, the thing that makes spaces, sites, or areas places is meaning. Just like discourses and literacies, place matters. And just like discourses and literacies, places are made by the dynamic social and cultural activities of agents. Cresswell argues places “have concrete form” and are “material things” (7). But place is not only about physical geography. It is also “a way of seeing, knowing and understanding the world” (11). It is both a thing (inanimate) and a way of knowing (literacy). Cresswell’s description of place echoes Barad as well as Street and Gee because he explains, “place [...] is itself part of the way we see, research and write” (15). Because it is both naturally and socially constructed and because it is
influenced by and influences the agency of humans, nonhumans, and inanimates, place is an agent in the discourse of rice farming as well.

The very idea of literate practices being specific to context relies on an intra-action between global and local. I use the scholarship that follows to detail how there are global and local places, how globalization can often attempt to erase distinctions between places, and how local places and their agents resist being erased.

In the introduction to Environmental Rhetorics and Ecologies of Place, Goggin cites Rice’s “From Architectonic to Tectonics: Introducing Regional Rhetorics” in his description of how scholarship about globalization often homogenizes differences from local place to local place. Goggin makes the point that places, no matter how impacted by global forces like FAO and CGIAR, still have distinct ecologies and cultures. He explains, “[Accepted] and unreflexive constructs of globalization perpetuate a perspective that diminishes the existence of places that otherwise offer alternative […] viewpoints on the world” (4). Rice argues that regional rhetorics “give us new descriptions of relationships” because they serve as an interface between local and global (203). For Rice, local places are not subsumed by the global even as globalization-as-homogenizer continues to be a common argument. I use both of these arguments to claim that there are distinct boundaries that delineate local places and global as a place. Those boundaries are not static or impermeable, but they are there. The boundaries are what cause the friction between local and global as Tsing describes it and where global and local impact each other in, for my purposes, the discourse of rice farming.

Globalization as homogenizer is most clearly described by Urry in Global Complexity. He outlines two manifestations of globalization: Globally Integrated
Networks (GINs) and global fluids. Urry explains global fluids as unpredictable when they travel and hugely affected by local people and situations. Human beings move as fluids. The more relevant theory for my purposes is Urry’s definition of GINs. GINs consist of enormous numbers of messages that move in all directions simultaneously. They are complex, enduring and difficult to change because of the size and structure. International corporations are often GINS because they set up multiple interconnected nodes and attempt to replicate services or products across borders. The notion of network brings to mind Latour’s ANT and suggests a constructed entity that, while bounded, can move and change (albeit slowly) because it is actor-driven. For the purposes of this project, I consider FAO and CGIAR as GINs because they are institutions with global perspectives on what rice farming should be and they create reports and fund research to disseminate their goals.

Urry adds to his theoretical construction of complexity in *Climate Change and Society*. He explains that complexity causes overflow over space and time and the result is systems that overlap, adapt, and co-evolve:

> Complexity theory always argues against the thesis that ‘phenomena’ remain bounded, that social causes produce social consequences. Causes are always over-flowing, tipping from domain to domain, and especially flowing within and across the supposedly distinct physical and social domains. For complexity the emergent properties are irreducible, interdependent and mobile. (41)

He points to borders as ideological concepts and explains that new events and structures emerge when those borders have been overlapped. For Urry, “the social and the physical/material worlds are utterly intertwined and the dichotomy between the two is an ideological construct to be overcome” (8). Intangible concerns need to be made tangible in order to decide how to address them. This book adds another dimension to my project
because it also highlights food security. Urry declares that food security needs to be co-produced. It needs to emerge in new forms depending on local situations and it will be forced to reckon with the effects of “what most now understand as an economy that was over-financialized, where the balance between real resources and financial economies was contradictory” (44). Urry problematizes the way that the terms of food security and globalization have been dictated by science and economics. Despite how local a culture or society may be, its practices still have global consequences and they need to be more closely considered.

These theories of globalization lead to my primary source for a theory of localization. Tsing describes the interaction between global forces and local contexts as friction. She sees the local landscape as a lively actor in how global forces change and emerge with local contexts. Human residents of that landscape often become invisible from a global perspective, but they are adapting to the forces that appear. Tsing defines friction as an unstable and unequal co-production. By using a concept like friction, I can examine the global as engaging with the particulars of one local place. The emphasis is on the permeability of the boundaries that surround both. It is not that the central Javanese rice farmers and their knowledges (including literacies) and literate practices are distinct from the global FAO and CGIAR and their knowledges and literate practices. Rather, when global intra-acts with local within that porous border, they impact each other. In this case, that means making the central Javanese farmers and their literate practices, in addition to the other agents on their farms, active and visible participants in a co-production of the discourse of rice farming.
Public Participation and Environmental Rhetoric

I do not have space in this dissertation to examine the discourse of rice farming as something that occurs in and out of the public sphere. However, scholarship dedicated to public participation in debate and policy decisions gives me the tools to bring the central Javenese farmers and FAO and CGIAR into the same discourse. Often public participation is framed in terms of communication. That is, practitioners of technical, risk and environmental communication explain the role of the public (or citizens). Framing the role of the public in terms of communication can lead to calls for substantial intra-action and active co-production. This is evident in Simmon’s *Participation and Power* when she explains that too often risk assessment decontextualizes the risk and does not consider local knowledges. Simmons points to the tendency to bracket “experts” and “public” so that the latter is passively informed by the former. This is especially evident in the EPA and Environmental Impact Statements (EIS) which see the public as consumer. Her solution is to look at who has the power and focus instead on who is left out. Similarly, Simmons and Grabill argue in “Toward a Critical Rhetoric of Risk Communication” that the first job of communicators is to understand how the power balance works and then change the balance. They explain that perhaps one of the most important jobs as a communication specialist is to acknowledge that participants are not

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3 Under the umbrella of environmental rhetoric, there are also scholars of ecocomposition such as Sidney Dobrin and Christian Weisser who theorize about pedagogical implications of environmentalism and place (among other things). Under the umbrella are also scholars of environmental communication such as Cox and Simmons. I have used some theory written by environmental communication scholars in this section to suggest ways in which different publics can impact environmental discourses that impact them. In this section, I also examine Simmons’ communication model as an alternative to the more common unidirectional model of communication about environmental issues.

4 See Habermas, Fraser, Calhoun, and Warner in my Works Cited for scholarship on the notion of public sphere(s).
free and equal and make it a point to give preference to the input of the less powerful.

Knowledge is located within and can be produced from communication processes. In this sense, they are suggesting it is necessary to purposefully impact communication to ensure non-dominant agents have access.

Katz and Miller make a similar suggestion in their contribution to Herndl and Brown’s *Green Culture*. They use a radioactive waste siting controversy in North Carolina as a case study of what happens when communication is based on “right to know” rather than “right to change.” The public in this case study was decidedly against having a radioactive waste site in their backyard, but the government entered the conversation with a foregone conclusion and decided when the public spoke and when they listened. Katz and Miller see this as a failure and suggest that public participation can only make decisions more acceptable and technically better.

In this dissertation, I reveal where those with seemingly less power intra-act and impact the discourse of rice farming. To that end, mapping how FAO and CGIAR (those whose presence is more visible globally and therefore those who are seemingly more powerful) frame and shape communication is the first step. Looking at the history of the EIS is one way scholars have determined how powerful entities like governments and scientists frame their relationships with publics. Simmons is not the only communications scholar to explain those relationships. Mark Schlenz and Robert Patterson and Ronald Lee also emphasize the disenfranchising tendency of the EIS in Coppola and Karis’s *Technical Communication, Deliberative Rhetoric, and Environmental Discourse*. Schlenz points out that it has been situated between “pure” science and public participation as a kind of blockade. Patterson and Lee explain the EIS as reducing the public to a third
party, bureaucratic step on the way to whatever end result has been planned. While my project is not concerned with the EPA or EIS specifically, these authors do offer keen insight into the passive role that those who assume power assign to the public like rice farmers in central Java.

That passive role has been challenged by communication scholars such as Simmons and Grabill, but it is sometimes not entirely rejected. For example, Nancy Coppola and Bill Karis explain that a technical communicator’s role is to “help people visualize and understand environmental data so they can make informed decisions” (xiii). Their language suggests understanding the information that experts or those in control have gathered and shared rather than taking part in information production. Robert Cox emphasizes the right to hold public agencies and businesses accountable, but claims there is room to do that within the current system. The public’s role is reactionary rather than creative. The responses of the farmers I interviewed suggest a difference of opinion. Many of them purposefully rejected the current system for farming imposed by outside forces like the Indonesian government and large NGOs like FAO and CGIAR. Instead they want to change the system by supporting steps toward food sovereignty over food security.

Cox argues that key terms within environmental communication are defined by those in control. Terms like “risk,” “nature” and “environment” are all words and therefore ideas. And, Cox reminds us, ideas have consequences. Like Brandt, Cox emphasizes the importance of considering names and how they perpetuate the status quo or push against it. The direction he takes this claim follows his main argument that there is room within current systems for meaningful participation. I explore whether this is
possible by looking at intra-actions of the literate practices of global food security and local food sovereignty.

Public participation scholarship has an interest in how humans impact decisions about their environments in common with environmental rhetoric. The term environmental rhetoric is broad and encompasses more than one area of study (see the footnote on page 56). For the sake of my dissertation, I define environmental rhetoric as the study of how the environment is talked about. In this sense, the rest of this section is not dedicated to the ways of knowing like Defining Literacies, or dedicated to who gets to share their knowledge like Public Participation. Rather, this section includes a review of literature written by scholars interested in knowing how people talk about the environment in order to determine how discourses are shaped and arguments framed. Jimmie Killingsworth, Jacqueline Palmer, and others have established a rich tradition of environmental rhetoric. There has yet to be any explicit rhetorical work in relation to rice farming as an area of interest, but I maintain that it can and should be acknowledged as an environmental concern. To that end, the literature in this section establishes the validity of performing rhetorical analyses on texts related to issues of rice farming, including food security and food sovereignty. By previously expanding the definition of literacy and extending how public participation can take place, I have set the framework to determine the roles and participation of all agents in the discourse of rice farming. By adding an area of interest (rice farming), I acknowledge the complexity of what counts as environmental rhetoric.

Situating discourse, materializing literacies and making the invisible visible all rely on a particularly postmodern understanding of nature and environment. Ken DeLuca
explains the importance of postmodernism in environmental rhetoric in his book *Image Politics*. He looks specifically at visual representations of environmental movements as rhetorical. Deluca explains that postmodernism allows us to see nature as a cultural construct that is open to the public. People are part of nature. Seeing it in these terms means seeing the links, fragments, and networks. It materializes environmentalism and broadens what counts as rhetoric and what counts as discourse. DeLuca acknowledges that the only way to see current power structures is to see how they are culturally constructed. For him, images as rhetorical creations create a heteroglossic public sphere that is made up of competing discourses. My dissertation extends this to explore the existence of entangled knowledges and literate practices. Human agents intra-act in the discourse of rice farming, and their knowledges and literate practices are place-specific.

Even more traditional textual studies of the rhetorics of environmentalism and sustainability are, in many ways, postmodern. They often also emphasize the necessity of situated contexts which requires a belief in the subjectivity of ideas, literacies and discourses. They have pointed to the power of terms and naming in determining the trajectory of environmental and sustainability movements. Killingsworth and Palmer acknowledge that the narrative of environmentalism is continuous and shaped by new discourses, but they also highlight the power relationships involved in the narrative. In *Ecospeak*, they see the dichotomizing effects of terming things “environmental” and warn against purely technological or bureaucratic solutions to environmental problems. When one discourse controls the narrative (for Killingsworth and Palmer that discourse is scientific), terming gets controlled and knowledge gets controlled. They suggest a horseshoe model of perceptions of nature: as resource, as spirit, as object. Seeing nature
in this way allows for co-creation and cross-discourse understanding. Different perceptions have access to each other and can influence each other. What these authors bring to my project is strong evidence of the power some agents can have over a discourse.

Craig Waddell has suggested new models of communication between publics and those in charge, specifically in situations of environmental concern. As this section is about how the environment is talked about, Waddell’s models are presented as alternative ways of doing the work of studying who says what and how they say it. Models that offer more access to publics means the work of studying a given rhetorical situation can be more comprehensive. Waddell describes four models in “Defining Sustainable Development: A Case Study in Environmental Communication.” The first, “technocratic,” allows for no interaction between experts and the public. The second, “one-way Jeffersonian” allows for unidirectional communication of a plan from the experts to the public, but no chance for feedback. The “interactive Jeffersonian” model allows the public to relay responses to plans as well as beliefs and values to those in charge, but it still relegates the public to reactors. Waddell’s final model, the “social constructionist,” allows that those in charge are also motivated by values and beliefs and that technical knowledge can come from the public. It “views risk communication as an interactive exchange of information during which all participants also communicate, appeal to, and engage values, beliefs, and emotions” (9). Waddell suggests that the first two models are often the way decisions are made. There is no real input from the public that is affected. He promotes the social constructionist model as ideal because it
acknowledges subjectivity even on the part of the “experts” and acknowledges that technical or scientific knowledge may contributed by the “non-expert” public.

One way to come to an alternative power structure in the discourse of rice farming is to encourage what George Myerson and Yvonne Rydin have termed “dynamic patience” in *The Language of Environment*. Myerson and Rydin explain it as active, plural, and open-ended knowledge making. These authors suggest that the world comes into being through discussion. Without words, there are no impacts. They focus on the importance of naming. When an idea comes into being through a term, what is left out? What cultures lose access and power? Framing the practice of naming in terms of what is left out seems to be dynamic practice in action. In terms of my project, it helps me think about my own choices of terms (which are necessary for the sake of clarity) and what gets left out by my choices. When I made the cut that Barad explains is necessary, how did I influence the results of my study? That is a vital question for analyzing the dynamic entanglements of the discourse of rice farming because I am purposefully leaving out some agents like national governments. Myerson and Rydin, though immensely helpful with their suggestion of dynamic patience, do have some drawbacks. For example, they rely on a very Habermasian notion of rationality. They see facts as linked with values and as necessary for establishing the right ethos to enter the public sphere. In this way their theory relies on communicative rationality and institutional rationality. Communicative rationality, a subject analyzed in depth by Habermas, is the theory that communication will lead to a rational decision. The public sphere encouraged by Habermas and supported by Myerson and Rydin is always already aiming at rational decision making, but the determination of what is rational is not made by public consensus. It is assumed to
be known by all who establish the right ethos to enter the conversation. This is where institutional rationalism plays a role. Myerson and Rydin acknowledge that facts and linked to values, which is a tenant of institutional rationality, but they overlook the consequences of the reality that different values of different institutions determine what is considered a fact. Institutional rationality asserts that various public spheres (government, church, etc) have their own rationality based on their values. If their values are different, then their facts are different and what they know to be rational will be different as well. Thus, there cannot be one “right” ethos for communication. In fact, to study how human agents talk about rice farming, I emphasize difference. I have already established a much broader picture of what counts as worthy of public attention and therefore who counts as agent in the discourse of rice farming. Dynamic patience is a fruitful way of listening to the various agents I have identified, but it starts with the presumption that no one is bringing the same types of values or rationality to the discourse.

The troubling results of traditional conceptions of ethos and rationality are common subjects in studies of environmental rhetoric. Previous, Cartesian models of nature as object were often pointed to in early works on rhetorics of environmentalism. The rational approach to nature as object was to assert man’s dominance over nature. Herndl and Brown explain in their 1996 collection *Green Culture* that the result of this view of nature was a dominance of science over environmental discourse. They go on to show that the first response to the hyper-rationalization of man’s control over nature was to romanticize and idealize nature. While in some ways the reverse of nature as object, this vision of nature as spirit maintained traditional individualistic ideals because revering nature was meant to make man singularly better. What Herndl and Brown explicate from
this history is that we need an ethics of social responsibility rather than rational individualism. Environmental rhetoric should combine the resources of multiple discourses in order to reach a large audience.

Studies and theories of environmental rhetoric have been evolving into a focus on sustainability as a concept and practice. Goggin explains in the introduction to *Rhetorics, Literacies and Narratives of Sustainability* that there is a shared concept that sustainability exists because of a growing acceptance that human activity is impacting ecosystems. Because this is becoming a more prevalent starting point for study, Goggin reminds us that it is important to look critically at the definitions and definers of key terms within “sustainability” in order to keep watch over the narratives and rhetorics that emerge. Sustainability as a concept is a key term for FAO and CGIAR as agents within the discourse of rice farming.

The results of looking closely at definitions and definers can be found in Scialdone-Kimberly and Metzger’s contribution to Goggin’s collection. By examining the UN Forum on Forests, these authors examine a multi-stakeholder dialogue focused on sustainable forest practices in order to determine power dynamics and whether everyone in the dialogue is being heard. What they find is that all of the groups invited to participate in the forum identify as knowledgeable agents. They situate themselves to be important shapers of the discussion. It complicates the picture of who controls a discourse and who gets to define terms and concepts. Whether the UN listens to each stakeholder group equally is not entirely clear, but since they invited each group to participate, they at least made possible new directions for an old discourse.
Goggin and Long offer another example of what happens when those not traditionally in control of a discourse are able to become active agents. In their article “Co-Construction of a Local Public Environmental Discourse,” Goggin and Long detail a local public’s commitment to and particular definition of sustainability in a dispute over beachfront hotel development in Bermuda. What the authors find is that sustainability issues were already part of Bermuda’s discourses before the hotel development controversy appeared. Because of that, the local public used their local newspaper, *The Royal Gazette*, as a public space to house public intervention that originated from the location. The newspaper served as a literacy sponsor in this case study because it was an active co-constructor of a discourse against development and in favor of beach access for locals. The paper published letters to the editor in their entirety, allowing for a range of objections to the development and therefore deepening and complicating the discourse that emerged. This case study shows that local publics already have ways of understanding global concepts. It is necessary to pay attention to the literacies those local publics use in order to observe how they interact with the other agents to change, complicate, and deepen the discourse of rice farming.

*Conclusion*

I argue in Chapter Six that I am making two contributions to the field of environmental rhetoric. The first is that by studying the rice farmers in central Java, I am extending the areas of focus in the field which has so far primarily focused on the United States. I argue that because environments are so particular to place, as a field we must look at how agents in environments and cultures very different that the United States intra-act with their environments and adapt to them. The second contribution I make is by
more fully integrating the nonhuman agents into my rhetorical analysis. Rickert suggests that rhetorical scholars need to do more to consider how humans dwell in their environments and how their environments are part of that dwelling and yet not there in service to humans. All agents exist together but are still distinct. My dissertation is my way of answering Rickert’s call. This chapter includes my analysis and explanation of the literature I use to create theories of place, literate practices, and materiality that I use to make these contributions. The next chapter details the methodology I use to do so.
Chapter 3
Methodology

Introduction

I provide in this dissertation a rhetorical analysis of place-based field research and written published texts as a way of analyzing the entanglement of central Javanese rice farmers, their knowledges and literate practices, global NGOs, their knowledges and literate practices, nonhumans, and inanimates in the discourse of rice farming. Traveling to central Java and performing field research in addition to more traditional text-based rhetorical analysis is necessary because I contend the specific local farmers in central Java do not approach rice farming or food in the same way as the global NGOs that create or support policies about rice farming or agriculture more generally. I also contend that how central Javanese rice farmers know and perform their jobs impacts the discourse of rice farming and should be understood as impactful. In the introduction to his edited collection *Rhetorics, Literacies, and Narratives of Sustainability* Goggin emphasizes that as humanists, and rhetoricians in particular, “we not only theorize and critique the discourse of sustainability, but through case analyses we also contribute to telling the stories of actual events and the people who participate in those events” (5). Specific stories from specific contexts enrich the discourse. I argue in this dissertation that inanimates and nonhumans are agents in the discourse of rice farming because they have material impact on how the discourse is shaped and changed, so I needed to visit actual places where farming happens. Interviewing farmers in the places they farm made visible more agents than I could have seen had I only performed a rhetorical analysis of published texts accessible online.
As I mentioned in Chapter One, the interviews were the first step in completing this dissertation. I drew on Street’s discussion of best practices for ethnographic research. Because of the short amount of time I had in central Java, I have not labeled my research as ethnography. However, I found the guidelines for good ethnographic practices to be helpful in determining how to use my short time with the farmers wisely. Street emphasizes the complexity of local, situated knowledges and literacies that challenge the dominant ways of knowing. His approach makes it difficult for dominant literacies to ignore that local literacies do important, complex work as well. I built into my framework for interviewing and observing the Javanese farmers a concession of expertise. I conducted my interviews with the goal of learning the complex ways local farmers know, do, and talk about their jobs. In designing my rhetorical analysis, I used Barad’s notion of entanglement and diffraction as a framework which is explained in detail in Chapter Two. Barad’s entanglement suggests a complexity that can be pulled apart for examination. Her concept of diffraction describes how to read the entanglements. My own diffractive reading consisted of reading the transcriptions of my interviews, the reports published by FAO and CGIAR, the videos given to me by SPPQT, and the nonhuman and inanimate agents in the discourse of rice farming through each other rather than in contrast or comparison to each other. They were read together to see how they influence each other. For example, in Chapter Six I examine how central Javanese farmers and global NGOs describe why they value rice farming as important. By reading these descriptions together, I am able to show how even though each agent values rice farming for different reasons, those values all impact how the agents perform the work of rice farming or promote policies about the future of rice farming and therefore they impact each other.
The global NGOs place value in how rice farming is a part of larger food systems designed to feed the global population for a sustained period of time. That positioning of what the farmers do for a living has impacted the ways farmers adopt and promote traditional seeds and organic farming methods. They are choosing to farm using methods and tools different from the ones the NGOs say are crucial to achieving their goal of global food security.

My method for the rhetorical analysis drew from Burke, Latour, and Rickert who, I explain in Chapter Two, provide ways in which to distinguish what is being discussed from context and speaker/writer. Performing a rhetorical analysis of all of the agents and texts listed above in this manner meant I positioned rice and other inanmites as valuable without representation and thus examined their impact as distinct agents in the discourse and the different ways agents represented them. This chapter provides a detailed description of how I enacted these theoretical approaches in my rhetorical analysis.

**Interviews with Central Javanese Rice Farmers**

Before traveling to central Java, Indonesia, I performed a pilot study with two wheat farmers in southern Alberta, Canada. The results of the pilot are included here to explain in detail how I came to the questions I asked the Javanese farmers. I used Street’s *Literacy and Development: Ethnographic Perspectives* to help me conceive of my questions. My interests were in learning about the literacies these farmers use to do their jobs. While I was hoping to discover how they see their role in establishing global food security, I did not want to lead them into particular ways of talking about it. In his introduction to the book Street emphasizes “attempting to understand what actually happens [rather than] trying to prove the success of a particular intervention” (1).
Literacy is a social act that cannot be taught asocially and is about knowledge rather than about very particular skills needed to gain knowledge. Most importantly, literacy is about questioning the power relations that exist because of these different types of literacies.

To perform the pilot study, I created five broad questions and did phone interviews with the two Alberta wheat farmers. The goal was to learn how to ask questions that would enable them to explain the types of literacies they develop in their jobs as well as how they see their roles in larger communities. In learning about the types of literacies they develop in their jobs, I was able to ascertain what is unique to their particular positions. In learning about how they see their roles in larger communities, I addressed my interest in power relations that came about in response to Street’s argument. The original questions were:

1. How did you learn about farming initially?
2. How do you continue to learn? How do you make decisions about what to plant, when to plant, etc?
3. How do you see your role as farmer within your family? Province? Nation? World?
4. What do you see as your responsibilities? Do you think people ever put responsibilities on your shoulders that are unrealistic or unfair?
5. If you had to explain what you do to someone totally unfamiliar with it, how would you explain it?

I do not share the answers of this pilot study here for the sake of space. In summary, one farmer, Steve, responded in ways that suggested a complex set of literacies of farming practices, genetically modified wheat, and national and international economic trends that
are enacted in his day-to-day farming practices. He spoke of farming and his relationship to larger communities in terms of usefulness and pride in being an individual who feeds others. The other farmer, John, revealed literate practices that enact literacies of the farming process, digital technologies, and land stewardship. He spoke of farming as a community rather than an individual effort as Steve did. He spoke in terms of “we” and of farming as a collective action. I learned two crucial things from the interviews that impacted how I conducted the interviews in central Java. First, rather than trying to identify the literacies farmers use to access the discourse of rice farming, I approached my interviews in central Java as trying to learn about how farmers know their jobs and the literate practices they enact in order to do their jobs. I decided to focus my questions for the Javanese rice farmers on knowledge-building and relationships. Second, the most revealing question in my pilot was how each farmer sees his role within larger communities. It exposed potential for power assertion, but also allowed for alternative understandings of relationships. Steve replied, “I help feed everybody. Without us, people don’t eat.” And John responded to the same question, “In Canada, most of what we produce is exports. So, we’re basically feeding the world. That’s how most of us see it. We’re in a global thing.” While Steve asserted level of power in asserting that without farmers, people do not eat, John answered in terms of global community and service. These two farmers, who are in a developed country and who are brothers-in-law, have very different perceptions of their jobs and position in the global community. After these answers from the pilot study, I decided broad questions would work best in the interviews with Javanese rice farmers as well because broad questions allow for farmers to establish their connections with different communities. What was most valuable from the pilot was
hearing answers that relate to food security and farmer autonomy without hearing those
term exactly. They both pointed to stewardship in different ways and spoke of feeding the
world without using any terms like food security. As such, while it was of interest to me
to discover how the Javanese rice farmers see their roles in global food security, I did not
want to lead them into particular ways of talking about the subject. This turned out to be
fortuitous because the central Javanese farmers purposefully spoke in favor of food
sovereignty as a goal for their future rather than food security. Two farmers, Pak
Mohamed and Pak Amadi, were actively engaged in farmer cooperatives designed to aid
farmers into becoming more autonomous in what they farm and how they farm.

Before going to Java, I applied for IRB approval of my study. Included in the
application was an explanation of the purposes of my study, a letter for potential
participants, a discussion of the limitations of my study, a list of the questions I would be
asking the participants, and a signed document ensuring I would not be performing any
physical or biological tests on the participants. The “request for participation” letter
detailed the requirements of potential participants, discussed the limitations of the
anonymity I offered, and explained the compensation for participants. After some
revisions to the letter that clarified requests for video and photographic recordings of the
interviews, my IRB was approved before I left for Indonesia.

As explained in earlier chapters, in order to gain access to small farmers in central
Java, I reached out to the local NGO Serikat Paguyuban Petani Qaryah Thayyibah
(SPPQT). I was introduced to the NGO by a contact who is from that area in central Java.

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5 While I have changed the names of the farmers I interviewed, I have identified the area of Java they live
and work in and have also identified the name of the NGO that introduced them to me. I will also be
including photographs of each farmer’s field.
SPPQT promotes a return to traditional farming and organic, indigenous seeds. Traditional farming in the terms of SPPQT includes smaller farms, human labor, and less chemical input. They sponsor several outreach programs in central Java including a program to install biogas digesters in farmers’ homes, a program in partnership with Coca-Cola to install absorption wells in villages across Java, and an outreach program geared towards young people in villages that teaches the values of organic farming. The third program targets young people because SPPQT promotes changing perceptions of the role of women in the home and in the fields and believes any changes to traditional values will happen by convincing the youngest members of a village. All of these programs are supplemental to SPPQT’s biggest goal of helping farmers transition to traditional and organic farming methods. They work together with villages to create farmer-run cooperatives. Rather than emphasizing food security, SPPQT supports the idea of food sovereignty which they argue keeps the farmers as active agents rather than deferring decisions and knowledge to the Indonesian government. The difference between food security and food authority became a major component of my time with SPPQT and farmers who have a strong relationship with the NGO.

Along with introducing me to farmers and allowing me to join in their meetings, SPPQT also provided me with translators who work in the Youth Department of the NGO. These translators, Bapak Peter, Bapak Paul, Bapak Joseph, and Ibu Tessa, drove me to each farm and translated between English, Indonesian, and Javanese. They also helped me understand village customs and explained a lot about what SPPQT does. They

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6 Biogas digesters create usable methane gas from, most commonly, the organic waste of farm animals. Absorption wells collect excess rain water and filter it in order to be used during dry seasons.
were invaluable to my research. The translators also altered my planned compensation. I had anticipated a small, yet significant monetary sum of 300,000 rupiah (approximately $30) per farmer. The translators explained to me the cultural significance of paying even that sum to farmers whose yearly salaries are not comparable to those of minimum-wage workers in the United States. I learned it would be considered an insult to be paid for those interviews which the farmers had willingly agreed to do. Instead, I had to bargain with the translators to be able to offer any compensation at all. The resulting decision was that I could offer each farmer some chocolate and candy for their children and some cigarettes for them. I also attempted to compensate the translators and was allowed only the chance to take them for a nice lunch on my last day in Salatiga. In keeping with my goals, set from the influence of Street’s theories of literacy, I adapted according to the situation as I engaged with it. My anticipation in considering the 300,000 rupiah payment was that it was significant enough to make clear my gratitude, but not enough to increase the yearly salary of any farmer too significantly. What I learned from the translators about the culture of central Java was that any payment at all would be disrespectful. My letter requesting participation allowed for this alteration without needing to resubmit to IRB because it left the type of compensation blank so that I could fill it in according to local customs, so I conceded to the local translators and proceeded accordingly.

The interview process consisted of two parts. First, I interviewed each farmer for 20-30 minutes. Then, the farmers showed me around their fields and homes and described and showed their farming practices. Including both specific questions in an interview setting and a more free form visit to the farms allowed farmers to maintain the role of expert in our interactions. I went to their homes and farms and asked them about
what they do. It also allowed me a chance to listen for differences or similarities in how they talk about rice farming in context (i.e. in the fields) and out of context (i.e. in their homes). I anticipated that the interests and knowledges of each farmer would drive the interviews. The five broad questions I brought with me to Indonesia were very similar to the questions I used in the pilot. The only major change came to the question about responsibilities. I decided asking in terms of fairness was too leading and to maintain objectivity I needed to ask about responsibilities more generally.

1. How did you learn about farming initially?
2. How do you continue to learn?
3. How do you see your role as farmer within your family? Community? Nation? World?
4. What do you see as your responsibilities?
5. If you had to explain what you do to someone totally unfamiliar with it, how would you explain it?

These questions were helpful in getting each interview started, but as I learned more about the culture of central Javanese villages, the farmers themselves, and SPPQT, I changed them to be more relatable and context-specific. SPPQT promotes traditional and organic farming, thus many of the farmers I met were in some stage of converting their fields and practices to organic from conventional. My questions therefore also included asking for the reason why farmers were changing their methods, where they learned about organic farming, where they learned which seeds to choose, and how difficult or

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7 Conventional farming in this dissertation refers to farming using chemical inputs like fertilizers and pesticides, seeds developed in laboratories, and tools for farming that are mechanized. Organic farming refers to using indigenous seeds, organic pesticides and fertilizers, and hand tools for farming.
easy it was to sell organic products. From the beginning, I let my questions and my time with the farmers be dictated by the farmers’ answers. For example, the first interview I performed was with Bapak (Pak) Mohamed. Pak Mohamed has a very close relationship with SPPQT. He was trained in organic farming by the NGO and they helped him establish his own farmer cooperative that has created the largest area of organic farming in Java. He even met former Indonesian President Susilo Bambang Yudhoyono who presented him with an award. He was the first person to mention food sovereignty to me and distinguish the difference between that and food security. After talking with Pak Mohamed, I adjusted the approach to talking with the farmers. I still began with the broad questions I brought with me to central Java, but I also asked questions about the role of government in farming and if the other farmers had heard of food authority. I made the choice to ask about food authority specifically because I learned after my interview with Pak Mohamed that SPPQT also promotes food sovereignty with the farmers who come to be trained in organic farming methods. I was able in this way to maintain some consistency in questions and also follow up on new ideas as they arose.

When the farmers showed me their farms, I asked them to describe the process from planting to harvest. I did this in order to have on record the ways in which each farmer describes the practices enacted in the actual work of rice farming. What I discovered was that while on the surface, the processes of farming are the same, and the words the farmers use to discuss it are very similar, there are differences distinctly tied their specific farms and communities. Pak Mohamed, the first farmer in charge of the largest area of organic farms in Java, spoke with an authority that was revealed in his mentioning of hired workers, for example. Pak Yudi, the conventional farmer, had no
hired workers and a much smaller farm. So while they both described the planting and harvest process, Pak Mohamed’s position as a cooperative leader meant he talked about the field in terms of what happens in it. Pak Yudi, in contrast talked about his own active role in the production – what he does in the field. During the time when farmers showed me their fields, they could also show me anything else they felt was important for me to know about. Often this meant other crops, livestock, and biogas digesters. The interviews did reveal just how distinct each farmer’s experience is, but it was really with this more observational component of the interviews that I noticed their natural descriptions of day-to-day practices most clearly. The two-part interview process was especially successful, then, in establishing which knowledges are needed to be a rice farmer in central Java and which are specific to personal experience.

I transcribed my interviews with each farmer using video and audio recordings taken during the interviews. During each interview, one of the translators would film the conversations on my digital camera and I would record the audio of the conversations on my smart phone. My transcriptions were done in two parts. First, I transcribed all of the English dialogue from myself and my on-site translators. Second, I recruited a native Indonesian speaker to transcribe the dialogue not in English. I then translated the Indonesian transcriptions into English. I compared my own translations of the farmers’ responses with the translations told to me by the translators during the interviews. Having a written record of the farmers’ responses also allows me to have direct access to their specific phrasings in order to compare common word usage as well as identify individual voices and personalities. These extra steps were extremely important to the dissertation because the purpose is to emphasize the context and locality of the farmers’ knowledges,
literate practices, and intra-actions with other agents and read them as impacted by and impacting those of the international organizations. I was grateful for the help of on-site translator, but to feel confident in sharing the words of the farmers, I needed the verbatim transcriptions and my own translations.

*Rhetorical Analysis*

To represent the multiple agents in the discourse of rice farming, in the rhetorical analysis I analyzed the transcriptions of my interviews in central Java, two training videos published by SPPQT, a promotional packet supporting organic farming published in English by Pak Mohamed’s cooperative, three documents published by the United Nations Food and Agriculture Organization, two documents published by CGIAR, and the nonhumans and inanimates that impacted what farmers and NGOs described (rice varieties, water access, nearby farms). I explain in Chapters One and Two how I developed my framework for the rhetorical analysis. By using Street’s approach to ethnography, I established a project dedicated to learning about and learning from complex and contextual literacies. To continue that momentum, I employed Barad’s notions of entanglement and diffraction as the framework for reading all of these texts through each other. A visual metaphor helps in describing the work of reading texts through each other as opposed to in contrast or comparison. Barad uses the metaphor of light diffraction. She explains that when light is sent through slits, the slits interfere with the light so that it diffracts and its wave patterns are made visible. My own metaphor provides an additional visualization of the process. I conceived of each agent, including the human agents’ knowledges and literate practices, as a transparent layer. When the different texts were laid on top of each other, commonalities became clear, impacts
between the texts became clear, and major differences became clear. The conclusions I came to as a result of this reading were products the diffractive reading rather than observations somehow separate from the texts. For example, by analyzing the local intra-actions and literate practices happening in the small farms in central Java, I was able to see where in the language of the global NGOs the farmers’ knowledges and practices were represented, where they were missing, and where they may argue for the same goals for different reasons (like the cooperatives described by FAO and created by Pak Mohamed and Pak Amadi). This goes back to Barad’s arguments that agents and objects are entangled together. In using Barad as a framework, I acknowledged that these agents impact and intra-act with each other independent of my observation, but my observation reveals a particular diffractive pattern.

While Barad provides the framework for reading these texts, the analysis itself (the particulars of my observation method, to further Barad’s metaphor) was influenced by Burke, Latour, and Rickert. These authors provided a means of determining the contexts within which all of the communications (verbal and written) I analyzed took, and are taking, place.

In *A Rhetoric of Motives*, Burke explains that “to begin with ‘identification’ is [...] to confront the implications of *division*” (emphasis in original, 22). People would not need to be told they are part of a community if they were not divided. Communication is the way human beings identify with each other for specific purposes. Burke furthers this argument in *Attitudes Toward History* by stating that human beings identify in order to distinguish identity from environment. Humans name relationships to match individual morals and align with communities that reflect those morals. The group reifies the
individual and this is why, Burke argues, the social is authoritative. There is a lot of power in influencing how individuals identify. Burke’s theories on identity and identification were employed in my rhetorical analysis because they established how to discover the motivations for different stakeholders to identify with different communities within the discourse of rice farming. The context of each act of communication I analyzed was very important.

After I established the importance of context and community for determining motivation of the human agents for their acts of communication, I needed to account for the nonhuman and inanimate agents in the discourse. For this I drew from Latour’s concept of “dingpolitik” in *Making Things Public*. In the first chapter of this edited collection, Latour calls for a move from only “dealing with naked power relations” in political discourse to considering more explicitly the objects being debated (14). The translation of dingpolitik approximates to object-oriented democracy. The material object is considered separately from its representations. Latour argues that “the matters that matter” need to be legitimized if they are going to be debated. This approach takes into account *who, what, and how* more completely. For my purposes, Latour’s discussion of object-oriented democracy provided a means of positioning the rice itself, along with other inanimate agents, as mattering distinct from how the objects are represented in the discourse of rice farming and who does the representing. By freeing inanimates from their representations, I more closely analyzed the differences in representation and the motivations for those choices. The inanimates are central to the discourse.

The last element of my rhetorical analysis methodology is Rickert’s concept of the rhetorical thing in his book *Ambient Rhetoric*. Rickert argues that things matter
without humans representing them as mattering. In fact, he states that humans need
ontology, but that “objects can no more be positioned solely within the horizon of human
intention or awareness than language can” (200). I considered the acting back of
inanimates (the responses of physical agents to actions by humans like gene alteration or
irrigation or fertilization) as rhetorical by employing Rickert’s rhetorical thing. For my
analysis, it was not just that humans identify with each other through communication and
community, and it was not just that inanimates matter distinct from their representation, it
was that inanimates are responding and interacting. My rhetorical analysis therefore took
into account that the acts of communication I analyzed are responses to acts by other
humans and responses to acts by the inanimates and nonhumans that make up the
environments of local and global places.

Entanglement and Diffraction

This section provides an outline of how these agents entangle with each other and
how I read them using Barad’s method of diffraction. Because there were so many
components of this entanglement that I analyzed, my tool of observation was very
purposefully designated and clearly articulated. In this case, the tool of observation was
the rhetorical analysis that distinguished between what was being represented and how it
was represented. Barad explains that “knowing is a direct material engagement, a practice
of intra-acting with the world as part of the world in its dynamic material configuring”
(379). Thus, in my observing and by using the tool of observation I designated, I was not
only determining how the agents entangle and represent each other, I was also taking part
in the entanglement.
There are two particular representations I focused on. All of the human agents and the descriptions of their knowledges and literate practices discuss rice, an inanimate agent. They all also discuss farmers, human agents. In performing diffractive reading of all of these agents discussing the rice and farmers, I read to see where similarities in representation were visible and determined how those similarities entangled and emerged together to make new knowledge. I also read to see where differences in representation were visible and determined how those differences impacted the discourse and altered ways of knowing rice. In reading the farmers together, I could see the traces of situated ways of knowing the work of rice farming and a spectrum of transitioning to traditional and organic farming. On the spectrum, farmers with a close relationship with SPPQT are further along in the transition, but they are also influenced by what other farmers are doing and the economic viability of different elements of transitioning like seed choice and fertilizer use. Those impacts are detailed further in Chapter Four.

I also read how the rice itself impacts the way it is represented by how it interacted with the farms. In *Meeting the Universe Halfway*, Barad describes discursive practices as “boundary-drawing practices by which [something] differentiates itself from the environment with which it intra-acts and by which it makes sense of the world” (375). This notion of making sense of the world in order to differentiate oneself from it echoes Burke’s explanation of identification. But Barad extends it to account for all matter because all matter intra-acts and makes sense of the world. For my dissertation, I use this theory to reveal the ways the rice seeded, planted, grown, harvested, sold, and eaten is its own agent in the world and it impacts the entanglement I have established as the discourse of rice farming. If a certain type of rice takes more time or needs more inputs to
grow, or in the case of the Green Revolution if it does not taste the way consumers want it to taste, it impacts how it is grown and how it is talked about. It impacts what varieties get planted in future seasons and what changes are made to the varieties being developed in labs.

**Limitations**

There are a few noteworthy limitations to my study that I will return to in Chapter Six. First, because of my program’s timeline, I had limited time available for field research. In addition, I funded my research personally which limited how much time I could spend in central Java even further. In the end, I was able to spend ten days with SPPQT and the farmers in and around Salatiga, central Java. The constraints of time and funds meant I was only able to interview a small number of farmers. My study was qualitative instead of quantitative as a result. I cannot make assertions about the state of rice farming in central Java because the sample size is too limited. Instead, I emphasize the specificity and importance of place and context in any discussion of rice farming and highlight individual experience instead of broad conclusions. This particular limitation actually strengthens my study because I am exploring the differences between local farmers whose contexts are small and international organizations whose contexts are enormous. Without a larger data set, I am forced to present knowledge as evidence (qualitative, context-specific) that is in direct contrast to the knowledge (quantitative, globally-driven) that gets presented by the international organizations. In that way, my study reflects the situation I am studying.

Another limitation is language. While my Indonesian improved rapidly as I performed my analysis, I am not a fluent speaker and was certainly not fluent when I
performed my interviews. Thus I relied heavily on the local translators from SPPQT and the transcriber in Arizona that watched the recorded videos of the interviews. Because the farmers’ words were twice removed from my interpretation of them, I did not have the opportunity discourse analysts often have to infer meaning from word choice or inflection or pause. I did my best to translate the farmers’ answers into English myself to remove as much of the interference between my analysis and their original answers as possible. This is why, for this study, I asked the Indonesian person in Arizona to transcribe rather than translate. It is also why I attempted to transcribe as much as possible of the Indonesian (and sometimes Javanese) in the video recordings as I could and then check for accuracy with Indonesian speakers. It was very important to me to be true to the farmers’ experiences and ideas. But the language barrier has been, by far, the biggest limitation to my ability to do so with full confidence.

The final limitation is in the choice of which documents published by FAO and CGIAR to analyze. Both organizations publish dozens of reports each year and selecting which ones to focus on meant limiting the scope of my study. In an attempt to be purposeful in limiting my scope, I chose documents that focused on either food security or rice as distinct topics. I also made sure I had at least one document that covered food security and one that covered rice from both organizations. As I mentioned earlier, I chose only documents published by the organizations themselves rather than those they recommended that were published elsewhere. These two purposeful limitations were how I approached consistency in the data. However, because I did not analyze every document both organizations have published in the last year on food security, agriculture, and rice, I again was limited to looking for themes that occur across the reports I did choose. I found
the themes by pulling key ideas out of each document and cataloguing when those ideas appeared in more than one document. I then rhetorically analyzed the different ways each report discussed the themes. I found three major themes across all of the FAO and CGIAR documents: Economics and Farming, Sustainability and Farming, and Food Security and Farming. It was difficult to extrapolate themes from the documents I chose and apply them to the organizations in general. It was possible, though, because I was analyzing two distinct international organizations that are well known and well respected. What their documents share in terms of knowledges and literate practices are, I believe, good evidence that those are valuable knowledges and literate practices for people attempting to enter the discourse of rice farming or the larger conversation on food security. In Chapter Six, I revisit these limitations and that is also when I explain the contributions I believe this study makes to the field of environmental rhetoric.
Chapter 4

Analysis and Interpretation of Data: Farmer Interviews

Introduction

While, as I explain in Chapter Two, I am not doing an analysis of the discourse of rice farming using theories of public spheres or communications studies, I do draw from the public participation scholarship in environmental and risk communication studies. I begin this chapter recalling the public participation scholarship I present in Chapter Two because of how scholars Simmons, Grabill, and Cox frame the public and why they need to be more included in decisions that impact their environments. In Participation and Power, Simmons analysis how local governments and organizations assess risk and convey Environmental Impact Statements to publics directly impacted by the choices made based on those assessments. She notices that decisions are explained to publics rather than determined with them. Local knowledges are often not engaged and Simmons recommends looking at where power is not in the current system in order to figure out how to make room for more participation from publics. Similarly, Simmons and Grabill argue that the job of communications specialists is to look for where the balance of power is unequal and work to give those with less more input. Cox argues that the names given to ideas play a role in how the status quo is perpetuated or challenged based on who coins the names. This chapter includes my analysis of the interviews I held with six rice farmers in central Java. I have not labeled the farmers a public, but I take from this scholarship a way of considering their answers and how they intra-act with the other agents in the discourse. There are many instances in this chapter of farmers enacting power. One instance in particular shows Pak Mohamed enacting power through naming
when he changes the subject from food security to food authority/sovereignty. I explore this moment in detail later, but I highlight it now to show how the public participation scholarship has given me the tools to notice when farmers as agents impact the discourse.

The other way farmers often impact the discourse is through the literate practices they enact and describe while doing the work of farming. In *Rural Literacies* Donehower, Hogg, and Schell argue for the need to make rural contexts more visible to those in urban contexts. I discuss their definition of rural literacies, “[The] particular kinds of literate skills needed to achieve the goals of sustaining life in rural areas,” in detail in Chapter Two (4). At this point, I want to highlight how Donehower, Hogg, and Schell make an argument for the necessity of acknowledging rural literacies as important. They explain, “[Rural] experiences are erased, denied, or deemed unimportant, where those who are rural are seen as having less ‘experience, skill, or wits’ rather than those of a different kind” (14). The goal, as they present it, is to “work toward realities of rural literacies that are multiple and that encourage mutual identification among rural, urban, and suburban citizens” (193). These scholars have, in arguing that rural literacies are valuable and important, made them more visible without attempting to make them similar to urban or suburban literacies.

The phrase “mutual identification” is resonant of Burke’s definition of identification, but enriches it in important ways for this project. Burke explains that “The depicting of a thing’s end may be a dramatic way of identifying its essence” (*Rhetoric of Motives* 17, emphasis in original). Changing something is a statement of its nature because it must be acknowledged to be changed and is again acknowledged for what it has become. Donehower, Hogg, and Schell look to make rural experiences and literacies
more visible as different from rather than lesser than urban experiences and thus are attempting to change what “rural” is. A “mutual identification,” though, suggests that both rural and urban/suburban will be changed when rural literacies are acknowledged in more contextual ways.

Addressing the call to make context more visible, I have organized this chapter based on what I observed as the most common themes discussed by all six farmers. Within those themes I analyze the knowledges, literate practices, and goals the farmers described as they talked about doing their jobs. As I explain in Chapters One and Two my definition of literacies in this dissertation is that they are situated, socially constructed ways of knowing that lead to doing or making. I understand literacy to be active rather than a static thing to be achieved. I have defined it broadly on purpose because literacies are responsive to the contexts from which they evolve, and the literacies of the farmers in central Java are no exception. I derive my definition of literacy from the scholarship of Street, Brandt, Gee, and Goggin. Rural literacies, as defined by Donehower, Hogg, and Schell, help me to hone the broad definition to fit the contexts of central Java and, in Chapter Five, global and local NGOs. Because literacies are not static and because they are contextual, I distinguish rice farming literacies in central Java from other literacies. Donehower, Hogg, and Schell have provided a definition of rural literacies under which the rice farming literacies of these farmers falls because they are needed to sustain life in the rural area of central Java. The emphasis on rural experience and context makes rural literacies place-based. Farmers’ rice farming literacies develop from the work they do on actual farms in central Java and they are impacted by the physical places, the inanimates like rice and water, the nonhumans like pests, other farmers, local and national
governments, and local and global NGOs. They are rural, place-based literacies that are dynamic and impactful in and beyond their specific places. The literate practices of the farmers are the enactments of those acquired knowledges needed to do the work of rice farming in central Java.

I also explain in Chapter Two that the literate practices of the human agents in the discourse of rice farming are how human agents intra-act with the other agents in the discourse. Intra-actions in the discourse of rice farming are material, as I discuss in the next paragraph, and social. By social, I mean the intra-actions are the making and changing of the discourse. Latour, in his justification of Actor-Network Theory, argues that the social can be used to talk about things that have come together, but it cannot be used to explain “the nature of things” (1). The point of Actor-Network Theory is to consider the social to be unstable, studying the social means starting from what is not known. I have presented the discourse of rice farming as an entanglement of agents that are intra-acting in material and social ways. They are impacting how the discourse changes. Studying the literate practices is a way of studying the traces of these intra-actions. Latour explains that the traces left behind as actors (what I call agents) and elements create new associations reveal the “collective existence” as it has been made and changed by the actors and elements (12). Actor-Network Theory requires identifying assemblages and re-assemblages after they have been changed. By describing their situated knowledges and literate practices, the farmers have identified themselves in particular ways and I have attempted to make those descriptions more public in order to encourage mutual identification with the users of urban or suburban literacies.
My analysis and interpretation of the farmer interviews draws from new materialism and entanglement theory in addition to rural literacies, identification, and ANT. I employ my definition of materiality described in Chapters One and Two to utilize Barad’s theory of entanglement. Barad’s entanglement hinges on the assertion that there is “a causal explanation of how discursive practices are related to material phenomena” (44-45). Words are not representative of material phenomena; they are co-constructing discourse with material phenomena, or as Latour would explain, participating in the reassembling of a network. Distinguishing between representation and represented means agents without language still have impact and cannot be fully represented by language. Indeed, as Barad makes clear, “Images or representations are not snapshots or depictions of what awaits us but rather condensations or traces of multiple practices of engagement” (53, emphasis added). Physically material things (nonhumans such as pests, inanimates such as rice and water) have the agency to impact humans and words just as humans and words have the agency to impact nonhumans and inanimates. Representations are by their nature social, then, because they are part of the making and changing, but they are not stable. In examining the entanglement of representations (how farmers talk about their jobs) with actual entities being represented, I am examining the co-constructed traces. Everything matters to how a discourse entangles and how the agents identify themselves. I focus on the descriptions these central Javanese farmers give of their material intra-actions with other agents to more clearly understand the ways the farmers as agents in the discourse of rice farming are entangled with the other agents. Specifically, I examine their descriptions as representations (traces) of the literate practices they employ in the day-to-day work of rice farming to better determine how all agents involved in the intra-
actions entangle within the discourse. Ultimately, the analysis in this chapter reveals the specificity of place-based literacies and practices and how the context of each specific farmer determines how he engages the discourse of rice farming.

In this chapter I present the data I collected from the transcriptions of the interviews conducted in central Java in June 2014. The results of the interview transcriptions are organized based on what I observed to be the primary themes of my conversations with the farmers. The themes are titled:

- The Process of Farming
- Learning about Farming
- Organic Farming
- Government and Economic Influence on Farming
- Food Authority/Sovereignty in Farming

The knowledges, literate practices, and goals the farmers have for farming are described in different ways and for different reasons in each of these themes. Some themes arose from the questions I brought with me to Java. For example, The Process of Farming section includes answers to the question, “Can you describe the process of farming from planting to harvest,” which was created after my pilot study as a way of discovering what types of knowledges the farmers put into practice to do their jobs. Other themes arose from the specific context of the area around Salatiga, central Java where SPPQT has constant and substantial impact. For example, Organic Farming and Food Authority/Sovereignty in Farming are both sections that arose from my discovery that SPPQT teaches classes in Organic Farming and that they promote food sovereignty to the
farmers with whom they interact. Street suggests that interviews be conducted with a goal of letting the interviewee be the expert and guide the direction. By performing the interviews in that way, the conversations naturally gravitated towards the ways farmers most know their jobs. I have included in these sections the translated answers of the farmers as well as some answers in Indonesian that are important for emphasis of meaning. The bracketed ellipses […] represent missing words or phrases. The parenthetical ellipses (…) represent the translator relaying the answers to me and my requests to continue an explanation.

I read the discourse of rice farming as an entanglement. The aim is to avoid strict dichotomies of local farmers’ literate practices and global NGOs’ literate practice and instead to note intra-actions, similarities, and differences. Observing in this manner means that I analyze a farmer’s response to one of my questions as an individual agent’s response and then determine what that response reveals about the farmer’s intra-actions with other agents in the discourse. Reading the discourse of rice farming in this manner makes clear how their literate practices, informed by their rural, place-based literacies, intra-act with each other and with the physical places they farm. For example, in the section, The Process of Farming, the farmers’ descriptions highlight the intra-actions between their choices as farmers (as individuals) and the contexts in which they work (as part of the entanglement). If a farmer describes how long it takes to harvest a particular type of rice because of pests or a longer growing period and the negative impact on his economic situation, I interpret that information as the inanimates intra-acting with the farmers in ways that impact knowledge and literate practices. This was the case with Pak Ade, who spent some time detailing his decision to switch back to the same breeds of rice
as his neighbors because of the amount of rats who destroyed his crop the previous year. I analyze how farmers’ literate practices are similar to each other and how they are different to emphasize the role of specific place (individual small farms in central Java) in how farmers access the discourse of rice farming.

The way I have established what I present, analyze, and interpret from the interviews is what Barad refers to as my observational apparatus. In measurement, “apparatuses are boundary-making practices” so that the meaning I garner from this particular way of observing is impacted by the boundaries the method creates (148). By manipulating the responses of farmers into themes, and analyzing the farmers’ responses in each theme in terms of the situated knowledges, literate practices, and goals of each farmer, I have made a conscious decision to read the discourse of rice farming as an entanglement. I have removed them from the context of the moment within an interview and put them in new contexts of material intra-actions to discover what is shared and what is specific. I have identified myself and my object of measurement as impacting the observed entanglement.

A point of clarification is necessary before the data is presented. An interesting issue of language choice arose during my time in central Java. Because of the influence of the written texts from FAO and CGIAR, I arrived in Indonesia prepared to ask about food security, which I originally understood as indisputably tied to rice farming. However, SPPQT and many of the farmers spoke of food authority as their preferred approach because it emphasizes farmer autonomy over choices of what and when to farm. This discovery led to two changes in my project. First, when I heard the term for the first time, I thought that food authority, something I had never heard of before, was very
similar to food sovereignty, a concept gaining traction among food and farming-based NGOs and in FAO. I was excited to think the farmers had created their own term as if taking ownership of the language used to talk about what they do. However, the term farmers and SPPQT were translating into English as food authority was, when they spoke it in Indonesian, *kedaulatan pangan*, which directly translates to food sovereignty. The “correct” translation is indeed the term increasingly being used across the globe, but the translation spoken by the farmers and SPPQT was something different. This is why I have included both terms in the title for the section discussing them. I bracket the word [authority] to indicate when a farmer or translator spoke the term in English to me. I use food sovereignty when I have translated the words from Indonesian. Second, I realized that what I had believed to be inseparable, rice farming and food security, were not in fact inseparable. Farmers did not relate their jobs with food security. This discovery altered the project so that rather than understanding food security as a universal end goal of rice farming, it is now understood as one of many different enactments of literate practices in the discourse of rice farming.

On the following page, I have provided a table that summarizes the way each farmer talks about each theme. In the subsequent sections, they are analyzed in more detail.
### Table 1

**Summary of Farmers’ Main Ideas**

<table>
<thead>
<tr>
<th></th>
<th>The Process of Farming</th>
<th>Learning about Farming</th>
<th>Organic Farming</th>
<th>Government and Economic Influence on Farming</th>
<th>Food Authority/Sovereignty in Farming</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pak Mohamed</td>
<td>The act of farming organically will better the lives of all farmers.</td>
<td>Learning organic farming has enabled him to be a spokesperson for Javanese rice farmers.</td>
<td>Organic farming is a means of taking control over farmers’ choices from the government.</td>
<td>The government should support farmers to make their own choices.</td>
<td>Farmers should be the beginning of the decision-making process.</td>
</tr>
<tr>
<td>Pak Yudi</td>
<td>There are practical, time and place specific ways to make a living as a farmer.</td>
<td>The knowledge is passed down from his parents. It is tied to the place he farms.</td>
<td>Organic farming is not a viable option in his circumstance as a small, conventional farmer.</td>
<td>Farming is how he makes money. If the government wants to help, they can help him economically.</td>
<td>N/A</td>
</tr>
<tr>
<td>Pak Agus</td>
<td>The act of organic farming is his way of being a better farmer for his family.</td>
<td>Farming is something he does to be an integral part of his community.</td>
<td>Organic farming gives him a physical link through the land to the ways of his ancestors.</td>
<td>The government is external to what he will do to make a living. If they help, it should be supplemental.</td>
<td>N/A</td>
</tr>
<tr>
<td>Pak Ade</td>
<td>N/A</td>
<td>Farming is a part of his family’s tradition. They work together and pass it on to each other.</td>
<td>Choices about organic farming need to take context into consideration.</td>
<td>There are roles for each level of government, but local governments should do the most to help farming communities.</td>
<td>Food sovereignty is a local, community driven way to approach farming.</td>
</tr>
<tr>
<td>Pak Amadi</td>
<td>N/A</td>
<td>He continues to learn as he thinks about progress for himself and his community.</td>
<td>Organic farming enables a better future for his community when it is used to support fellow farmers.</td>
<td>The federal government should work toward economic stability so the farmers have protection.</td>
<td>Food sovereignty enables food security which is a basic reality that exists when people have enough food.</td>
</tr>
<tr>
<td>Pak Yusuf</td>
<td>N/A</td>
<td>N/A</td>
<td>It is best for the health of the land or the people.</td>
<td>The lack of support from the government should be criticized.</td>
<td>Farmers need to be the subject of the conversation about farming rather than an object.</td>
</tr>
<tr>
<td>Pak Budi</td>
<td>N/A</td>
<td>N/A</td>
<td>Organic farming is necessary, but is not possible in the current political climate.</td>
<td>The problem with the government is that it is economics-oriented rather than health-oriented.</td>
<td>N/A</td>
</tr>
<tr>
<td>Ibu Siti</td>
<td>N/A</td>
<td>Learning about farming is a part of being in her family.</td>
<td>Organic farming is what she needs to do to earn a living on Pak Mohamed’s farm.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
The Process of Farming

I argue that situated knowledges and the literate practices farmers enact are how the farmers in central Java intra-act with the other agents (human, nonhuman, and inanimate) in the discourse of rice farming. How the farmers perform their jobs as rice farmers and talk about what they do is therefore of critical importance to my dissertation. Their answers reveal significant intra-action between rice farmers in central Java with the inanimate agents like the actual farms, the rice, water, and the fertilizers and pesticides they use. Each farmer enacts certain literate practices during the process of farming that reveal knowledges of seed variety, fertilizer and pesticide options, organic farming methods, water management, and farming tools. The process of farming is heavily influenced by the places where each farmer works because the context of each farm and the agents within it impacts how the different farmers talk about rice farming. This is the reason I asked the farmers in their rice fields to explain the process of farming from planting to harvest. In Indonesian, dari tanam ke panen. What follows are the answers from three farmers as well as an image of each of their farms. I’ve included the farm images in this section because the locations of the farms are hugely influential to how they talk about the process of farming itself. The farmers whose answers are included in this section are Pak Mohamed, Pak Yudi, and Pak Agus. The other two farmers, Pak Ade and Pak Amadi, only explained how long it takes to complete one harvest from start to finish. Both farmers were interviewed and observed in their fields and both were in the middle of planting. I chose to allow the conversation to be dictated by the interviewee and did not push them for more detailed answers. Instead, I asked them follow up
questions to the answers that were more detailed. Those answers are recorded in later sections.

Bapak Mohamed

Fig. 1 Pak Mohamed's Farm during Planting Phase

Appendix A explains Pak Mohamed’s role as the leader of a large organic farming cooperative that includes the largest number of organic farm acres in the country. His field is the largest farmer owned field of everyone I interviewed.

To describe the process, Pak Mohamed explained:

Before planting, we do what’s called seeding. The seeds are later collected [and planted in the field] (…) After one month, we do the fertilization process (…) Organic compost (…) after two months we spray new liquid fertilizer (…) At three months, the fruit appears (…) Four months for a new crop (…) Irrigation from Mendhut [river] comes here (…) Specifically, for organic land the water goes through [plant] filters first.

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8 For the sake of this project, organic refers to farming without chemical pesticides or fertilizers and without using HYV or other seeds modified in laboratories. Many farmers I interviewed also include in their definition using traditional hand methods for the farming process (planting by hand, using hand tools for harvesting, etc). Pak Mohamed’s cooperative of organic farms has been verified by an independent organization from Thailand. Conventional farming is farming that uses methods introduced during the Green Revolution and include HYV or other modified seeds, chemical fertilizers and pesticides, and/or heavy machinery in the farming process. Farmers that call themselves semi-organic have not been verified by an organization for different reasons (often the water they have access to for farming), but who still farm using the guidelines I have described above.
Pak Mohamed starts with the seeding process and emphasizes the fact that his farm is fully organic. In the image, the covered area in the back right corner is where Pak Mohamed does the seeding process. The foreground shows the farm itself that is currently being planted with the seedlings from the seeding area.

Bapak Yudi

Fig.2 Pak Yudi's Farm before Harvest

Fig.3 Pak Yudi's Farm after Harvest
Pak Yudi is the 100% conventional farmer that I interviewed. He also contracts his farm which is located next to the headquarters of SPPQT. He describes the process slightly differently from Pak Mohamed:

The first step is to plow. The land is plowed (...) Then, I plant the rice seeds [somewhere else] (...) Then, I fertilize with urea and KCL (...) Urea and KCL during the first month (...) At one and a half months, I add Phoska (...) One month later the seeds are planted (...) 20-25 centimeters [tall] (...) After that, I clean the land. Weeding (...) Sometimes I clean on my own, sometimes I use pesticides (...) I plant on February 26. I will harvest after 100 days. Three months later. Approximately 100 days (...) I use a sickle.

Pak Yudi includes more specific details than Pak Mohamed including the date he plants each year and the names of the chemicals he uses for fertilizers. The length of time dari tanam ke panen is much shorter for Pak Yudi’s conventional rice and methods than Pak Mohamed’s organic. There are two images of Pak Yudi’s farm included here. His farm was ready to harvest while I was in central Java. The first figure is an image of the rice crop before Pak Yudi had harvested it. The second figure is from the day of our interview after he had begun the harvesting process. In the second image, the harvested rice (gabah) can be seen on a tarp in the foreground and the bottoms of the rice stalks left over after harvest are visible in the background.
Pak Agus is a self-identified organic farmer who, unlike Pak Mohamed, is surrounded by conventional farmers which means he cannot label his rice truly organic because of the terraced rice system that relies on water feeding each terrace as it moves from the top of a hill to the bottom. Pak Mohamed has plants that filter water from a river at the top of the hill so that the water can be classified as organic. Pak Agus, because he is surrounded by fields that use chemical pesticides and fertilizers and he does not have plants that filter the water, has a field that is termed semi-organic. He describes the process as follows:

The first thing I do is hoe the land. I hoe the seed place first so the new field is ready. Then I disperse the seeds (…) Direct land management. The story in a nutshell. The land is dug up, especially in the dyke area so that the water can get into the fields (…) The process goes, you know (…) plant the seeds in a special area for about 20 days. The new land is ready for the seedlings after 20 days (…) The field is planted (…) The seeds are about 20 centimeters tall (…) Then I add the fertilizer. I love the new fertilizer. The cow fertilizer is not the same as the usual one. The fertilizer is soft. It is dry. So I spread the fertilizer [by hand] (…) It’s soft and sandy. It’s the consistency of fine powder (…) While I plant the fields, they are dry. While I spread the fertilizer, they are also dry. Just one week later, I give them water (…) Then I rest. I rest first and then I return to
work. Maybe at another field (...) In one month, I am already weeding. The age of the rice is one month and I pull out the weeds (...) Manually (...) Then I wait until harvest (...) By hand (...) Four and a half months [to harvest with the mentik rice variety] (...) I usually plant rice. I also plant peppers and other vegetables, but at another field. At another farmer’s field.

Pak Agus emphasizes the labor intensiveness of farming with his references to doing everything by hand. He also emphasizes how much he prefers the new, organic cow fertilizer he uses. His answers make reference to farming at other farms in addition to his own twice which emphasizes the importance of community in his village. The length of time to grow his chosen white rice variety is more in line with Pak Mohamed’s process which suggests that organic farming takes longer than conventional farming though all of the farmers do much of the work by hand. Figure four shows the water irrigating the field on the left hand side. It also shows rice that has only just begun to flower in some places, so there are still a few weeks left before harvest. In the very bottom left corner, the dyke surrounding Pak Agus’s field is visible. This dyke is opened during the initial planting and irrigation phase to allow water to come in and then closed again to keep the water in his field.

In each theme of this chapter I distinguish distinct and context-specific knowledges and literate practices of the different central Javanese farmers. I have traced how three farmers describe the process of farming and their literate practices enacted while doing that work. The actual process of farming is an important way that these three farmers put their rural, place-based literacies into action and an important way their literacies continue to change. That is, their jobs are understood in large part by how they are actually performed. Each of the three farmers describes the process of farming in terms of the physical work done to achieve a harvest. Their literate practices are
significantly impacted by the physically material contexts of their individual farms in central Java. Pak Mohamed, who has a large field surrounded by other fields in his cooperative that are all officially verified as organic, enacts literate practices that reflect the impact of the label “organic” and what it means to be an organic farmer. The act of farming in the way Pak Mohamed knows it is performed in order to better the livelihoods of farmers. Pak Mohamed emphasizes how he treats the water. He takes the time to explain that the fertilizer is not made from chemicals. The inanimate agents, the water-filtering plants and the organic fertilizer, impact not only the work that Pak Mohamed does, but how he describes that work and what is emphasized as important.

Pak Yudi’s description of his literate practices reflects different material realities. He emphasizes specific names of chemical fertilizers and when different fertilizers are applied. He is much more specific about time periods and stages than Pak Mohamed. His is a practice impacted by time constraints of a contract farmer and specific inanimates that he knows to produce the best results for harvest. There is a sense of practicality that impacts how he does his job and how he talks about his job. Pak Agus, finally, describes his process of farming in a way that shares common traits with both Pak Mohamed and Pak Yudi. He does take the time to emphasize the organic elements he uses, but he is also very specific about time periods and plant sizes. The organic elements of his process are practical in the same way the chemical fertilizers are practical for Pak Yudi, but the value of organic methods is imparted in how he talks about his process in reverential ways – he loves the softness of the fertilizer. How he farms is indicative of him actively trying to be a better farmer.
This section points to difference in place and context as “what matters” to each farmers’ literate practices because “the world articulates itself differently” depending on how, when, where, and why it assembles and re-assembles (Barad 136, 149). The literate practices each farmer describes for his process of farming do have similarities that are visible. They each talk about seeding, planting, weeding, and harvesting. But how they do those things is impacted by where they do them. Their situated ways of knowing (their literacies) inform their literate practices (the enactment of those ways of knowing). In this section I identify literate practices that are primarily material as intra-actions. The next section reveals ways in which social and cultural intra-actions play a role as well.

*Learning about Farming*

One of the first questions I asked each of the farmers was how and where they learned about farming. The purpose of the question was to determine where the farmers learned their literate practices needed to farm. Each farmer learned how to farm from their parents in central Java by going out into the fields. The farmers who took SPPQT’s course on organic farming methods also learned how to farm in a school setting with teachers, written texts, and practice in the fields. One farmer, Pak Amadi, also continues to learn how to farm from watching the news on television where he learns about the state of rice farming in Indonesia and that impacts how he does his job. All of these farmers gained different literacies depending on where they learned, when they learned, and who taught them. Those literacies could be the ways farmers know how to learn on the job, how to learn in a classroom, how to read texts about rice farming and organic farming methods, or how to learn about the future of rice farming by watching the news. When they farm, they enact those literacies and thus employ their specific literate practices. The
cultural and social intra-actions that taught them how to farm impact how the farmers
describe gaining those literacies and enacting them in their work. Each farmer except Pak
Yudi had learned how to farm twice: once at the beginning of their careers and once to learn about organic farming. The answers in this section come from each farmer and Pak Mohamed’s hired laborer, Ibu Siti. They vary in length and detail. A general trend is the importance of family tradition in learning about farming. None of the farmers first learned about their jobs as adults by going to school or SPPQT. They did all learn about organic farming from SPPQT with the exception of Bu Siti who learned about it from Pak Mohamed. Overall, the literate practices they describe are driven by social and cultural intra-actions, but there is still an element of intra-acting with the physical farms. Most important is that learning about farming ties family and community to rice farming in integral ways. Also included in this section are images from Pak Ade’s and Pak Amade’s farms so that the context for their answers can be added to the photographic context of the other farmers provided in the last section.

Bapak Mohamed

Pak Mohamed did not describe how he learned about farming very fully in his interview responses, but his description of the relationship he has with SPPQT and his farmer cooperative reveal the places where he enacts literate practices that utilize the situated knowledges he gained from learning about farming. He did not explain where he originally learned about farming. The transcripts reveal that the translator asked where he learned about organic farming rather than farming in general, so that may be the reason his answers are not as full as the other farmers. Pak Mohamed did emphasize something important in his response, however. He explained that he learned about organic farming
from SPPQT in 1990, “the first year of the program.” The emphasis on being part of the first year of the program shows a particular pride in being an organic farmer that appears again and again in Pak Mohamed’s answers. His answers often come from a position of being the first and the biggest which is influenced by the context of his learning about organic farming. He sees his early decision to learn about organic farming as something that has improved his livelihood and has boosted his ability to speak for the rights of Javanese farmers. His creation of the farmer cooperative is an example of enacting a literate practice that puts into action what he learned about organic farming. He enacts the literacies he gained in the SPPQT training (how to read and write texts about organic rice farming, how to learn and teach in classroom and practical settings) to intra-act with other farmers and the government as an expert.

Ibu Siti

Pak Mohamed’s field hand was very busy the day I visited the farm. She and a group of three other farmers were busy planting seedlings for a new crop of rice. However, she took a few minutes to answer some hurried questions for me. I did not ask her the entire list of questions because the interview was not scheduled and I did not want to interfere with her ability to earn wages. I did ask about where she learned about farming and her response was, “My family is all farmers.” She also explained that she has “worked for Pak [Mohamed] for about ten years” so she learned organic farming from him. Bu Siti’s responses reflect the fact that she does not own or contract her own farm; she works for someone else to earn wages. Still, she comes from a family of farmers (her

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9 Ibu Siti was the only woman I interviewed while in central Java. This was not a purposeful choice. I did not arrive in Indonesia with a plan to interview only men. I left the decision of who I should speak with to the translators of SPPQT who arranged my interviews.
mother was also one of the field hands). Her answer is not even in terms of learning. It is a given. Her family is farmers. Learning about organic farming is also implied rather than explicitly described. Pak Mohamed has been farming organically since 1990 and she has been working for him for ten years. Her literate practices are entirely tied to Pak Mohamed’s physical farm. She enacts literacies such as how to learn on the job while she is on the job. Her literate practices are also impacted by her intra-actions with Pak Mohamed as someone whose literate practices are impacted by situated knowledges of policy, politics, and economics. He decided to learn new farming methods and how she does her job changed. Ibu Siti’s enactment of what she has learned about organic farming is not described explicitly, but is part of the act of doing farm work and a part of how she intra-acts with her family. It is integrated into the reality of being in her situation.

Bapak Yudi

As a farmer using conventional methods, Pak Yudi did not have a second place or time period that he learned about organic farming. His literate practices come from his early experiences learning about farming. He explained: “I joined my parents. I didn’t learn it from school (…) I’ve been a farmer [here] since 1984 (…) [Before that] I worked on the land over there.” Pak Yudi’s response focuses almost exclusively on place. He explains that he learned from his parents, but of more importance is where he farms rather than where or when he learned to farm. His relationship to the land and his farms is particularly interesting given the fact that he contracts his land. While he may have learned farming from his parents, they did not pass down a plot of land to him like many of the other farmers I interviewed, but he has been in roughly the same place since he first learned how to farm. For Pak Yudi, learning about farming comes from what his
parents passed down and from his intra-actions with that land itself. He describes enacting the literacies he gained about from learning rice farming in a way that suggests it is a means to an end. These literate practices serve the purpose of helping him continue to earn a living.

Bapak Agus

Pak Agus emphasizes the role of family in how he learned to farm. He said: “I’ve been farming since I was little. I didn’t even study farming. I just learned about organic farming recently (…) from SPPQT with other groups of farmers.” Just as Pak Mohamed’s answer to this question set the tone for his subsequent answers, Pak Agus reveals something in this answer that appears often in the rest of the interview. Community, for Pak Agus, is of clear importance. He has been farming since he was little. It was not something he studied. It was something he did, specifically something he did with his father as he explains in future answers. Even his explanation of studying organic farming with SPPQT reflects the idea of community. He learned about it with “other groups of farmers.” While Pak Mohamed takes pride in being the first and the best in terms of organic farming and he shows his large rice fields off in those terms, and Pak Yudi connects his job as a farmer so completely to the land that he farms, Pak Agus takes pride in the community of farmers. He describes literate practices that reveal his intra-actions with family and community in addition to intra-actions with his farm. Learning about farming in this way impacted the way Pak Agus describes his job so that it is not about physical labor as much as it is about being part of a community. His literate practices are impacted by a pride in the people who make up a place rather than the physical place. He learned about farming in the same ways that Pak Mohamed and Pak
Yudi did, but what he describes as important is distinct for its focus on local community. Learning to farm is therefore a necessary part of being a participant in something integral to his community.

Bapak Ade

Fig. 5 Pak Ade's Father Farming Their Field during the Interview

Pak Ade has a similar explanation as to where he learned about farming. He learned about how to learn by doing, how to intra-act with his father, and how to learn in a classroom. He goes into a little more detail about the connection to community than Pak Agus, and emphasizes the intra-actions with his father in particular. The fact that his father was busy plowing their field behind him as I interviewed him emphasizes how much importance Pak Ade places on family and tradition. The relationship between land, tradition, and family as part of the literate practices he enacts was distinct with this farmer and this interview because it was very visible. Pak Ade explained, “My father learned from my grandfather. I learned from my father. We also learned from the community because I was born in the farmer environment (…) I don’t know [how long my family has farmed]. Maybe since the days of our ancestors. We’ve farmed for a very
long time (…) I learned about organic farming from SPPQT.” Their farm has been passed down with their tradition. It is a part of the story as a constant. By farming, he is enacting an ancestral history. Pak Ade refers to the land being owned by him and his father, but more important in how he talks about farming is the “farmer environment.” The way he switches between “we” and “I” is also reflective of his positioning as part of a long line of farmers. In the section on organic farming I go into more detail about his experiences with SPPQT, but this answer sets the tone for how he relates even to learning about organic farming. It always goes back to his father.

Bapak Amadi

Fig.6 Pak Amadi’s Farm on the Day of the Interview with Three members of SPPQT

The last farmer I interviewed, Pak Amadi, has the most varied literacies gained from different ways he has learned about farming. He does speak of the role his parents played in how he originally learned, but it is conflated with other ways of learning. He explained:

We learned from our parents for generations. In addition, we also learn from the NGO, SPPQT, and the media (…) Yeah, we can learn from television (…) We learn from monitoring television and the media (…)
I’ve been farming since I was a little kid. When I was small, I followed my parents. After I grew up, I felt comfortable as a farmer. […] I have also worked in industry, but it turns out my heart said I would rather be a farmer. So I became a farmer.”

Pak Amadi is one of the organizers of a newly created farming cooperative that together contracts as much land as Pak Mohamed owns. His use of “we” in the beginning of the answer is most likely referencing himself along with his partners. His reference to the media and television as a source for knowledge about farming is also in reference to the new cooperative. The media has news about government policy, something Pak Amadi goes into more detail about in later answers, and so he and his partners learn about farming not just from his parents or SPPQT, but also by doing secondary research. When he begins to speak of his first experiences learning about farming, the language shifts from forward-thinking and practical to idyllic. He followed his parents. He became comfortable. He learned to be comfortable with his job as a farmer to the point where he explains it much like the story of the prodigal son. He left, but felt the pull to return. He describes literate practices that are not enacting a past-tense literacy, but many literacies that are always being added to and adjusted. The work Pak Amadi does with his cooperative, the description of his plans for a fully organic farm, and the way he describes the role of rice farmers in Indonesia are all literate practices enacting what he has learned and continues to learn about rice farming.

Chapter Two details my definition of literacy as a situated way of knowing that leads to making or doing. Literate practices are the enactments, either doing or describing, of knowledges needed to do the work of rice farming. Earlier in this chapter, I explain how Donehower, Hogg, and Schell define rural literacies as particular ways of knowing needed to sustain rural life. The rural literacies the farmers I interviewed have
acquired are derived from shared experiences as farmers and distinct experiences in their particular places. As situated way of knowing, the literacies these farmers gain in learning about farming are often how to learn in different situations. These are literate practices that change depending on the specific contexts of the farmer, so the observation of how they each describe them reveals something about the values they place on what, where, and how they have learned about rice farming. For each farmer, the enactments of their literacies are impacted by intra-actions with cultural, social, and physical agents.

For example, Pak Mohamed’s proud assertion that he was one of the first to learn about organic farming from SPPQT is a trace of how the things he learned in that training have changed the way he farms and the way he talks about farming. Reading Bu Siti’s responses through Pak Mohamed’s reveal how context changes literate practice. Having learned about organic farming from Pak Mohamed is not a point of pride that explicitly impacts the way she talks about rice farming. It was a necessary activity in order to continue to do her work. Her enactment of what she learned is implicit and practical— it is functional. Despite the differences in how they employ their literate practices, they share the fact that they both learned about organic farming and they use that knowledge to perform their jobs. Their practices are entangled, both distinct and the same and impacting each other. Pak Yudi’s literate practices are impacted more by experiences with his physical farms. The importance he puts on his physical place is revealed in how he explains his experiences (I learned by doing and I learned it here) and in how that impacts the discourse of rice farming (his description reflects intra-actions with inanimate agents like the rice and farm). Pak Agus’ and Pak Ade’s responses reveal how much their literate practices are impacted by cultural and social relationships. How they learned
about farming was cultural more than it was physical and that determines what they emphasize when they talk about rice farming. Finally, Pak Amadi, who left and returned to farming, speaks about rice farming in such a way that reveals learning is ongoing and literate practices change as he learns. He shares parts of his experience with the other farmers who explain that they learned from their families, but he also emphasizes his own desire to keep learning. Rice farming for Pak Amadi is not something static and his particular way of knowing impacts what he describes as the future of rice farming.

*Organic Farming*

At this point, I want to reiterate my definition of a literate practice as an enactment of a situated way of knowing (a literacy) either through doing or describing. Literate practices are difficult to analyze because describing how a farmer describes enacting a literacy involves complex thought processes. In this section I detail how the farmers talk about the ways they enact the literacies have about organic farming. Through describing the work of organic farming, they are sharing their literate practices and enacting one in the act of describing it. For example, Pak Ade describes learning about the existence of organic farming from his community during a visit to another farmer’s home and learning about how to do organic farming from SPPQT. He describes the literate practices of communicating with fellow farmers, learning in a classroom, and later he describes a situation when he farmed organically and needed to respond to the ecological changes on his farm. He described changing seeds, intra-acting with pests, and dealing with water shortages. All of these practices are literate practices because he can enact them due to his situated knowledges about organic farming.
There are legal definitions of what counts as organic in Indonesia just as there are in the United States, and those legal definitions impact economic choices. Organic farming and traditional seeds (seeds native to the area that have not been altered in a laboratory) are a big component of SPPQT’s outreach to farmers. Once I learned about SPPQT’s mission to help farmers return to using traditional seeds and organic methods, I decided to ask the farmers about organic farming specifically. These literate practices are most obvious in their explanations about why they chose to switch. There is an additional farmer, Pak Yusuf, in this section who was present during my interview with Pak Mohamed, but whose farm I did not visit. His answers are included with Pak Mohamed’s. Also included in this section are some answers from Pak Mohamed’s brother, Pak Budi, who was also present during the interview. Pak Budi is not a farmer. He is a high school teacher and was introduced to me as someone who knew a lot about Indonesian farming policy. My interview with him was conducted in English and did not require a translator. Most of the farmers had a lot to say about why they chose to switch, so my initial broad question of \textit{how} they learned about organic farming was often followed up with a lively conversation about the benefits and concerns as well as successes and failures that have arisen. This was an area of interest for all of the farmers I interviewed, so the literate practices they reveal are multiple and varied. How those practices intra-act with each farmer’s specific place and how they impact the discourse is very clear. The farmers’ answers reveal complicated knowledges that must be called upon when a small farmer in central Java makes the change from conventional to organic farming.
As discussed in the previous section, Pak Mohamed did not really delve into where he learned about farming initially, but answered directly about his experience learning about organic farming from SPPQT in 1990. His follow up answers as to why he wanted to convert to organic farming suggest a man who has motivations much bigger than the well-being of his farm or family. He explained that he wants to be an advocate for organic farming which, in his view, is linked directly to food [authority]. Pak Yusuf echoed this sentiment and explained that it is important to have farmer advocates because it is important to tell farmers about organic farming for “health and ecology.” Pak Mohamed also made a point to explain that there are “378 members of the cooperative (...) [and] twenty-seven certified organic farms” in his cooperative. For him, organic farming is important because it gives farmers control from the government. He said, “Now, organic farmers have a positive result and are more accepted by the government” than they were during the GR. Part of that involves having the freedom to choose which

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10 The use of [authority] in brackets indicates when the farmer used the word in English in a response.
seeds to plant. Pak Mohamed, because his cooperative is so big, emphasized the diversity of seed choices and explained that his farm rotates between black, red, and white rice. White rice alone has twenty-two varieties available. He showed me the area of his house where they process and bag the organic rice from their fields. They have a display case with awards the cooperative has won as well as bags of beras (processed, uncooked rice) for sale. The trophies and beras for sale can be seen in Figure 7. Pak Mohamed describes several literate practices in this part of the interview. He describes enacting the literacies gained from learning how to do organic farming at SPPQT, knowing about business practices, engaging in land management, and processing and marketing rice. Organic farming has given him the language to express his belief that having access to this way of knowing will result in a better situation for farmers.

Pak Budi is a secondary school teacher in a village near his brother Pak Mohamed’s farm. He was proficient in English and our interview was conducted without the help of a translator. Like Pak Mohamed, his answers and concern were bigger picture than many of the farmers I interviewed. For example, he said the most important thing was “How to make people realize that […] organic is good because the result is not as good as the nonorganic rice.” “Result,” in this case, means harvest yield. Pak Budi saw an immediate problem that in his mind reflected the problem of the state of farming in Indonesia as a whole. He explained, “It’s a funny thing because [farmers] plant organic rice, but they don’t eat organic rice. Because of the price. The price is better than the non-organic. So they sell the organic and buy the non because it is a better value.” He identifies this kind of farming as a means of improving the lives of farmers, he is reflective about the realities of most farmers in Java that do not allow for widespread
adoption of organic farming any time soon. His description of how farmers cannot afford the organic rice they grow is a literate practice because he is enacting his situated knowledge of the economic realities of Indonesia and applying them to what he has observed in the farmers.

The answers of all three men in this interview indicate a forward and outward looking position. Advocacy of fellow farmers was a constant point of Pak Mohamed’s. Pak Yusuf’s comment that it is important to advocate for “health and ecology” reveals an interest in the future of farming in Indonesia that has farmers at the helm of decision making. Food sovereignty or *kedaulatan pangan*, what the farmers call “food authority” when they say it in English, is a movement aimed at giving farmers back the ability to make choices about what, how, and when they farm. For Pak Mohamed, choosing organic farming is directly linked to *kedaulatan pangan* because it is a first step in making a choice that is distinctly different from what the government promotes. He enacts his knowledge of food sovereignty in how he farms, manages his cooperative, and talks about rice farming. His emphasis on how big his cooperative is and on the positive impact organic farmers are having on farming in Indonesia show that he positions himself as a change-maker. His brother’s comment about how the price differences between organic and non-organic rice actually makes it difficult for farmers to afford the organic rice they grow supports that advocacy ethos.

Bapak Yudi

Because Pak Yudi is the only conventional farmer I interviewed, instead of asking him how he learned about organic farming, I asked him why he had not chosen to convert. He answered, “Organic farming is difficult and the results are not as large as
normal farming.” It was a simple answer on its surface, but the context of Pak Yudi’s farm and farming situation complicates it. Because he rents his farm, he pays not only for the seeds and inputs needed to grow rice, he pays for the sawah itself (rice field). His farm is small enough that he cannot afford a bad harvest. The motivation to go through the process of converting is not strong enough. He has learned something about organic farming, so is literate, but he enacts that literacy by choosing not to switch to organic methods. As explained in the Process of Farming section, organic farming and traditional seeds take longer to harvest than conventional. Pak Yudi has the shortest period from planting to harvest. His rice, because it is a government-sponsored HYV, yields more grains than traditional rice. His situation dictates his choices in such a way that organic farming makes no sense. Pak Yudi’s description of this literate practice (not doing organic farming) emphasizes his particular positionality and it strengthens his resolve that he is doing what he needs to do to be successful. His literacy is not as robust as Pak Mohamed’s in one way because he does not actually know how to farm using organic methods. However, his answer allows him to set up contrasts and truths as he understands them and therefore allows him to clarify his own position.

Bapak Agus

In the previous section, I explained Pak Agus’s emphasis on community in his responses including his answer to the question of where he learned about farming. So far, his literate practices have all been impacted by his social context. For example, he said that he learned about organic farming from SPPQT with “other groups.” Organic farming gives him a unique way of complicating the discourse of rice farming. He explained, “I learned organic farming because of the situation, actually. Our forefathers, they didn’t
have chemicals. The land was loose (fertile). Hoeing the land was easier. I already know this is true. When I use chemical fertilizer on the land it is not loose. The land is hard.”

Pak Agus’s perception of farming links community to ecology (loose or hard soil). Organic farming is a physically material link to his forefathers. He explained that he wanted to return to the old ways because his land was not healthy anymore from the chemicals. His choice was not outward looking as Pak Mohamed’s was, but practical in much the same way as Pak Yudi. His situation dictated his choice and his knowledge of organic farming increases what is visible in the discourse of rice farming because it localizes ecological considerations in a way that Pak Mohamed does not. The localizing of a global issue like ecological health makes Pak Agus’s description of how he does the work of organic farming show him to be active in improving the community. He also feels it to be necessary in order to continue farming his land. His answers reveal that when Pak Agus does organic farming, he enacts knowledge of soil health, knowledge of why soil health is important, and knowledge of the history of his family and how he is constituted in that history.

Bapak Ade

After confirming that he learned about organic farming from SPPQT in 2004, Pak Ade explained why he wanted to go to SPPQT to learn by saying, “Because I went several times to meetings at SPPQT about environmental issues. In my opinion, the meetings made sense (…) I went to Pak Yuni’s (another farmer) farm in Ketapang (a village) to discuss it (…) I have family there. There I invited a discussion about organic farming and SPPQT.” He went to visit a village where he has family and met an organic farmer (Pak Yuni) who told him about SPPQT. Then, he went to some meetings at
SPPQT and they “made sense.” This is one of the more clear examples of the role of the farming community as a whole in influencing what happens on individual farms. His literate practices of organic farming are impacted by external values rather than internal and it is not necessarily about ecological health, but about what is best for the community.

Pak Ade went on to explain the difficulties in being an organic farmer surrounded by conventional farmers. He explained their first attempt at an organic, traditional seed and subsequent decision-making process:

The land was planted with red rice (…) We never had crop failures from pests before. All of our farm was attacked by rats. The red rice takes longer to grow. So, my father was afraid to plant different seeds than the other farms around. He was worried our farmland would be attacked by rats again. So he stopped planting the red rice and we planted white rice like the other farmers (…) Currently we use a local seed type called Pandan. Pandan seeds absorb less chemical fertilizers than hybrid seeds (…) We [also] chose Umbul because the dry season is about to come. Umbul is a faster harvest than the Mentik Susu (a very common white rice variety) or red rice. There won’t be enough water because of the drought.

In addition to this being an example of enactments of very specialized knowledges (pests, seed type, intra-actions between farms, harvest times, water schedules), this description is particularly valuable because it shows an interaction between what he learned about farming at SPPQT, from his father, and in the fields after going to SPPQT. He explicitly emphasizes the impact of place on the results of farming. Not planting what the other farmers were planting meant their farm was the one attacked by pests. The place itself impacted what the farmers did in a way that even the “sense” made by the community of farmers Pak Ade talked about could not alter. Pak Ade, similar to Pak Yudi in some respects, highlights difficulties and how much context plays a role in decision making.
And the literate practices continue to evolve. He uses what he learned from that bad experience to make decisions about what to do in the future.

Bapak Amadi

This last response to the question of how a farmer learns about organic farming clarifies the definition of semi-organic as well as supports Pak Yusuf’s comment about “health and ecology.” Pak Amadi is a contract farmer like Pak Yudi, but has created a cooperative like Pak Mohamed that manages and farms a large area of land. His situation is itself a hybrid in that Pak Amadi has a certain amount of money he must earn each season to pay for the field, but he also wants to be considerate of the future of farming and has made steps to do so by creating the cooperative. His particular situation points to the possible future of what it means to be a rice farmer in Indonesia. Chapter Five explains this in more detail, but both FAO and CGIAR describe contract farming as a sustainable option for the future of farmer livelihoods, so Pak Amadi is in a position promoted by the global agents. His description of his enactment of organic farming knowledge echoes Pak Mohamed’s in many ways. He stated, “We are developing organic although it is not 100% yet (…) Pesticides are organic (…) The water we use is not yet organic and the farmers around us to the left and right are not yet organic. So that means my farmland is not yet organic.” Much like the other farmers who cannot totally label their harvests organic (Pak Mohamed is the only farmer who can), it is the surrounding farms and context that impacts Pak Amadi the most significantly. He reveals literate practices that are responsive to context by being forward-thinking. He describes enacting organic farming methods and knowing how to do that (organic pesticides) and making plans for the future based on the components of organic farming he cannot control
(water). His decision to create a cooperative seems to be a direct response to not having control over what other farmers do. If they create a place where farmers can sell their harvests and buy their seeds, enacting a different set of literate practices like business ownership and economics, they have more impact on what gets grown in the area and they can perhaps get to a stage where their rice can be officially labeled organic. Pak Amadi suggests doing organic farming is, like Pak Mohamed’s use, the solution for farmers rather than a step toward a solution like Pak Ade describes or a cultural artifact like Pak Agus believes.

Pak Amadi also described the reason he chose to grow organic black rice on his fields instead of the more common white rice varieties. He said, “I plant black rice because people say it’s good for health and it’s also easy. It is also a pretty good result” (result in this instance is referencing the yield). The amount of answers to the questions of how and why to choose organic farming that were related to health were not nearly as many as expected when organic farming is so often touted as a healthier alternative to the chemicals of conventional farming. But most of the farmers were more interested in the ecological or economic benefits. That is, they were more interested in the health of the land, like Pak Agus, the potential for increases in income like Pak Mohamed, or the economic uncertainty of switching to organic methods like Pak Yudi.

Pak Amadi’s response supports Pak Yusuf’s contribution to the interview with Pak Mohamed. However, it is one of several reasons for his choice of variety that also takes into account the yield and the ease with which it can be farmed which are much more in line with the answers from the rest of the farmers that were interviewed. Pak Amadi’s reasoning sums up the argument that context is crucial to farming. For Pak
Yudi, who has one major contextual consideration of economics, the realities of converting outweigh any perceived benefit of health or ecology or the future of farming. For Pak Mohamed, who owns his own farm and is in charge of a very large cooperative, what he sees as the positioning of the farmer within the hierarchy of the country drives his responses. Pak Amadi, who inhabits both contexts, has a more complex decision-making process. It is all important to him as the way to improve the lives of farmers and he is enacting all of his knowledges to achieve those goals.

**Government and Economic Influence on Farming**

After considering organic farming and the farmer’s role in society, I had a conversation with all of the farmers (and Pak Budi) about the government’s role in farming which often led to discussions about economics. It is directly related to how the farmers see their own positioning and related to their responses to questions about food security and food sovereignty (authority). It also intra-acts with how the NGOs in Chapter Five see the role of government and economics.

The ways central Javanese rice farmers know the Indonesian government and the economics involved in rice farming are impacted by how they do their jobs and in return impact how they do their jobs and talk about their jobs. This section includes descriptions of literate practices like buying and selling rice, understanding the fluxuations in rice prices and trying to stabilize them, buying tools and chemicals to farm, and convincing the Indonesian government to financially support converting to organic farming. The farmers’ particular situations in their local farms impact how they understand the government and the economics of rice farming. The descriptions of these literate practices that I analyze in this section are examples of them intra-acting with their farms
and outside influences to make assertions about the future. This section is also where the role and influence of organizations like FAO and CGIAR becomes most apparent. If the context of physical place has so much impact on day to day choices of the farmers, the context of societal place has an equally sized impact on what farmers think their institutionalized leadership should do. Tied in with that are the overarching economically influenced literate practices that are always happening because, at the end of the day, these farmers make their living from farming.

**Bapak Mohamed, Bapak Yusuf, and Bapak Budi**

When asked how he chooses which seeds to buy, Pak Mohamed explained that selling price is the main factor in which seeds he plants. He explained that he sells his organic rice (verified by an independent organization from Thailand) to small companies in Jakarta and Bogor (a mid-size city near Jakarta). He also made sure to tell me that his rice is “more expensive than regular rice” so that his market really is made up of smaller companies that specialize in organic products. His self-positioning as a farmer advocate is very clear in his explanation of the role of organic farming in the country: “It’s good to have communication. With food [authority] the farmer is the subject. With food security the farmer is the object (…) The government is revising its organic policy here (…) But they have not fully liberated the farmers. Its support is not yet full.” Pak Mohamed’s answers suggest practices that are influenced by a deep knowledge of the history and current state of Indonesia’s impact on rice farming. His knowledge of the government, like his knowledge of organic farming, enables him to talk about rice farming as a farmer justice issue. He thinks the role of the government is to get out of the way, but understand better the benefits of organic farming and farmer control. He is sincere in believing that it
is for the benefit of the country. His descriptions show a reflection on not only what he can do for the future of farming, but what his institutional support should be. Pak Yusuf added to this answer that the “government still promotes chemicals. The government has a policy about organic farming, but they can’t do anything about it.” He complicates the sometimes idyllic picture painted by Pak Mohamed by pointing out that the government is not as functional as it could be. They have a policy, but still change is slow. While the tenor of his answer is different, Pak Yusuf’s knowledge of the Indonesian government causes caution in how he describes the future of rice farming. It has an element of reflective criticism.

Pak Budi echoed Pak Yusuf’s commentary in his conversation about the current situation in the country and the government’s role in its future. His first comment was that farmers needed to learn about technology because they still do everything by hand. He said, “This is the first, the main weakness. They don’t know anything about technology.” Pak Budi spoke often about the “main” or “big” problem in his country. On different occasions, he explained this his government developed “pesticides to protect the rice field from mice, but it doesn’t work well. I think this is the main problem,” and that “the problem is how to make our people realize that organic is good.” He also had some ideas as to why these problems might exist. After describing the way farmers sell organic rice and buy nonorganic rice, Pak Budi said, “So health is the second factor. Not the first.” And he believes the same of the government: “Formally, our government does not use the organic rice. But they are beginning to agree. Little by little (…) Ah maybe they are still economic oriented and not health oriented (…) So [the cooperative] does everything by itself. Because there is no support by the government.”
I followed up on this line of thinking because Pak Budi, as someone who is not a farmer, was considering the problems of his country from a different perspective than the other people interviewed. The way he knows the government impacts the way he talks about rice farming so that his answers are observational rather than experiential and reveal he is looking for truth and improvement from outside rather than from inside. The people of SPPQT told me before my interviews about a new program the federal government promised to implement in which they would give each village in the country a large sum of money to do with what they felt was needed. After Pak Budi said there was no government support, I asked him about this program. He responded, “I think there is a little difference between the American government and Indonesian government. In America there are solid programs. Schedules. But Indonesia […] just promises.” This response indicates a lack of trust stemming from his knowledge of the Indonesian government. He does not think they will follow through on big changes and that impacts how he describes how the future will play out. While SPPQT seemed hopeful for this money and excited to help local villages decide how to spend it, Pak Budi was not sure it would really ever happen. My follow up question asked what kinds of support the farmers need given the major problems and uncertainty in the government. He answered, “The first, technology. The second, of course, after planting the rice … is how to sell the rice (...) Because our farmers are traditional farmers. According to me, they need to study how to manage. Management is important for business. Without management it’s nothing.” Pak Budi’s response to my question uses his knowledges of government and rice farming economics as an outsider economic literacies to suggest new literate practices for the farmers in the form of business management. He emphasized several
times the need for more technologically-driven farming methods and saw farming as a business. In these ways, he echoes much of the language of the NGOs in Chapter Five. The farmers did not really stress the desire for technology, but many of them discussed their economic situations, especially in relation to what the government should do to support them. So Pak Budi, as an outsider, sees farming differently than the other farmers and describes different literate practices as a result. He seems to be positioning changes in farming that will translate to a more “developed” country like the United States. The goal is clear and the impact of government is key.

Bapak Yudi

At the point in our interview when I asked Pak Yudi if the government should help farmers, he had already explained how contract farming works. He also explained that he chooses seeds “with the highest price” and that he learns about the high price “From the KUD (koperasi untuk desa-village cooperative).” So he had already described several literate practices such as engaging with a cooperative and choosing the rice with the biggest selling price. Economics is the main driver in his decision making, so his literate practices reflect a heavy economic impact. He even said at one point, “Farming is my only road for the economy.” His answer to the question about whether the government should help farmers or not, “They should help, but if they don’t, it’s ok” and if they help, it should be with, “Anything. Machines. Pesticides. Economic things,” is reflective of the way he impacted the discourse of rice farming throughout our interview. He always navigated our conversation to matters of economics. He answered questions as someone who has to do what is necessary to make a living. If other entities can help with his ability to make a living, great. But if they do not, he will keep working anyway. There
is no emphasis for change or even real complaint about the government. Pak Yudi did not answer any questions in my interview as if he thinks big picture about the state of agriculture or his country.

Bapak Agus

If Pak Mohamed has big plans for the role of organic farmers in the future of government in Indonesia and Pak Yudi is most driven by his own economic needs, Pak Agus falls somewhere in between. His answers to the questions of what he does with his rice once it is harvested speak to the influences of what he knows about the government and the economics of rice farming. He also describes how those knowledges impact how he positions his community in larger global contexts. He explained that he sells some of his harvest and keeps some to plant the next year. In response to the question of who he sells his rice to, Pak Agus said, “More was sold to children’s schools [this year] (…) And markets sometimes. Sometimes Pak Bedi (one of the translators from SPPQT) finds buyers for me (…) I sell domestic only.” Pak Mohamed emphasized that he has an international consumer base because of his organic rice, so I asked the other farmers if they also sold outside of Indonesia. Pak Agus was adamant that his rice was for his community. He sells it to schools and local markets. He describes a literate practice of selling his harvest to schools, a sale that is not as profitable as others could have been, but done on purpose. He even stated in response to the question of how to explain what he does to an outsider (a final question added on to the end of each interview): “I don’t have a desire for America, but the fact that it does have an effect on Indonesian farmers – I want America to promote organic; have an awareness. America should buy organic rice, but mine is for Indonesian people.” His response to whether the government should help
farmers was, “They should help. They usually give aid for conventional farming. Organic is a lesser cause. They should help with secondary jobs-supplemental.” Pak Agus reveals in these answers a lot of knowledge about international relations and the hierarchical positioning of organic and conventional rice farming in Indonesia. He describes literate practices like selling the rice and choosing to switch to organic and in the process he positions the government as outside of his community of organic farmers. His response about America promoting organic, but not wanting America to buy his rice, again shows how clearly he distinguishes between what he does and those outside of his community. Like Pak Yudi, he seems satisfied to make the claim that the government should help, but when it comes to his own farming, he has figured out a way to make it work without input from them. His answer reveals a desire to continue organic farming on his terms, and the government’s role is relegated to supporting him outside of that.

Bapak Ade

The interview with Pak Ade dealt a lot with the cooperative being started by Pak Amadi and his partners. His answers show that he draws very heavily on his literacies of economics. He explained early on in answer to the question of what he does with his harvest:

Last year I sold it at the market. But for future harvests I will sell to a cooperative (…) They will sell it again. Sometimes we sell it before it is processed, sometimes the processed rice. But in the future all the harvest will go to the cooperative. The cooperative will process it (…) Usually at the time of harvest, pre-processed rice prices are low. With the cooperative, the price will be accommodated first and then the harvest will be sold again when the prices are high.

His choice to begin a relationship with the new cooperative is economically driven. He describes literate practices in which he enacts knowledges of trends in rice prices and
community cooperatives. Part of this is most likely from the difficulty of finding buyers for semi-organic rice because it is more expensive than conventional rice, but it cannot be labeled as organic. In response to whether the federal government should help or not, he said, “The village governments can do it, but their knowledge of decentralization is still low (…) they are very dependent on the central government. If the national government orders it, maybe organic will succeed.” This response is similar in tone to Pak Agus’s, but also reveals a layered and nuanced knowledge of how governments work. His literacies of village versus national government (the situated ways he knows those governments) impacts how he performs the job of rice farming in important ways. Members of his community have created a cooperative that is dealing with an economic problem farmers in the community have. It’s a local solution to a local problem and his response about the government’s contributions comes from his intra-action with his farm and his local and national governments.

Bapak Amadi

Because he is in the process of creating a cooperative, Pak Amadi’s answers are more similar to Pak Mohamed’s than the farmers who are not positioning themselves as leaders. He explained that he sells the rice to his partners and “to the market” right now, but that will change when the cooperative is functioning. Pak Amadi rents his fields, so he explained that his harvest is divided into three: “One third is for sale. One third is for my family. And one third is returned to the land owner.” He currently makes a living from less than half of his harvest. He has a real need for an entity that can help buy and sell at prices good for farmers. When asked how the Indonesian government should help, he replied, “If possible, the government should stabilize prices. If the harvest price is low,
the government should help control the price. The government must also prevent the ‘game’ of pricing at the market.” He has a comprehensive and sophisticated understanding of the government and the economics of rice farming. He describes the literate practices of contract farming and starting a community cooperative that are influenced by his comprehensive knowledges. He speaks of particular government impacts in ways the other farmers do not. Pak Amadi has a pragmatic approach to the government, but it is an economic pragmatism as opposed to an ecological or societal pragmatism. He conceives of a government that serves the purposes of the farmers but is not the main driver of change.

Food Authority/Sovereignty in Farming

In the beginning of this chapter I explained how the terms food authority and food sovereignty came about as important words for this project. As a reminder, I use brackets around the word [authority] to indicate when farmers used that term in English. I use the word sovereignty to indicate when the farmers used the Indonesian expression kedaulatan pangan which translates to food sovereignty. Both expressions are used for the purpose of talking about a future in which farmers have more autonomy and control over how and what they farm. They are combined in this section. Food sovereignty has powerful implications for the future of the discourse of rice farming. Food security, defined in Chapter 1 as “physical, economic, social, and environmental access to balanced diet and clean drinking water,” is described by global NGOs as a specific goal that must impact how rice farming is done in the future. It will be discussed in detail in Chapter Five (Swaminathan 453). It is a dominant and situated way of knowing rice farming that impacts the literate practice enacted by FAO and CGIAR in arguing for it as
a goal in the reports. But food security only ever came up in the interviews when I asked farmers about it directly. When the farmers did talk about food security, they used their knowledges about food sovereignty to reposition food security so that it was no longer inextricably tied to rice farming as the global stakeholders make it seem. They enacted a literate practice when they shifted the conversation using their specific knowledges. I have refrained from including my own definitions of food authority or food sovereignty in this chapter in order to allow the definitions the farmers provide to be the focus.

Pak Budi, the conventional contract farmer, claimed that he had not heard of food security or the Green Revolution. His responses are therefore not included in this section. Pak Agus also did not really reveal the influence of food sovereignty on his own way of talking about rice farming, so he is also not included in this section.

Bapak Mohamed and Bapak Yusuf

Before I visited him at his farm, I met Pak Mohamed and Pak Yusuf at SPPQT and we had a brief conversation. During this conversation, I asked them if they had learned about food security. Their responses were very influential to how I conducted all of the subsequent interviews including the interview at Pak Mohamed’s home. Pak Mohamed explained, “For food security to be continued, authority should be with the farmer (…) food [authority] means farmer equals subject. Food security means farmer equals object.” I asked him to elaborate on what food authority was because I had never before heard the expression. He said, “Farmer has the beginning position, they manage their farms; have independence from above.” Pak Yusuf interjected to explain, “Farmer is the subject. Small land; he has control.” Both farmers indicated food sovereignty is the way to make farmers’ lives better. They purposefully introduced the notion of food
[authority] as a response to my question about food security. This was the first indication that my assumptions about the importance of food security for all human agents in the discourse of rice farming were incorrect. The question about food security came from my reading of the FAO and CGIAR reports. According to those texts, the global narrative of farming and food is framed in terms of food security – of securing access to food for the globe. Farmers are not the subject. It is the most prevalent and dominant influence on those organizations when they talk about rice farming or agriculture more generally. The first conversation I had with farmers in a specific place challenged that narrative and argued for locality. Their local, specific places and experiences cause a friction with the global narrative that results in the discourse evolving differently in the different places.

The day I visited Pak Mohamed’s farm, he elaborated on his definition of food [authority]: “Indeed, we preserve our local wisdom to strengthen farmer sovereignty.” This is the language Pak Mohamed used when taking up the mantle of advocate. He explained the lingering effects of the Green Revolution in relation to food [authority] as well. He stated, “Currently from the Green Revolution (…) [there is] negative impact on the land, on the environment, on health. And on the farmer himself to have food sovereignty removed.” According to Pak Mohamed, globally-driven conventional farming has resulted in multiple negative impacts. His knowledge of the GR has been impacted by his experiences as a farmer in central Java and it impacts how he does his job and describes his job. This understanding of the Green Revolution is in conflict with how the NGOs perceive the impacts of that era as I discuss in more detail in Chapters Five and Six. Local knowledges, because they are constituted in the environments from which they develop, should be more influential in decision-making.
Bapak Ade

Pak Ade had a lot to say in support of food sovereignty and his knowledge of the movement was very evident in all of his answers. He described a literate practice of the recent decision to make an alliance with Pak Amadi’s new cooperative. It enacts that knowledge because the cooperative is designed to be a supporter of farmers’ needs. When asked if he knew about food security he answered, “I have heard of food security and food sovereignty.” He explained that he preferred food sovereignty because “Food security is concerned with political affairs. Just a government program (…) Food security aims to replace seeds and chemicals with the government recommended ones.” The answer to what food sovereignty offers that food security cannot was, “If we use local seeds, we don’t depend on government’s seeds and manufactured fertilizer.” Pak Ade was adamant that this is the best path for farmers looking toward the future, but he acknowledged the difficulty in taking such a view: “When farmers go back to local products, they have a big challenge because they are going against the current tradition where farmers are already dependent on fertilizer and government seeds (…) I want to go back to planting red rice, but it is difficult. I think if the head of the village convinced everyone to go back to traditional farming…” The immediacy of influence that the village has on Pak Ade’s decisions seems to be closely linked to the influence his knowledge of government rice policies, food security, food sovereignty, and organic farming. Food sovereignty, as he understands it from his particular position farming his family’s land in central Java, represents an alternative way of farming and talking about farming to food security, which is an outside imposition. When Pak Ade enacts his knowledges while doing rice farming, his practices reflect all of these intra-acting
influences and what he learns by working in the field. His support of food sovereignty is itself a literate practice because it is an enactment of those knowledges. Food sovereignty also impacts his literate practices like the decision to join the cooperative. Pak Ade’s answers in this section are a complex and clear example of the impacts all agents in the discourse of rice farming have on the actions taken by this specific farmer.

Bapak Amadi

The answers Pak Amadi had about food security and food sovereignty are valuable because they are so matter of fact. His description of food sovereignty and food security is a literate practice because it is an enactment of a host of situated knowledges. He manages to shift the weight of importance from security to sovereignty in a way that suggests he finds the former to be obvious and the latter to be necessary. When asked if he had learned about food security he replied, “Food security is when people have food.” His decision to create a cooperative came from the fact that the local government used to have a program for food security, but they no longer do. He and his friends are “willing to create” a cooperative for food security. They are stepping into the role of farmers supporting farmers because there is a need. They gained knowledge about the particular situations of farmers in their community and they enacted changes due to that knowledge. Pak Amadi continued on to distinguish between food security and food sovereignty by explaining, “If there is food, it is food security (…) For the short term we need food security, but for the long term we need to be sovereign.” The immediate goal of food security in some ways echoes the urgency of the language of food security found in the texts from FAO and CGIAR. However, Pak Amadi did not explain food security in terms of urgency or even the global state of food. The food security he is discussing is local.
His cooperative is being created to ensure farmers have a place to sell their harvests and local people have access to those harvests. When he explained, “for the long term we need to be sovereign,” he again positioned himself as someone willing to ensure a future for small farmers. He is setting himself up as a conduit to a better future for others. Food sovereignty is not the solution or the revolution, it is the means by which local farmers and consumers can have better lives. The farmers most interested in the long term, Pak Mohamed and Pak Amadi, both decided to enact situations that they think will enable a sustainable future of farming.

Conclusion

This chapter analyzes the situated knowledges, literate practices, and goals that small farmers in central Java describe when they talk about rice farming both directly and indirectly. As agents, the farmers have developed these knowledges and literate practices from intra-actions in local, specific places and while they have things in common, the particularities of each farmer’s situation are made clear in their descriptions. They suggest that there are many ways of knowing farming and that context and experience in places (intra-actions with nonhumans and inanimates, intra-actions with culture and community, intra-actions with government, etc) influence the literacies farmers draw from when they do the work of farming and describe that work. In doing this analysis, I have made the impact of place and context on literacies and practices more visible than it is when rice farming is written about in the global terms I examine in the next chapter. In Chapter Five I analyze and interpret the data from the published texts related to rice farming and agriculture on a global scale. The knowledges, literate practices, and goals FAO and CGIAR describe are different from those described by the farmers, but no less
specific to context and place. Chapter Six analyzes in further detail how the literate practices identified in both Chapters Four and Five are impacted by place and context and how they impact each other as they entangle in the discourse of rice farming.
Chapter 5
Analysis and Interpretation of Data: Published Documents

Introduction

The farmers in central Java who participated in this study, whether most concerned about their individual farms or the state of farming in Indonesia, know rice farming from the bottom-up. That is, they talk about farming from the position of the person doing the work. They employ what Donehower, Hogg, and Schell have labeled rural literacies. Rural literacies, according to these scholars, are “particular kinds of literate skills needed to achieve goals of sustaining life in rural areas” (4). As described in detail in the last chapter, rural literacies for central Javanese rice farmers are situated knowledges of things like weather patterns, water table schedules, seed variety differences, chemical applications, pest management, community cooperatives, learning by doing, learning in a classroom, price fluctuations, and more. The literate practices of the farmers are the enactments, in their daily work as farmers, of those particular literacies.

In addition to the literate practices the farmers described in our interviews, they also revealed the ways in which they identify themselves. Burke explains identity by asserting that people look for others who think and act in similar ways as a way to feel individual. If others have your beliefs, you are validated. The farmers in central Java, in different ways, were identifying themselves according to their place-based and particular understanding of rice farming. They had to look outward for that validation and they identified with a variety of different groups: other farmers, SPPQT and farmer cooperatives, their villages and communities, and their country.
In contrast, organizations like the FAO and CGIAR have literacies of farming that are not rural by Donehower, Hogg, and Schell’s standards because they are not meant specifically to sustain rural ways of life. Rather than seeing farming as a bottom-up job to be done, the reports FAO and CGIAR have published suggest their literacies are situated ways of knowing rice farming from the top-down. They publish reports about farming from the position of learned experts, but they do not actually do the work of farming. As a collective rather than an individual, there is no real attempt at identification in how they express their understanding of farming because they already have validation through being part of these organizations. They do not describe literate practices that enact truly rural literacies. Instead, they use scientific and institutional literacies meant, to use the language of Donehower, Hogg, and Schell, to sustain global and often urban ways of life. For example, the farmers have economic literacies they that have developed from factors such as the buying and selling prices of rice and from the costs of farming and living in central Java. How they talk about the economics of farming is in terms of supporting their family and continuing to farm. FAO and CGIAR have economic literacies that have developed from global statistics on poverty, food security, and malnutrition so how they talk about the economics of farming is in terms of institutional policies (like laws or government policies). The literate practices they describe in these reports reflect a global perspective. For example, both FAO and CGIAR describe the need for farmers across the globe to plant the varieties developed in labs in order to combat problems like malnutrition and food insecurity. They describe the need for scientists to continue researching biofortification in order to boost the nutritional content of staple grains like rice. And they describe the need for producers of rice to better package and market their
products to gain more sales. These examples are literate practices because they enact very particular and situated ways of knowing rice farming such as new varieties of rice being developed, the genetic makeup of rice, how to breed rice and fortify it, and international food supply chains and marketing strategies.

Different from both the farmers and the global NGOs, SPPQT and the farmer cooperative headed by Pak Mohamed publish texts (video and written) from a middle ground position. They interact with the farmers on a daily basis, but also interact with the global NGOs and the Indonesian government. They share knowledge with the farmers that comes from the top by way of global NGOs or government initiative. And they share knowledge with the government and larger NGOs that comes from their experiences with the farmers. Because their end goal is to promote the livelihoods and practices of farmers in central Java, even though they are informed by all agents in the discourse, the literacies used by Pak Mohamed’s cooperative and SPPQT are rural literacies. They are interested in sustaining rural ways of life. The literate practices they describe are enactments of knowledges like organic farming, how to maintain traditional seed banks, how to teach organic farming, how to manage a cooperative or NGO, and how to interact with government and large NGO officials. SPPQT and Pak Mohamed’s cooperative enact rural literacies, but they often serve as the regional interface Rice describes in her article in *Rhetoric Society Quarterly*. They are the physical places and humans that bring local and global together to help them intra-act in positive ways.

It is important to introduce this chapter by showing these different types of knowledges, literacies, and literate practices because they are intra-acting in the entanglement that is the discourse of rice farming. However slowly, the farmers’
knowledges or the results of their literate practices eventually make their way to policy and global initiative decision makers just as those policies and initiatives make their way to the farmers. As I state in Chapter One, I am focused on the positioning of the human agents, how their literate practices intra-act with the other agents in the discourse, and how the discourse of rice farming changes. Latour explains in Reassembling the Social that the way to trace networks is to “‘follow the actors themselves’, that is try to catch up with their often wild innovations in order to figure out what the collective existence has become in their hands, which methods they have elaborated to make it fit together, which accounts could best define the new associations that they have been forced to establish” (12). Barad argues for a similar method of examining the representations of intra-actions as traces of material practices always already happening rather than as stable depictions (53). The agents in the discourse of rice farming enact their situated, place-based knowledges and literacies and in the process intra-act and re-intra-act with the other agents. In ANT Latour calls these intra-actions and re-intra-actions assembling and reassembling the social. I use Barad’s theory of entanglement because it suggests a complexity and, for lack of a better term, a messiness that the term “network” cannot. By analyzing the discourse of rice farming as an entanglement, I examine nonhuman, inanimate, and human agents, their intra-actions, and their representations of those actions all together as impacting each other. I observe the ways the agents’ intra-actions leave traces. In this chapter, those traces are the ways FAO and CGIAR describe rice farming and agriculture as an act in service to larger goals like poverty alleviation and food security. Specifically, this chapter includes my examination of how the global is a place in which FAO and CGIAR as agents are situated in much the same way as the
individual small farms in central Java are places in which the farmers, nonhumans, and inanimates are situated. The global as a place is the context from which FAO and CGIAR represent the literate practices they argue are necessary in order to achieve their global goals of poverty alleviation and food security. By analyzing the published reports from these NGOs in this way, I reveal how place still impacts the knowledges and practices of human agents even on a global scale. The global as a place determines how FAO and CGIAR engage in the discourse of rice farming and their representations of the literate practices needed to do the work of rice farming, or agriculture generally, impact how these organizations entangle with the other agents in the discourse. Because the NGOs describe farming from a global perspective, what they describe as important literate practices are different from, and sometimes in contrast to, those described by the farmers.

One of the major impacts on how the global NGOs and Pak Mohamed’s cooperative understand agriculture is the Green Revolution I explain in detail in Chapter Two. Before moving forward, I must reiterate the global response to the GR by revisiting the literature I discuss in Chapter Two because in the final section of this chapter I highlight the very different response Pak Mohamed’s cooperative has to the results of the GR. In Chapter One I explain that the GR is a major factor for how global NGOs have approached food security as a global goal. The GR heavily impacted how farming is done all over the world because it introduced seeds that had been altered in laboratories to have better yields in shorter time periods. It also introduced heavier use of chemical fertilizers and pesticides and mechanized tools for doing the work of farming. Early general consensus was that the GR had a massive impact on reducing global poverty and even though it resulted in some long term damages to physical environments. Tribe argues in
*Feeding and Greening the World* from 1994 that the GR’s efforts to move from subsistence farming to commercial farming increased employment and incomes. In 1998, Conway argues in *Doubly Green Revolution* that developing countries need to accelerate food production even more in order to meet the food needs of their citizens. Hazell and Ramasamy claim in *The Green Revolution Reconsidered* from 1991 that the GR alleviated absolute poverty because it reduced the price of staple grains by increasing how much was available. FAO and CGIAR still share this understanding of the GR. In this chapter, I analyze reports published by these global NGOs that argue the GR resulted in a net positive because of its strides in yield increases and global attention to problems of hunger and poverty.

As an agronomist, Khush argues in 2001’s “Green Revolution: The Way Forward” that the most important takeaway from the GR is that high yield varieties are crucial because they can produce more in less time. The way forward is to focus on HYVs that include resistance to pests in their genetic makeup in order to reduce the amount of chemicals needed to grow them. This reasoning that the GR was crucial because it led to advances in how much rice could be produced is echoed in more recent scholarship like Hazell’s 2009 *The Asian Green Revolution* which emphasizes that the focus of the GR was on yield and that government support of global policies is crucial to continued efforts to reduce hunger and poverty.

The shift in focus from the GR which was mainly yield-centered, to food security which is hunger-centered food is obvious in the more recent scholarship. Chhetri and Easterling in 2010 and Chhetri and Chaudhary in 2011 argue for more focus in scientific approaches to food security to local knowledges and the needs of farmers. Achieving
food security will require more interaction with farmers because only focusing on the
global picture improved yields, but did not end hunger. They argue for an approach that
puts farmers at the center of achieving food security. That argument is also a main focus
of Swaminathan in his 2010 “Achieving Food Security in Times of Crisis” from which I
take my definition of food security. All of these scholars have looked at the global picture
of food security, accounted for the impact the GR had in increasing how much rice it is
possible to grow and in globalizing the practice of agriculture, and determined that to
achieve global food security, local contexts and farmers should be driving global change.
I show in this chapter that FAO and CGIAR have not put the farmers at the center, but
they are beginning to suggest the same kinds of changes to how food security is
approached.

Building on Chapter Four by expanding on the analysis of the types of literate
practices described by these global agents, I use the theories of place, rural and place-
based literacies, new materialism, actor-network theory, and entanglement. In this chapter
I present and analyze the data from a rhetorical analysis of eight published documents
related to farming. What arises from this analysis, when read with and through the
analysis of the farmers’ interview responses will be the focus of Chapter Six. The
documents are organized based on three major themes:

- Economics and Farming
- Sustainability and Farming
- Food Security and Farming
These themes reflect what I noticed as the primary emphases of the global organizations when they describe agriculture and rice farming more specifically. The themes were created after all of the documents had been analyzed. I did not use the same themes that I used in Chapter Four (The Process of Farming, Learning about Farming, Organic Farming, Government and Economic Influence on Farming, and Food Authority/Sovereignty in Farming). The literate practices used by the central Javanese farmers are distinct from those described by the global NGOs or SPPQT and the cooperative because they reflect the different relationships to place the different types of agents hold. The themes are what I determine to be the most common ways of talking about agriculture and rice farming. Within these thematic sections, I analyze the arguments made, the knowledges valued, and the literate practices I observe FAO, CGIAR, SPPQT, and the farmer cooperative describing. The documents from FAO and CGIAR are written, as is the document from Pak Mohamed’s cooperative. From FAO, I have analyzed the 2013 State of Food and Agriculture, 2013 State of Food Insecurity, and 2014 Regional Rice Strategy. From CGIAR, I have analyzed the 2009 Climate, Agriculture, and Food Security and 2013 GRiSP in Motion. SPPQT provided two videos they use to recruit farmers to take their courses and participate in their programs. One video entitled “Dido” is a soap opera like story of a young boy who needs to find a way to support his family using their banana trees. The second is a recruitment video that highlights an SPPQT program for training people who want to teach farmers better techniques for farming. Neither film provides a date of production, but Ibu Theresia, the head of SPPQT, explained to me the videos had been created in the past two years. The
table below summarizes each NGO’s main points about each theme. The summaries are explained in more detail in the themed sections that make up the rest of this chapter.
### Table 1

**Summary of NGO Arguments**

<table>
<thead>
<tr>
<th>Source</th>
<th>Economics and Farming</th>
<th>Sustainability and Farming</th>
<th>Food Security and Farming</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAO State of Food and Agriculture</td>
<td>Money is the way to solve malnutrition and the <em>reason</em> to solve malnutrition (5).</td>
<td>Physically and economically sustainable practices are best determined by global organizations and enacted by national governments.</td>
<td>Diversity in production and consumption is <em>the</em> way to ensure food security (31).</td>
</tr>
<tr>
<td>FAO State of Food Insecurity</td>
<td>More harvests ensure cheaper prices for consumers.</td>
<td>For farming to be sustainable, the way it is performed from the top to the bottom needs to be rethought in more contextual ways.</td>
<td>Demand-side interventions and changes in policy are key to food security; supply-side measures are tertiary.</td>
</tr>
<tr>
<td>FAO Regional Rice Strategy</td>
<td>Larger farms are more economically sustainable and are key to ensuring enough rice for global consumption.</td>
<td>The ecological health and diversity of physical places ensures a sustainable future.</td>
<td>Rice is a commodity distinct from farmers and the future of rice farming in Asia is in ensuring food security in Africa.</td>
</tr>
<tr>
<td>CGIAR Climate, Agriculture, and Food Security</td>
<td>Poor countries are more vulnerable to food shortfalls if their climates change too drastically (10).</td>
<td>Sustainable farming practices will be developed in local places because physical places impact choice.</td>
<td>The global goals designed to achieve food security need to be disseminated to local places.</td>
</tr>
<tr>
<td>CGIAR GRiSP in Motion</td>
<td>In order to sell rice, farmers need to distinguish their brands from others through marketing strategies.</td>
<td>Global methods of seed diversity are key to environmental sustainability in local places.</td>
<td>Rice needs to be physically manipulated in order to achieve food security.</td>
</tr>
<tr>
<td>SPPQT “Dido”</td>
<td>The role of SPPQT in helping farmers make the most out of what they produce.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>SPPQT “TOT Pembenihan”</td>
<td>Farming improvements will improve the economy of the local community.</td>
<td>Sustainable farming practices are a given in order for the community to be prosperous.</td>
<td>N/A</td>
</tr>
<tr>
<td>Pak Mohamed’s Farmer Cooperative Publication</td>
<td>The cooperative is an institution aimed at helping farmers make a living by farming.</td>
<td>Farmers should be adopting sustainable farming methods as a way of empowering themselves and reducing the control of national or global institutions.</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Economics and Farming

The global status of FAO and CGIAR is most obvious in the way they explain the economic challenges facing farmers. I explain in Chapters One and Two that these NGOs are focused on global consumption of food. They frame agriculture in terms of how it serves the purpose of feeding people. Therefore, the literate practices they describe are often in contrast to those of the farmers even as farmers also talk about economic concerns. Every component of rice farming, including the farmers’ incomes, is discussed from global perspectives. The local contexts of SPPQT and Pak Mohamed’s cooperative are also very clear in the way the economic aspects of farming are discussed. Their focus on farmers that they intra-act with every day means their economic literacies are closer to those of the farmers. They describe literate practices (or enact them in the videos) that engage local farms and the realities of being farmers in central Java. This includes explanations of how to reframe a farmer’s understanding of his crop, for example, SPPQT’s soap-opera style video is about a young man who has a lot of banana trees and needs money. SPPQT helps him see his banana trees as a source of income. The local NGOs serve the purpose of regional interfaces in how they intra-act with the farmers. Their publications are often about production and how to integrate farmers into the economy in ways that benefit the farmers rather than reduce hunger. In many cases, the farmers and local and global NGOs are discussing similar economic problems. For example, that farmers need to be better integrated into the economy, but their proposed solutions are very different.
This document is an annual report on the global state of farming and food in 2013. In it, the Food and Agriculture Organization writes of the economics of farming as an important factor in establishing global goals in fighting global hunger. In the preface to the main report, the authors explain, “The traditional role of agriculture in producing food and generating income is fundamental, but agriculture and the entire food system – from inputs and production, through processing, storage, transport, and retailing, to consumption – can contribute much more to the eradication of malnutrition” (ix). They argue that farming is a good source of income for farmers, but more importantly it should be better utilized to eradicate malnutrition for people who do not have enough to eat. This explanation reveals some literate practices FAO discusses as necessary to enact such as knowledges of pesticides and fertilizers (inputs) and knowledges of transporting harvests. The distinction is slight, but I emphasize it because it reflects the difference in how agriculture gets framed depending on who is discussing it. Those are knowledges the farmers also describe, but the framing of why, how, and at what scale to enact them is very different. Farmers position these literate practices as being in service to their livelihoods and communities. FAO positions them as being in service to ending malnutrition. The FAO has set the stage in the preface to this report for the argument that the point of agriculture is eradicating malnutrition and that improved food systems is the way to do that. What is missing from this frame is a position that argues the point of agriculture is to maintain livelihoods or continue family and community traditions. This global report is, from the beginning, constructing farming differently than the farmers I interviewed for this project.
One of the ways the FAO report suggests the food system get improved is by focusing on the seeds themselves through what they call biofortification. They argue on page five, “research showed that investing US $1.2 billion annually in micronutrient supplements, food fortification and biofortification of staple crops for five years would generate annual benefits of US $15.3 billion […] and would result in better health, fewer deaths and increased future earnings.” There is a strong emphasis on investing in better seeds for staple crops (like rice) on large scales. This argument describes enacting very specific literate practices of doing the work of bioengineering rather than doing the work of farming. There is no discussion of choice or autonomy for the farmers. In fact, it is never really described how these fortified crops will find their way into enough fields to achieve the billions of dollars in benefits they promise.

Perhaps more than any other aspect of the State of Food and Agriculture report, the economics of farming is about consumption. Whether discussing how to improve nutritional values (biofortification) or make food more affordable, farming is known and talked about in terms of people who eat food rather than people who produce it. They use statistics such as, “All countries with agricultural GDP per worker below US $1000 have severe problems of stunting and micronutrient deficiencies” and “Agricultural growth has been found to be much more effective than general economic growth at reducing poverty for the very poor. Growth in agricultural reduces 1-dollar-a-day headcount poverty more than three times faster than growth in non-agricultural sectors” (20, 26). The organization explains the cycle of pricing: “if prices rise, consumers tend to maintain their level of staple food consumption by switching to cheaper, less-diverse and nutritionally inferior diets” (24). Money is the way to solve malnutrition and the reason to solve malnutrition
and the literate practices needed to achieve those goals are activities like maintaining diversity in food consumption which requires knowledges of economics, global consumption trends, and the biological effects of poor diets. These are not the literate practices described by the central Javanese farmers nor are these the knowledges the farmers emphasize as necessary for their jobs. This presentation of statistics in the report is a circular reasoning that begins and ends with FAO sponsored programs and goals and funding tied to those programs and goals. The economic realities of poor, agriculturally heavy countries is a justification for intervention and global solutions. The points in the food system become points of intervention. The authority of farmers to make their own choices is not present in the report even though in Chapter Four I describe all of the ways farmers are making choices and impacting the discourse of rice farming daily.

FAO State of Food Insecurity

The authors of this document maintain a connection between income and eradicating global hunger that threads all three of the FAO documents analyzed in this chapter. Poverty and food insecurity, the clear purpose of this report, are coupled early: “policies aimed at enhancing agricultural productivity and increasing food availability […] can achieve hunger reduction even where poverty is widespread” (2). If more food is available, it will be cheaper and even the poorest can purchase it. Again, the consumption of food is the end goal. Production is the means to ensuring consumption and the literate practices suggested in language like this are enactments of knowledges of FAO endorsed productivity practices. The document goes on to state explicitly, “As food is one of the most income-responsive of all basic necessities, higher incomes can therefore expedite reductions in undernourishment” (3). So, increases in production means low prices are
accessible to more people. And higher incomes reduce the possibility that some people cannot afford food. But knowledge of what happens when farmers grow the high-yield, low-cost rice as opposed to choosing to grow lower-yield, higher-cost rice is not included. Farmers like Pak Mohamed, Pak Agus, and Pak Amadi have chosen to grow low yield, high cost rice and are therefore not doing the type of farming argued as necessary by FAO. They have different, place-based knowledges from their intra-actions in the farms in central Java and are enacting literate practices that respond to those intra-actions rather than the practices supported by the global NGO.

The food insecurity document does do some work to explain that the authors see a point at which income and food security are no longer so strongly tied. They explain in the report, in answer to the question “Does poverty reduction always imply hunger reduction?” that “there is not a one-to-one correlation between hunger and extreme poverty […] Where food insecurity is more pervasive, its association with poverty becomes weaker” (27). They go on in that answer to state, “Hunger is likely to be more severe than poverty, especially when both are at elevated levels” (28). This particular move to distinguish hunger from poverty is an interesting one for two reasons. First, it emphasizes the need the FAO sees in addressing food insecurity separately from any UN programs designed to reduce poverty (this will be explored in more detail in the Food Security and Farming section). Second, it evokes another perception of food that is different from the one held by the farmers interviewed. The farmers all made choices based on the income they would receive before other factors were considered. For example, Pak Ade explained that he wanted to continue growing indigenous rice, but he could not as long as the neighboring farmers were growing HYVs and using chemical
fertilizers and pesticides. It is not that he and his father did not consider the fact that their harvests would feed people, it is that they did not consider their harvests in terms of ensuring low prices for consumers. So the literate practices they enact to do the work of farming are developed from their local context even though they are planting the types of rice promoted by FAO.

In the final pages of the *State of Food Insecurity* report, the FAO includes an Annex titled, “The Prevalence of Undernourishment Indicator” that addresses what the Undernourishment Indicator (UI) is and criticisms the FAO has faced in terms of the methodology they use to determine malnutrition and hunger rates. The organization does not explain who the criticism comes from, but they identify several major complaints about using the UI, which determines the probability that a person in a given country will be undernourished. The FAO points to their own, large-scale economic problems as a response to criticism that they do not do enough household surveys to get better data. Critics complain that the UI is based on mathematical hypotheticals and is determined from a yearly average of food consumption rather than shorter terms. The UI cannot determine specifics by gender or class and they cannot determine undernourishment during weeks, months, or seasons. In response, the organization explains, “The [criticism] ignores the high costs of implementing surveys capable of properly estimating undernourishment for the vast majority of the countries monitored by the FAO” (46-47). The report goes on to say, “The national figures published in this report cannot easily be disaggregated to provide a picture of the state of undernourishment for particular geographic areas or for socio-economic groups within a country” (Annex 2). Basically, they address the limitations of global programs and data and point to the economic costs
of such studies. Economics is particularly globally situated in this answer. They do not learn about specific local households or farms because the cost of doing that on a global scale is too high. The studies they enact and present in these reports, then, are impacted by knowledges of costs and how to justify potential limitations. However, the criticism that there are not more locally specific data is important to emphasize, especially in light of this dissertation when central Javanese farms as a context reveals several differences in the whys and hows of rice farming.

**FAO Regional Rice Strategy**

Because this document is dedicated not only to rice farming, but to Asia as a region, on the surface it has a lot in common with the farmers’ perspectives. However, the idea of a regional strategy for an area as varied as Asia means that differences are still erased and perhaps in damaging ways. In “From Architectonic to Tectonics” Rice describes regions as being created based on the active association of people living in that region. So even if people do not live in the same place, they identify with each other for some reason and therefore create a region that reflects those similarities in identity. This report has erased those identifying markers in how they frame Asia as a region. They describe statistics that lump the region together in such a way that local difference is still flattened and the reasons members of this region have identified with each other are not clear. For example, on page two the report claims that Asia is a net exporter of rice. On a global scale, that is true, but Indonesia is not a net exporter, in fact it is a net importer, and only one of the farmers I interviewed, Pak Mohamed, exports (on a very small scale) his products. Like the other two FAO reports, the *Regional Rice Strategy* spends a lot of time linking income and global hunger. Its focus on the world’s most consumed staple,
rice, means that the link is even more highlighted. The document explains the role of rice agriculture in Asia by stating, “[Food] security of the poor in other parts of the world, especially in Africa, where the demand for rice is increasing, will also depend at least in the near term on Asia’s ability to continue its rice exports” (2). To achieve a continued net export, the authors assert, “[the] organization of rice production must also change. Labour scarcity and the need to mechanize will make larger farms economically more efficient. This will also require changes in the arrangements on how farm labour is organized” (3). These statements make declarations about what farms should do and what literate practices they should be enacting like farming using knowledges of machines and different types of labor structures. FAO makes this suggestion without any real discussion of how specific farmers like the ones in central Java feel about changing how they do their jobs or what they are already doing.

Additionally, none of the farmers I spoke with are large-scale farmers. Besides Pak Mohamed, none of them seemed particularly interested in being large-scale farmers. Yet, this is assumed to be the way things will go by the FAO. The report does indicate that it acknowledges the reality of many rice farmers in Asia. It states:

Smallholder farmers dominate in the Asia-Pacific region, with the average farm size […] being less than 2 hectares […] Given the current small average farm size, rice production in much of Asia will be largely carried out by smallholders in the foreseeable future […] Smallholder farmers can, however, reap the benefit of scale in production and marketing by being organized in institutions that reduce transaction costs and increase overall efficiency. Such institutions include group farming, contract farming, community organizations and farmer cooperatives. (21-22)

The institutions the report refers to are the same kinds of institutions mentioned by the farmers. Pak Amadi is both a contract farmer and a leader in a new cooperative. Pak Mohamed has contracts with many farmers in the surrounding area and is head of an
established cooperative. The other farmers either sell to cooperatives and community organizations or will sell to them. In this respect, this particular document does address the economic realities of the small-scale farmers I interviewed. There is some agreement between farmers and global NGOs on what works in the middle levels (cooperatives, community organizations, etc). The motivations for those middle levels, though, are still distinct so how they are actually enacted in central Java does not mirror how it is described by FAO. The FAO report explains that cooperatives and community organizations should be established to help farmers with economies of scale, thus suggesting enacting knowledges of global economic structures. The motivation is finding ways to help integrate small farmers into global food systems to better feed consumers. Farmers like Pak Mohamed and Pak Amadi establish cooperatives to help small farmers gain a level of autonomy over their choices and their farms. This is not to say that the different motivations are incongruent. Farmers who want to earn a good living will need people to purchase their harvests. The FAO, which wants to end global hunger, needs people to be able to purchase food. These things happen in the middle levels, in those NGOs that serve as regional interfaces. But how each group talks about them reveals the places where the discourse of rice farming changes due to interactions between agents in the discourse. Farmers have been impacted by local cultures and economies and they interact every day with their physical farms. Those interactions shape how the farmers understand the purpose of cooperatives and other mid-level organizations. Cooperatives and the like are understood by farmers to be there to serve farmer interests. FAO understands those organizations as serving the global purpose of reducing global malnutrition and poverty. They are not motivated by the same goal, so it is in those
middle levels where the real impacts of this discourse will be most visible as these organizations become more common.

**CGIAR Climate, Agriculture, and Food Security**

CGIAR is a consortium rather than a more traditional NGO like FAO. However, the group has fifteen research centers in fifteen different major global cities under the CGIAR umbrella that publish reports written by their members with suggestions for the future of agriculture. I chose this document, *Climate, Agriculture, and Food Security*, because it discusses in detail what this particular global NGO sees as a crucial component of the future of agriculture – climate change. The authors of this report reveal a place-based and situated way of knowing climate change (a global problem) that influences the situated ways in which they know rice farming (in this case as a practice in need of economic intervention). The report presents information differently from the FAO reports because it follows up statements about global situations with discussions about how local places will respond. It more explicitly distinguishes between a global state of things and a local state of things. This seems to be a result of the influence of climate change on how they understand farming because climate change is often studied in specific places in addition to being studied as a global problem. The authors write on the first page of the report, “Developing countries are particularly vulnerable [to climate change] because their economies are closely linked to agriculture […] Thus, climate change has the potential to act as a ‘risk multiplier’ in some of the poorest parts of the world” (1). Poor countries are more vulnerable to food shortfalls if their climates change too drastically. This stance, linking income and consumption, falls in line with the documents published
by the FAO. However, CGIAR underscores that linkage when climate change is added as a factor.

This report goes on to emphasize that complex relationship when it comes to future policies: “Reconciling poverty alleviation, agricultural and rural development, economic growth, sustained ecosystem services, and climate change adaptation and mitigation, among other global needs, will be an enormous challenge for policy makers” (14). Later, the authors explain that “poverty limits options, and the risk that the climate presents to agriculture plays a significant part in keeping farmers, and their families, in poverty” (18). While the FAO takes the time to emphasize that income and access to food do not have a one-to-one correlation and therefore food security should be tackled separately from poverty, CGIAR sees a future of climate change that means those things must be addressed simultaneously. The literate practices they describe as a result of this situated way of knowing include enactments of knowledges of adaptation methods and ecosystems as part of the work of farming.

CGIAR GRiSP in Motion

I chose this report because, like the FAO Regional Rice Strategy, GRiSP in Motion is specifically about rice. There is not a lot in this document about the link between economics and farming except in the mission statement of GRiSP: “[To] reduce poverty and hunger, improve human health and nutrition, reduce the environmental footprint, and enhance the ecosystem resilience of rice production systems through high-quality international rice research, partnership, and leadership” and in some discussion of how to market rice. Unlike the Climate, Agriculture, and Food Security report, this one is more dedicated to global trends in rice development and food systems and top-down
solutions such as the emphasis on Asia as a net exporter of rice supplying more of the staple to Africa as a net importer. It also spends more time highlighting the importance of seed variety than any of the other published documents from the global NGOs. In terms of economics, this includes a lot of discussion of vertical integration and the marketing of rice. They note the benefits for sales of heritage rice, organic rice, and other specialty rice of branding explaining:

“Branding – which includes advertising, packaging, logos, taglines, and other marketing activities – creates an emotional response from consumers when thinking about a product. The right branding can give a product an edge in the marketplace by giving it a ‘premium factor’ that customers are willing to pay for even if cheaper alternatives are available” (16).

The impact of CGIAR’s globally situated knowledge of economics is a description of very specific literate practices like branding that they suggest will improve farmers’ livelihoods. While not a particularly large component of the document, this approach to the economics of rice farming is actually closer to the approach of the individual farmers than the other documents I have analyzed so far. It suggests a way for farmers to sell rather than a way to get more people to consume, so even if the activities involved in branding are not foregrounded in the conversations I had with the farmers, activities related to selling more rice for a better price absolutely were foregrounded. The language in this section of the report suggests local contexts have influenced global practices even if the globally situated knowledges that intra-act with the local contexts have altered how those goals of farmers selling more rice for more money are described.

SPPQT “Dido”

This is the first of the two recruitment videos provided to me by SPPQT. “Dido” is a short video that tells the story of a young man, Dido, who is in charge of providing
for his family now that his father has passed away. The entire video is really about understanding farming in terms of economic necessity. It is not about rice farming at all, but it does reveal how SPPQT attempts to bring farmers into their programs and it echoes arguments of approaching farming as a business practice and branding as a key part of that. In the video, Dido worries, “How can my family have an advantage from these banana trees?” His answer comes from fellow farmers who find him sitting alone near his home and explain, “Actually you can improve your lives with bananas […] From those bananas, you can make banana chips, jam, and bread.” The video goes on to show Dido learning about a community organization that makes banana chips together and packages them for sale. There are no statistics or projections for the future and how banana harvesting fits into global food systems. SPPQT offers Dido the knowledge and tools he needs to support his family with the support of his community. It is truly local, contextually. The customs of central Java are incorporated in the way Dido will succeed: taking time in the day to mandi (wash up), praying, women wearing hijabs, cultivating the bananas in bare feet with dirty machetes, and climbing ladders made from bamboo. There is no banana chip factory. It is a room with a cement floor and one wok with oil for frying. The packaging and branding is not obviously impacted by the strategies suggested by CGIAR and FAO. In contrast to the reports published by FAO and CGIAR, this video that is meant for farmers to watch avoids any global state of things. It is about individual farmers and their current needs and how a regional interface (the community organization) can help farmers get the most out of what they produce. The situated and place-based knowledge of economics guides decisions for farmer benefits on a very local scale.
SPPQT “TOT Pembenihan”

*Pembenihan* is Indonesian for seeding. TOT stands for Training of Trainers. This second video provided to me by SPPQT is all about what happens in field schools of learning that are sponsored by SPPQT and how the NGO trains the people who will teach in those field schools. It is another recruitment video, but its approach is very different. There are lots of interviews with the student-trainers and lots of video of the training school in action, specifically training trainers about the acts of seeding and farming. The video shows the literate practices the farmers talk about when they explain where, when, and how they learned about organic farming. There is not a lot of discussion in this video of individual or global economics, but an interview with one of the student-trainers suggests an economic relationship with farming that falls in line with the farmers I interviewed. The man being interviewed spoke at length about the reasons he wanted to learn how to train farmers about new and better farming methods, but the underlying theme of his decision was, “[I will teach farmers] how to farm well to get the maximum agricultural results. Eventually people will prosper.” His decision is driven by a motivation for the whole community to have economic improvement. He has a locally develop understanding of economics that impacts why he has chosen to learn to train farmers and how he will train the farmers. He does not mention farming in global terms because he is focused on his own community. That language echoes that of Pak Agus, Pak Ade, and Pak Amadi who are all interested in contributing to their community more than contributing to global food consumption directly.
Of all of the published documents I have analyzed for this dissertation, Pak Mohamed’s cooperative publication is the only one that emphasizes the economic benefits of organic farming over all other types of farming. Some of the global NGOs reports mention organic farming as a niche market while still encouraging biofortification and breeding, but Pak Mohamed’s cooperative has fully endorsed organic farming as the future. The document, given to me in English, declares, “human greed […] has resulted in the destruction of the natural balance that multi-dimensionally impacts the social life of human beings and the peasantry as a group of people who struggle with nature has been a victim” (2). From this early declaration, this cooperative writes of farmers as victims. Using that framework allows the cooperative to establish its main goal of food sovereignty. It is enacting a very situated and specific way of knowing history, farming as a livelihood, and nature as a factor worthy of being considered. He frames farmers as victims. Victims need to take back control and they need help to not be victims anymore. One of the objectives of the cooperative is “to function as an economic institution […] to support the implementation of organic farming (5). The document explains that it will provide the resources to procure seeds and harvest and process plants (6). As an economic institution, it is there to help farmers become sovereign and guide farmers to enact specific literate practices of organic farming. Indeed, much of the language of this document is meant to encourage farmer sovereignty, a theme that will be returned to in the Sustainability of Farming section.

Sovereignty is closely linked to economics as well, as indicated in the objectives of the cooperative. There is a section of this publication entitled “Economic Activity” in
which the authors outline how they will provide economic support for farmers to become sovereign. This includes things like providing loans for seeds and other elements of converting to organic farming, offering marketing assistance and product promotion, and business development. As a middle-level institution in the discourse of rice farming, this cooperative aligns itself with local needs and individual farmers in much the same way as SPPQT. It promotes itself as the link between an individual farmer and the realities of making a living through agriculture. But the economic assistance is attached to the string of organic farming. In this way, this cooperative is different from SPPQT which encourages organic farming, but teaches methods using chemicals as well. SPPQT appears in the videos they provided to be there primarily as support for farmers. Pak Mohamed’s cooperative appears to want to make a grander impact on global farming by boosting the influence of local farmers through organic methods. Organic is the key to economic and farming sovereignty which is the key to the future of farming.

**Sustainability and Farming**

Sustainability, as a term, has two definitions in this section. The first is related to environmental health. Many of the documents analyzed in this chapter refer to sustainable practices as a way of referencing farming methods that can be performed for many years in one place without severely harming the land being farmed or the surrounding environment. Pak Mohamed’s cooperative promotes organic farming as the way to use land sustainably. The second definition of sustainability is related to long-term repeatability. This version of the term is often used in discussions of whether a price level of seeds or rice harvests can be maintained so that farmers can afford to farm and consumers can afford to consume. It is also used to discuss potential or current policies.
on agriculture. For example, is seed modification sustainable or will it lead to a lack of diversity in type and choice? The first definition emphasizes the physical place as intra-acting and impacting rice farming. The second emphasizes an economic or social place (a sort of place in time) as intra-acting and impacting rice farming. I will distinguish between the two definitions in this section in order to foreground the two ways sustainability is argued in discussions of rice farming and agriculture.

FAO State of Food and Agriculture

Early on in the *State of Food and Agriculture* the authors take the time to explain the differences between sustainable production and sustainable consumption. They define sustainable production as, “sustainable intensification that can close yield and productivity gaps in underperforming systems while reducing the negative and enhancing the positive environmental impacts of agriculture” (4). The authors frame this definition as the traditional approach to “managing agricultural systems” and claim that it has come from “policy-makers.” The emphasis in this use of sustainability is on the physical places where farming happens, but sustainability remains part of larger food systems. So the way knowledges of environmental sustainability impacts the literate practices described by FAO is in how the NGO frames even very physical intra-actions between farmer and land in terms of policies and systems.

FAO also argues there should also be a focus on sustainable consumption as a reflection of “decisions made by consumers and producers.” The authors quote a report by Berlingame and Dernini who define sustainable consumption as:

Diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and
affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources. (4)

There is an integration of that second, economic and socially influenced, definition of sustainability here. It is possible to see FAO accounting for context and “consumers and producers” in the language of access and fairness. Even diets are described as literate practices here because how people eat should be impacted by knowledges of environmental impact and biodiversity. Additionally, the focal point of sustainable production or consumption is the end goal of consumption. The language of this definition assumes farmers’ role in the chain of consumption to be that of producing in order to contribute to consuming. The State of Food and Agriculture does acknowledge that “there is currently little agreement either nationally or internationally on practical ways to implement the concept of sustainable diets.” Asserting that there is a right way to move forward, giving it a definition, and then acknowledging that the “right way” is not actually agreed-upon is a move that FAO makes throughout this document. It is as if the authors are suggesting their frustration with the realities of context and will in response continue to explain how things should be enacted if only people can get on the right page.

This document refers to “the sustainability of food systems” in a similar way. The authors’ use of the term combines the two definitions of sustainability explained in the beginning of this section. They point to challenges impeding substantial improvement of food systems including, “market and non-market constraints […] unequal access to resources for women, the poor, and other economically and socially marginalized groups; and increasing demands on natural resources” (10). So a sustainable food system, as described by FAO, enacts knowledge of environmental sustainability (limits of natural resources) and economic and social sustainability (market access, gender and class
divisions). The *State of Food and Agriculture* also points to technological interventions as a means of improving food systems and sustainable diets in ways that reveal a similar combination of those two definitions. The report states, “One of the key drivers of agricultural productivity growth is agricultural R&D. The introduction of higher-yielding varieties of rice, wheat and maize during the Green Revolution led to major improvements in nutrition through higher incomes and lower prices for staple foods” (26). The authors go on to explain “yield increases achieved through balanced crop fertilization can reduce the land area needed to grow staple crops and thus add to the sustainability of the farming system” (33). All of these statements about impediments and improvements reflect a globalized concept of sustainability as it relates to farming that accounts for context without really showing context. It is language that suggests there really are obvious, sustainability-driven solutions to problems in agriculture. Now unspecified places need to figure out how to do these things FAO has explained will work.

**FAO State of Food Insecurity**

There is not a lot of discussion of sustainability in the *State of Food Insecurity*. As explained in the last section, this document works hard to distinguish between food security and all other related literacies like economics or sustainability. It is the most clearly consumption-driven document analyzed in this chapter. However, there is one place where the authors of this document reference sustainability and it appears in both forms, environmental and economic/social, defined in this section. In a section entitled, “Beyond the MDGs” (Millennium Development Goals), the authors state that there is a need for improved monitoring of how the sustainable development goals are being
achieved. They explain its relation to food security by describing the monitoring approach of the panel dedicated to the Zero Hunger Challenge:

The panel emphasized sustainability as a necessary basis for efforts aimed at building lasting prosperity for youth. The panel also advocates a ‘data revolution’ for sustainable development, noting the potential for open and accessible data to contribute to sustainable development and the need to use non-traditional data sources (e.g. crowd sourcing). The report also stresses the need to disaggregate data by gender, location, income, ethnicity, disability and other categories. (17)

While the *State of Food Insecurity* does not really disaggregate its data or suggest ways to use crowd sourcing, much less utilize crowd sourcing in the report, it does take the time to acknowledge that those ideas are being used in discussing a future that can sustainably support food security. It describes changes to the literate practices they have related to rice farming like performing data analysis and engaging in social media with the inclusion of crowd sourcing without showing what that looks like. This short paragraph in many ways indicates what I emphasize in this dissertation. My argument is that by analyzing how different agents intra-act (perform agency) and impact the discourse of rice farming, the instances when global organizations do not publicly account for specific, local contexts can be discovered and challenged. There is a need to disrupt the way knowledge is disseminated if goals like eradicating global hunger are to be recognized, or, altered to account for local knowledges and data.

FAO Regional Rice Strategy

As a report dedicated to rice production and consumption specifically, the use of the term sustainability is most often in line with the definition I provide in the beginning of this section that emphasizes physical environments. The focus of the entire document is on how to improve how rice is grown, harvested, and sold in Asia. Sustainability plays
a role, primarily, in the first factor. Specifically, it is described in relation to enacting knowledges of scientific progress in genetic modification and biodiversity through rice farming intensification and maintaining ecological diversity.

For example, the *Regional Rice Strategy* explains in the preface that “Modern scientific approaches and new technologies are making it possible to increase rice productivity in a sustainable manner, add nutritive value to rice, reduce losses from drought and flood, reduce the environmental footprint of rice production and make the rice production system ‘climate-smart’ (x). The authors establish environmental sustainability as part of ensuring more rice can grow and therefore more people can be fed. Later in the document they explain, “The intensive production of rice based on the misuse of agro-chemicals and depletion of water is resulting in environmental degradation […] It is important that the environmental footprint of rice be minimized while augmenting ecosystem and landscape functions” (10). Modern technological and scientific approaches to farming can be used to fix the problems that came about from previous technological and scientific approaches. There is a definite underscoring of the idea that science and technology are the way forward, but the physical and environmental responses to these approaches is openly acknowledged. The *State of Food Insecurity* purposefully distanced food security from factors beyond consumption of a healthy, balanced diet. It seems to have been able to do that because food security is a global concept as opposed to a tangible thing. However this report, also published by FAO, takes pains to make clear the links between the health of the environments where rice grows and the ability for everyone who eats rice as a staple to have access to it. When the
focal point of the document is a tangible thing like rice, the discussion of its sustainability is in tangible terms such as environmental health and ease of access.

Sustainability in this report is most often described as a physical solution to the physical problems of agriculture and environmental health. That is reflected in FAO’s dedication to discussing elements of rice farming beyond modern technology and intensification. While it is a supplemental suggestion, seed diversity and heritage does play a larger role in this document than in the others published by the FAO. The authors explain, “[Broad] economic and social changes are also negatively affecting rice biodiversity and rice heritage, which are important for the long-term sustainability of rice production” (xiii). They go on to explain the role of global “tools” like Geographical Indicators as a key component of ensuring biodiversity. However, there is at least a clear and continued acknowledgement of context, variety, and physical places. How environmental sustainability should be achieved according to the Regional Rice Strategy is still very much determined from the top-down, and specific local places like central Java are not described, but there is an outlet in this document for physical places that is absent in much of the discussion in the other FAO reports.

CGIAR Climate, Agriculture, and Food Security

The purpose of this report, in some ways conflicting with the purpose of the FAO’s State of Food Security, is to explicitly link climate change with food security and agriculture. By making that connection CGIAR focuses more on an environmental definition of sustainability that echoes the one I presented at the beginning of this section. The language of this report suggests CGIAR is concerned with the physical places that will be interacting with policies because of how they will be able to sustain themselves in
the face of policies promoting food security and the realities of climate change. As such, much of the language of this report is dedicated to science (mitigation and adaptation) and policy (networks, local, global). The science terms come from how CGIAR as a group of scientists understand climate change and agriculture and in this report those terms have been borrowed to discuss farming in terms of achieving environmental sustainability – the physical ability of an environment to be farmed successfully for a long period of time. The policy terms are used to discuss how to enact changes necessary to maintain sustainable food systems – the infrastructure for getting food to everyone in the world needs to enable the systems to work successfully for a long period of time.

While it is not written very often, the report does use the term sustainability explicitly in a few locations. When the term is used, it is in reference to the physical environment. Sustainability is mentioned in relation to policy in the section titled “A Framework for Action.” The authors explain that CGIAR “is currently analyzing the complex interrelations between climate change and agricultural growth, food security, and natural resource sustainability” (12). It is mentioned again as part of a question in “A Strategy for Change”: “How do different climate policies affect developing country agricultural growth, food security, poverty and environmental sustainability?” (14). And it is mentioned again in relation to developing countries which is a relationship maintained throughout the document that connects to the focus on environmental sustainability over the other definition. Developing countries are referenced throughout the report as examples of why local intervention and relationships are so important to succeeding in addressing sustainable agricultural practices. The authors explain, “We have the knowledge right now to make vast improvements to the sustainability and
productivity of agricultural and other natural resource-based systems in developing countries” (20). The final place sustainability is mentioned explicitly is in a section titled, “Mitigation – Pro-Poor, Sustainable and Essential.” In this instance, the use of the term is related to the physical impacts of agriculture on climate change and the “sustainability of systems” put in place to mitigate those impacts (40). CGIAR describes agriculture from a global perspective even as it describes environmental sustainability. They are suggesting that farmers need to enact knowledges of adaptation and mitigation methods and the economic conditions of poor countries as part of how they do their jobs.

There are many places in this report where the authors discuss environmental sustainability in scientific language without referencing the term itself. I explain in the beginning of this chapter that there are two common usages of sustainability in these reports. CGIAR is influenced by an understanding of sustainability that emphasizes physical environmental health. How that particular knowledge is used to describe farming is perhaps best seen in how it influences the way farming is discussed when the term is not an object of discussion. The first example comes on the first page of the report. The authors write, “Feeding a rapidly rising global population is taking a heavy toll on farmlands, rangelands, fisheries and forests. Water is becoming scarce in many regions. Climate change could be the additional stress that pushes systems over the edge” (1). Sustainability is not mentioned, but its definition is in these introductory words. The current system, while trying to meet the needs of food security, is not environmentally sustainable and climate change is going to exacerbate that reality. It’s a results-based way of discussing an abstract term like sustainability and its impact on farming. The same approach to sustainable practices can be seen in the use of terms like mitigation and
adaptation. For example towards the end of the report they state, “[We] will design and assess integrated portfolios of adaptation and mitigation options that focus on livelihoods and food security at household and higher levels […] [We] will explore ‘planned diversity’ and ‘diversity of plans’ as elements of a higher order risk management strategy” (38). The literate practices they expect farmers to enact are clearer when they are describing the effects of climate change and unsustainable agricultural systems.

Knowledges of adaptation and mitigation and diversity are expected to be part of how farmers do the work of farming. A farmer like Pak Yudi, who plants the rice from which he can gain the most economic return is not enacting those knowledges. He did not express concern about the sustainability of rice farming. He is focused on very local, very short term goals. In contrast, the language of CGIAR’s Climate, Agriculture and Food Security has the tone of urgency and pragmatism in planning for the far distant future. The discussion is not of the idea of climate change or the need for food security. It is about the realities of both situations being true and how they alter the way agriculture is known and discussed. One result of framing agriculture in this way is that farmers like Pak Yudi are not explicitly discussed as a significant point of friction on the path to achieving CGIAR’s goals.

The language of the previous quote also includes references to the need for more knowledge about local situations. In the discussion of sustainability, the authors of this document make clear a distinction between global and local that is not often apparent in the FAO documents. However, the emphasis on needing more local knowledge does not mean they ever actually share specific local contexts in this report. CGIAR is still calling for context without actually providing context. The conclusion is still that globally-driven
policies are key to the future: “If we are to understand real-life impacts, and develop meaningful responses, we must look at climate change and agriculture within this global system” (4). They actually state that it is crucial to know agriculture as a global practice. That said, there is a substantial amount of attention paid to the need for local context which makes sense because of the report’s emphasis on the physical realities of climate change and agriculture. The authors do agree with the FAO on the importance of biofortification and engineering: “Climate change […] adds an urgency that demands use of the very best and latest that plant breeding science has to offer […] molecular biology has opened up the horizons for crop breeding” (25). But they follow that up with what they call “results-oriented interactions” and an argument in favor of better integrated local knowledges (17). They write, “Most of the mapping and vulnerability studies have been done at regional scales, masking enormous variation at the local level. While such regional studies are useful for planning at these scales, planning for better adapted livelihoods can only be done at a much more local level” (9). This point is emphasized throughout the document and is justified thusly: “Understanding the information needs of the different stakeholders will form the basis of research, because information will only be used if it is relevant to the problems facing people, as they perceive them” (15). This Climate, Agriculture and Food Security report by CGIAR makes significant strides to assert the need for local intervention even if they do not provide examples of what that might look like. That they do distinguish between local context and global context is possibly because of the more obvious physical materiality of climate change impacts on agriculture. The purpose is still finding a way to enable agricultural practices that are environmentally sound, but this document acknowledges variation from place to place
and calls for local farmers and other agents to bring their knowledges into the conversation.

CGIAR GRiSP in Motion

The FAO Regional Rice Strategy uses knowledge presented in this CGIAR report in their own suggestions for the future. Like the Climate, Agriculture and Food Security document, GRiSP in Motion spends more time discussing the importance of local contexts than the FAO documents. However, like all of the other publications by global NGOs that I analyze, the conclusion of this report is that global policies and globally-driven solutions are still the way to go. Local context is explained as the place where global knowledge is disseminated. Local intra-acts more obviously in the CGIAR documents, but local is still described as passive because the point of view is how to ensure local contexts adapt global knowledge effectively. GRiSP in Motion maintains that point of view in terms of sustainability by writing about seed diversity so the use of the term is in its physical implications rather than social or economic.

Like the other CGIAR document, this report does not explicitly use the term sustainability very often. One appearance is in the introduction to the report. The authors proclaim, “We [GRiSP] have considerably strengthened our partnership foundation for mobilizing science to increase food security, alleviate poverty, and increase the sustainability of rice production” (3). The language prioritizes science as the solution to all of the problems CGIAR sees as linked the knowledges they have gained from their specific types of science are going to be enacted in how they address food security, poverty, and rice production. The report makes clear what they mean by science. CGIAR describes their research into seed genetics and new pesticides being developed to target a
particular pest called the brown planthopper. Science serves farming by making it easier to grow more rice and have better yields and the result is an expectation that rice farmers will gain the knowledge of the new pesticide and integrate it into how they farm.

Like *Climate, Agriculture and Food Security*, this report often alludes to environmental sustainability in the way it talks about rice farming rather than explaining the term itself. They suggest very specific approaches to very specific environmental problems. For example, they promote a lot of seed engineering and the Rice Genebank at the International Rice Research Institute to maintain seed diversity which they explain is a crucial part of the future of rice farming. The authors state that seed diversity is important in local contexts: “Farmers can also take an active part in rice conservation locally, particularly of ‘heirloom’ varieties that they have been growing for generations” (8). They describe farmers enacting knowledges of ‘heirloom’ rice varieties, something most of the farmers I interviewed do indeed incorporate into their farming practices. However, CGIAR also states that seed diversity is important for the global sustainability of rice production and quote Dr. Casiana Vera Cruz, an IRRI scientist who proclaims, “The conservation of traditional varieties is important to plant breeding […] They are untapped genetic resources and potential source of new traits such as pest and disease resistances as well as tolerance of the changing climatic conditions” (9). And seed diversity is written of in combination with teaching farmers how to “[blend] modern seed production technologies and crop management with traditional practices and heirloom rice varieties” (9). In order to ensure sustainable rice farming practices, CGIAR states in this document that disseminating globally-developed knowledge to local farmers is
crucial even as local farmers should do their share to meet those globally-developed goals.

Accounting for local farmers without truly accounting for the knowledges local farmers bring to the conversation is a theme in *GRiSP in Motion*. There is a section of the report entitled, “Customizing Communications for Local Audiences” in which the authors describe a model for communicating knowledge. They state:

> Named after a bicycle wheel, which has a central hub with a series of connecting spokes, the hub and spoke model greatly simplifies a network of routes, making overall operations more efficient. This model […] is proving to be effective when it comes to relaying agricultural technology and information from centers of research and knowledge out to those who need them the most – farmers. (18)

Even in instances where the report describes local concerns and “real-life” issues, the framework is still in terms of getting knowledge to farmers. The technology needed to sustain rice farming is developed for global impact in centers of research that are located far away from the fields of places like central Java. The role of the local is to share in the task of maintaining diversity and implementing technological innovations. These are the knowledges they should be enacting, according to CGIAR. The task of creating knowledge is not assigned to farmers in this document.

**SPPQT “TOT Pembenihan”**

The “Dido” recruitment video does not mention sustainability or deal directly with either definition of the term. This video does not really spend any time discussing it either, except for briefly in the introduction of what they do in the training and in the interview with one of the trainees. The narrator of the video explains that the field school was created so “the participants learn how to observe and analyze the agro-ecosystems.” There is not really a discussion of sustainability or why observing the agro-ecosystems is
important, but the way the video depicts the observation and training (including a
discussion of organic pesticides, for example) suggests that the purpose of understanding
the agro-ecosystems is to ensure an environment that can continue to be farmed.

The interviewee took up a large portion of the video. He was the only person who
had an extended dialogue in the video, so his answers seem particularly pertinent to how
SPPQT wants to present their training of trainers. The way he frames issues of
sustainability (without referencing the word, but in dealing with the environmental
definition) serve as a way of discovering what is missing from discussions of
sustainability in the global NGO reports, but also serve as a new way of reading the
farmer interviews and goals of the NGOs. He is situated as a regional interface between
the policies and new technologies promoted by the global NGOs and the farmers
themselves because he represents the point of view of SPPQT as a mid-level NGO. He
explained in his interview, “My principle is that if our neighbors prosper, first our
environment will be more secure. Second, the people around us will be more peaceful
and happy.” That is the only reference to the principles or definition of sustainability and
it is linked with prosperity and happiness for the farmers and community. Enacting the
knowledges of environmental sustainability or health is not discussed as crucial to global
sustainability or climate change mitigation. There is not a mention of his motivation
being global hunger eradication or anything beyond the community scope. His language
is an example of how local and global intra-act in the discourse of rice farming. On a
local scale, he is talking about the same issue (environmental sustainability) that the
global agents describe, but his goals for why it should be addressed are reflective of the
impacts of his local place and community.

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Pak Mohamed’s Farmer Cooperative Publication

Different from the SPPQT recruitment videos and some of the reports published by the FAO and CGIAR, Pak Mohamed’s publication emphasizes sustainability very specifically. For the cooperative, sustainable farming falls under the environmental definition of the term I provide early on in this section and it is positioned as what should be done to improve the state of farmers. As a situated way of knowing rice farming, sustainability is particularly visible in this document.

There is a lot riding on sustainable farming for Pak Mohamed’s cooperative. The document claims as one of its objectives that they want to “develop integrated organic farming through sustainable agriculture for the creation of a formidable farmer” (5). The mission of the cooperative includes, “Developing integrated organic farming as a means of struggle of the peasant movement […] as well as to master [sic] and develop agricultural technology and uphold local indigenous and environmental sustainability” (4). Farmers should not just adopt technology developed at central research hubs as CGIAR proposes, they should be developing them in service to sustainability and gaining autonomy. That is the way to empower themselves.

Organic farming is presented as synonymous with sustainable farming and in direct contradiction to most of the promoted solutions of the FAO and CGIAR. The introduction of the document asserts:

Since the launching of the Green Revolution movement in the 70s, chemical farming systems is growing rapidly, i.e. since the introduction of high yielding varieties that could potentially improve outcomes, but must be coupled with the high cost of production as well such as the use of chemical fertilizers and chemical pesticides with high doses […] The impact of the use of fertilizer [and] pesticide chemicals in high doses prolonged [sic] besides destroying the environment is that human health conditions are not controlled […] One solution is to begin to develop
organic farming systems. This technology restores the physical condition of soil fertility [...] The [Green Revolution and Biological Revolution] devastated social environment, technology, and local farming seeds that we have lost. (3)

I quote the document at length here because the cooperative goes to great lengths to link the Green Revolution and HYV technologies with soil and human health degradation. The cooperative’s understanding of the GR is in conflict with how the global NGOs discuss its effects. As I explain in the beginning of this chapter, the global consensus on the GR is that it was an important step in achieving global poverty alleviation despite some unintended environmental and economic consequences. As a local farmer who is farming land impacted by the GR, Pak Mohamed has created a cooperative that challenges that consensus. He enacts his own very specific knowledges about GR and organic farming by running this cooperative and creating a 100%, verified organic farm. His cooperative is adamant that the sustainable choice is to turn to organic farming and local seeds. The cooperative reveals a knowledge of the suggested practices and policies of the global NGOs and makes a strong stance in opposition to them.

Food Security and Farming

At this point it is clear that FAO and CGIAR most often discuss rice farming in connection to ending global hunger or malnutrition. As this has become a primary goal of both organizations, agriculture in general is often discussed in terms of how to ensure enough food for the whole world. Food security is goal of rice farming that is very influential to how FAO and CGIAR enter the discourse. Food security has a strong impact on how the global NGOs describe rice farming and agriculture. As a global goal, it leads to the descriptions of particular farming actions dedicated to ensuring enough food for the world. Despite the tight relationship between food security and rice farming
in the documents of FAO and CGIAR, it is not a relationship that is guaranteed or given for all of the stakeholders. It is not mentioned in the recruitment videos or the cooperative’s pamphlet, so they are not included in this section. Because of these differences, it is important to refer to food security as a powerful and sometimes overwhelming force in how the discourse of rice farming is framed by global NGOs, but not to consider it one and the same with rice farming.

**FAO State of Food and Agriculture**

In the “Economics and Farming” section, I included a quote from early on in this document that asserts the FAO’s stance on the role of agriculture. It is included again here to establish the way the NGO uses food security consistently as how it discusses agriculture. The authors state, “The traditional role of agriculture in producing food and generating income is fundamental, but agriculture and the entire food system […] can contribute much more to the eradication of malnutrition” (ix). That “traditional role” is the way the farmers I interviewed know rice farming. Traditionally, it is a means of livelihood focused on production and individual farmers. The way the FAO has presented the “new” role of agriculture almost makes it seem as though those who maintain the traditional view are being negligent or backward-looking. Agriculture should be understood as a major component of improving how food is consumed. FAO glosses over nuance and context for local farmers.

The *State of Food and Agriculture* report focuses on nutrition really specifically as the key element of food security and it deals in some depth about the need to focus on non-staple foods and food systems more broadly as a way of getting more nutrition into global diets. They explain, “Agricultural R&D could be made more nutrition-sensitive by
being more inclusive of small producers and focusing more resources on important non-staple foods and integrated production systems. Relatively little public agricultural R&D focuses on increasing the productivity of nutrient-dense foods such as fruits, vegetables, legumes and animal-source foods” (30). This suggestion could be positive or negative for the rice farmers. One the one hand, they are small producers and need more support. On the other, a global NGO making clear strides toward funding non-staple food production takes money and attention away from rice farming. FAO makes a point of emphasizing diversity in production and consumption as the way to achieve food security. They explain, “Agricultural policies that provide appropriate incentives and clear market signals that promote the sustainable intensification and diversification of production will improve nutrition more effectively” (27). Throughout the report, the authors make clear that demand (consumers) play a key role in manipulating the supply. Farmers will need to have knowledge of this kind of consumer demand and enact practices that account for farmers’ role in alleviating global malnutrition. A lot of effort is put into describing ways food assistance programs and education programs can help consumers make more diverse choices for more diverse food and better nutrition. The tenor of that whole conversation suggests that moving forward rice as a foodstuff will not be a priority unless it is biofortified to include more nutrients. In fact, the authors state explicitly, “Efforts to raise the micronutrient content of staples directly through biofortification are particularly promising” (x). But this direct shift in focus from making sure more staples are produced (which is still mentioned in this report) to ensuring more diverse food systems and biofortified staples like rice goes against the plans and actions of most of the central Javanese farmers I interviewed who are moving to organic and/or traditional seeds and
methods that will not include biofortification. They either do not have these knowledges of the strides scientists are making in biofortification or they are just not accounting for them when they do the work of rice farming.

FAO State of Food Insecurity

In contrast to the State of Food and Agriculture which was most interested in how to get nutrients to consumers, the State of Food Insecurity identifies a broader, more complex approach needed to achieve food security. This document begins with a quote from the World Summit on Food Security which states, “Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food, which meets their dietary needs and food preferences for an active and healthy life” (16-17). In comparison to the definition I am using from M.S Swaminathan, “physical, economic, social, and environmental access to balanced diet and clean drinking water,” this particular understanding of food security emphasizes food preference as a factor of achieving food security (453). The indication that preference will play a role is indicative that FAO has paid attention to the reactions to programs like the Green Revolution that did not necessarily take location or preference into account. It indicates that consumers have the right to make choices. There is no mention in the definition, however, for the preferences of farmers (there is no mention of farmer choice in Swaminathan’s definition either). Food security, a dominant factor in how FAO understands rice farming, assumes food is already produced and ready to consume. This report also lists early on four dimensions of food security that the document addresses: “food availability,” “economic and physical access to food,” “food utilization,” and
“stability over time” (17). All of the components in that list are influenced by farmers and yet farmers are not presented as part of the definition of food security.

While the definition of food security does not suggest farmers play an active role, the authors of this report do indicate that place does matter. Not only is preference indicated in the definition, the authors explain in several places the role location will play in achieving food security in the future. They write, “Food security is a complex condition. Its dimensions […] are better understood when presented through a suite of indicators […] This suite, compiled for every country, allows a more nuanced picture of their food security status, guiding policy-makers in the design and implementation of targeted and effective policy measures” (2-3, emphasis added). The acknowledgement that each country will have different indicators of what is inhibiting food security is a step from much of the language of the GR. As discussed in the economics section above, this report also addresses the concern that not enough household surveys are done to ensure detailed understanding of specific locations is reached by explaining that it is too expensive to address food security at the most local of levels (the household). However, FAO asserts the reality of nuance and the need to better understand it. it is a positive step even though the situated ways of understanding food security in each country must first be determined by policy makers before the practices farmers will enact are determined. Local context is described as important, but farmers are still not described as knowledge makers despite all of the evidence to the contrary I found during my interviews.

Alongside this positive change is the continued emphasis on the global. Nuance is always still balanced out by the big picture. The authors of the State of Food Insecurity state that they have made inroads on food security citing global statistics: “FAO’s most
recent estimates indicate that, globally, 842 million people – 12 percent of the global population – were unable to meet their dietary energy requirements in 2011-2013, down from 868 million reported for the 2010-2012 period in last year’s report” (8). Those numbers, while perhaps impressive, do not indicate any sense of nuance or location. The difference in tone is distinct between discussing the role of place in addressing food security and increasing the size of the place to a level that flattens local distinction. This document spends a lot of time moving between concrete, global numbers, and suggestions for place-tailored interventions and measurements. This is illustrated in a statement made three pages after the very specific global statistics. The authors explain, “Progress in reducing hunger reflects country and regional specificities in terms of economic conditions, infrastructure, the organization or food production, the presence of social provisions and political and institutional stability” (11). This list of factors in progress offers a lot of room for difference between places, but it does not have the impact of those solid numbers.

Already in this section I have discussed that the definition of food security FAO uses does not indicate that farmers’ perspectives are part of how the definition came to be written. Tellingly, this document does indicate the importance of “supply-side measures” in increasing food security “to reach large rural populations in the absence of adequate physical and institutional infrastructure” (11). According to the State of Food Insecurity, demand-side measures are most important, policy and infrastructure measures are next in importance, and when those things are not in place, investing in agriculture is suggested. This suggests that while FAO did learn from the GR that specific places would impact global goals, the decision to move forward with consumer-driven policies has been
maintained. Investment in agriculture is still meant to get food out to people rather than to support the livelihood or culture of farmers themselves. This may seem like an obvious or unimportant distinction, but food security as a primary lens through which the FAO discusses farming means that farming is reduced to something done in service to others rather than an empowering skill or cultural tradition. The practice of farming is functional. That affects policy decisions in ways that do not account for the farmers like Pak Agus, Pak Yudi, and Pak Ade who understand farming as a cultural practice or a way of life.

**FAO Regional Rice Strategy**

Being dedicated to rice specifically, this document addresses rice farmers more than the other documents published by the FAO. In the preface to the report, the authors assert:

Rice production is an important source of livelihood for around 140 million rice-farming households and for millions of rural poor who work on rice farms as hired labour. It is a *strategic commodity* as the overall economic growth and political stability of the region depend on an adequate, affordable and stable supply of this staple crop. Despite the substantial increase in rice production in the wake of the Green Revolution, important challenges remain in ensuring an adequate and stable supply of this important commodity affordably to poor consumers. (ix emphasis added)

There is a lot in this statement to focus on for an analysis of how food security is used to discuss rice farming. This statement begins with a declaration of the importance of rice farming for the livelihoods of millions of people around the world. But it does not discuss the importance of rice farming for the social or cultural importance. Directly after explaining its importance for farmers, the authors take the ownership of rice away from them by positioning it as a “strategic commodity” for the region, erasing locality. They
then situate the GR as a positive forefather to current attempts at food security without indicating any of its problems. From the beginning of this report, rice is positioned as something separate from the farmers or their farms even though all of the farmers I spoke with in central Java have intricate knowledge of rice from the types of seed available to their different growing periods and input needs to their different intra-actions with various chemicals and pests to the price of those different varieties in local markets.

Even in mentions of environmental impact, which is by definition a material impact that changes from place to place, the Regional Rice Strategy presents it as a regional problem thus rendering it an unspecific problem. The authors state, “It is important that the environmental footprint of rice be minimized while augmenting ecosystem and landscape functions, including the protection of rice heritage and conservation of biodiversity” (10). Problems might be local and specific, but this regional approach will fix them all. The region as the place this report focuses on is apparent in the specific mentions of food security as well. There is a lot of work done to link Asia to Africa, the current focus of food security and rice farming. For example, the authors write, “As Africa is currently a major destination for Asian rice exports, the food security of Africa at least in the near term will depend on Asia’s ability to maintain its exportable surplus, although production within Africa is likely to increase over time” (5). Finding in this statement an understanding of rice farming that echoes what the interviewed farmers revealed proves difficult. Not only is rice a product for consumption, “Asia” will be exporting it to “Africa” only until “Africa” starts to grow enough on its own. I put quotation marks around “Asia” and “Africa” to emphasize how vague and unknowable those places are as defined in this report. What about farmers and countries or areas in
countries that do not export like central Java? What about the farmers who export who will eventually lose a major source of revenue when “Africa” can grow enough of its own food? This report is in many ways the most place-specific because it references a particular region of the globe, but its treatment of that region is still very general. Food security in one region means significant economic and environmental responsibility in another. The report addresses that issue not in discussing ways to get local farmers more involved in determining next steps, but instead, “Clearly member nations and organizations such as FAO have important roles in facilitating wider consultations for developing an implementation plan that includes dimensions of both regional coordination and country-level policy” (32). Regional, and country leaders need enact the knowledges FAO is sharing about their regional rice strategy in order to devise a plan, and local farmers are relegated to a passive role, awaiting instructions on how to farm and for what purposes.

CGIAR Climate, Agriculture, and Food Security

The last section of this document detailed the close connection CGIAR makes between climate change and food security. Food security itself is presented as endangered by climate change. The way CGIAR understands climate change impacts the way the NGO understands agriculture. That impact has led to a report dedicated to enacting literate practices better suited for adapting to climate change so that food security can be achieved. At the same time, this document does the most to emphasize the need for local intervention and local knowledge. The result is a discussion of food security and agriculture that manages to get specific about central goals and how central knowledge needs to approach local places, but again never specific about the fact that farmers’
literate practices or goals may not be the same. As the authors explain, “If we are to understand real-life impacts, and develop meaningful responses, we must look at climate change and agriculture within [a] global system” (4). They go on to write:

Policies may have unintended consequences […] Climate-focused policy may lead to unintended and potentially contrary outcomes on rural livelihoods and environmental systems – for example, policy that aims to climate-proof food production systems by developing large-scale irrigation drawing on rivers may inadvertently destroy livelihoods of fishing communities downstream by altering streamflow. Reconciling poverty alleviation, agricultural and rural development, economic growth, sustained ecosystem services, and climate change adaptation and mitigation, among other global needs, will be an enormous challenge for policy makers”(14).

This is the most specific description of what local context could look like, but it still does not suggest a consideration of how farmers respond to “climate-proof food production systems” or if they will respond at all. Local is still presented as a thing that needs to be overcome.

Local as a thing to be overcome means local farmers are mentioned, even in some detail, without their perspectives really being fleshed out. Solutions are made for the farmers who face local problems. This is clear in statements such as “While adopting drought-tolerant varieties of crops may be a sufficient response in some systems in the coming years, others may need to completely rethink their crops, or change to livestock keeping, or to another livelihood strategy” and “Farmers depend on their crops performing well in good years, so the need is for crops that are able to perform in difficult environments, but also produce high yields when conditions are more favourable” (21, 25). The central Javanese farmers I interviewed are proud of their history as rice farmers and the heritage that represents. While an important value to them, and most likely a reason they would not change what they farmed, the role of culture is overlooked in these
statements. Most of the farmers I interviewed are planting local, non-HYV seeds, but this document presents drought resistant seeds as the primary method of adapting to climate change. CGIAR presents farmers in these statements as who they are looking out for, but the language suggests they are thinking for farmers rather than listening to them.

CGIAR GRiSP in Motion

CGIAR’s rice-specific report reveals an impact of food security on how the authors understand rice farming in ways very similar to those of the FAO. Because food security is consumer-based, it impacts the way rice farming is understood in very different ways from farmer autonomy or even economics and sustainability. In the beginning of the report, the director of GRiSP asserts in his letter, “Since its launch in 2010, we have considerably strengthened our partnership foundation for mobilizing science to increase food security, alleviate poverty, and increase the sustainability of rice production” (3). They make it very clear that science is how they understand food security which is therefore how they understand rice farming. HYVs and other lab-based improvements to rice are considered a key part of food security.

Breeding and specific varieties like AfricaRice and NERICA are lauded for how they will revolutionize rice farming and bring the world closer to food security when correctly packaged and marketed. There is a significant focus in this report, as a major difference with the FAO Regional Rice Strategy on the physical agents themselves – the rice, the genes in the rice, the packaging, the water – and how they impact the future of agriculture. Rice as a staple food is presented as an object to be manipulated on multiple physical levels in order to achieve food security, especially in Africa where much of this report is focused: “[The] overall strategy is to advance Africa towards the concept of
‘modern breeders’ to efficiently exploit this potential for food security in Africa” (27). The farmers lose some of the responsibility for producing rice in the way the future of breeding (developing new varieties) is presented. With the right physical tweaks to the genes themselves, all farmers will need to do is add water and science will have done the rest. Rice science, as it is called in this report, will improve “farmers’ livelihood and food security” as long as there is “strong leadership at every level” (30, 29). Pak Mohamed, Pak Amade, and Pak Ade all spoke of the necessity for farmer sovereignty and authority. But this is a global document dedicated to the future of rice agriculture that takes farmers away from the center.

Conclusion
The sections in this chapter reveal that FAO and CGIAR understand rice farming as an action always already impacted by specific knowledges of things like climate change and genetic science as opposed to how the central Javanese farmers understand rice farming as always already impacted by specific knowledges of things like seed prices, family and cultural history, seasons, and water tables. The ways FAO and CGIAR understand rice farming is place-based in the same way as the farmers detailed in Chapter Four, but the places are much larger in size. Global ways of knowing farming, even rice farming more specifically, dictate how the global NGOs suggest future action and why those actions are suggested. The mid-level organizations, SPPQT and Pak Mohamed’s cooperative, in their position as regional interfaces or nodes in the network (as Urry might describe them) reveal knowledge of global and local perspectives of rice farming. Just like the differences between individual farmers’ knowledges and literate practices in Chapter Four, the descriptions of knowledges and literate practices that I have identified
in this chapter differ from agent to agent. The ways they influence each other, and the ways they are influenced (or not) by farmers’ literate practices, choices, and local context add to the picture of the entanglement of the discourse of rice farming begun in the previous chapter. By examining the discourse of rice farming as an entanglement, I reveal the impact of a place’s specificity on the central Javanese farmers’ and global NGOs’ representations of literate practices. I have traced where each agent’s representations come from and how they intra-act with each other and with nonhuman and inanimate agents. In tracing the entanglement this way, I make clear the differences between agents and their motivations, but also show how they continue to impact each other as they intra-act. In the next chapter, I bring the results of observing the discourse as an entanglement into clearer focus and suggest some implications for the future of the discourse of rice farming now that the traces left by the agents have been outlined.
Chapter 6

Conclusion

Introduction

I argue in this dissertation for extensions to *what* counts as impacting discourse (inanimates, material intra-actions) and *where* studies in environmental rhetorics focus. I make these arguments through the complex work of examining a real, local place and how the material intra-actions in that place are entangled with the material intra-actions happening in a larger, global space. In Chapter One, I introduce the specific place of central Java, Indonesia as worthy of rhetorical study and why I have situated that place as part of an entanglement in the discourse of rice farming that includes the farmers, inanimates, and nonhumans on the farms as well as the global NGOs that report on what rice farming should do and be. I present my review of literature in Chapter Two that complicates the distinctions between local and global, materializes literate practices and discourse, historicizes current global trends of food security as an evolution of the Green Revolution, and situates my study in the field of environmental rhetorics. In Chapter Three, I share my methodology for bringing complex theories and methodological practices together in order to do the work of rhetorically analyzing the interviews with rice farmers in central Java together with, and through, the published reports of regional and global NGOs. Chapters Four and Five include the analyses of the farmer interviews (Four) and NGO publications (Five). In this chapter, I offer conclusions about what a diffractive reading of Chapters Four and Five reveals about the importance of place in the literate practices of human agents who participate in the discourse of rice farming. I also
suggest future directions and approaches for this research and the field of environmental rhetoric.

I argue in this dissertation about how place impacts the discourse of rice farming as it has evolved and will continue to evolve. Central Java, Indonesia as a place with specific topographies, cultures, and ecosystems impacts which agents are in the discourse and how those agents access it. Chapter Five includes an explanation for why it is important to perceive the global as a place. It is inhabited, interpreted, interacted with, and changed. I now focus on identifying specific places, local and global, as important for emphasizing that the literate practices employed by global NGOs like FAO and CGIAR are place-based and respondent to specific ways of knowing the globe as a place. It is also important because on a global scale, specific places like central Java often get flattened so that they are no longer distinguishable. Marking the global as a place means acknowledging its boundaries. If the global has boundaries, it can interact and entangle and be enfolded with other places. It no longer subsumes the local, but interacts with it in ways that change both.

Within specific places like central Java, Indonesia, environments impact how humans value and what humans value and how they talk about their values. New materialism takes physical environments into account in this kind of way. As Rickert explains in *Ambient Rhetoric*, “[To] have a world is also to be invested in that world” and yet, “the discussion of materialism occurring in rhetorical theory has not confronted the vitality of matter” (13, 21). The ways in which the physical environments of the farms in central Java and the global social and economic environments impact the literate practices of humans is a major component of this dissertation. I contend that specific
places like Central Java interact with humans in specific ways. Those interactions then impact the ways humans understand those places.

I have emphasized the need to distinguish between places in order to determine what is particular about them and to see how they entangle and impact each other. An analysis of the particularities of central Java as seen through the farmer interviews and the globe as seen through the published reports of FAO and CGIAR reveals that place is more than location and more than difference. A place is made up of the humans, nonhumans, and inanimates that exist there. Because humans, nonhumans, and inanimates are existing together, they are impacting each other. That includes the ways the literate practices of humans are developed and enacted in response to intra-actions with nonhumans and inanimates. In Ambient Rhetoric, Rickert argues for a theory of rhetoric that can reveal a fuller picture of how ideas and ways of knowing come into existence. Place and context are an integral part of that. What both Rickert and Barad make clear is that representation is not sufficient for understanding truth. Barad argues that truth and objectivity can no longer be represented as dichotomous entities, distinct from context or performance or engagement with the rest of the world. She suggests instead that we study “the detailed dynamics of the actual practice [of knowledge-making]” (47). Barad calls these dynamics performative enactments and explains, “knowing does not come from standing at a distance and representing but rather from a direct material engagement with the world […] And humans are not the only ones engaged in performative enactments” (49). Landscape, lively and distinct, engages with the humans who create the boundaries of place. The impacts of those engagements are seen in how two groups of human agents (Javanese farmers and global NGOs) engage in
the discourse of rice farming and how that discourse gets shaped and reshaped as a result of those place-based intra-actions.

One of the major revelations of this project is how important distinguishing between local place and global place is to establishing the validity of all agents’ material impact on the discourse of rice farming. Specificity of experience, that situated context, determines what and who have agency and how they have agency. But marking the boundaries of physical place is not a means of suggesting that what develops in a specific place is not impacted by and impacting other places. While it is necessary to distinguish between the very local experiences of the farmers in central Java and the very global experiences of FAO and CGIAR, those experiences and the literate practices enacted within them are entangled together. Social geographer Cresswell contends that it is meaning that makes a place. Place is a “way of seeing, knowing and understanding” that reflects “not so much a quality of things in the world but an aspect of the way we choose to think about it” (Place 11, emphasis added). Or, as Myerson and Rydin explain, the world “comes into being through discussion” (Language 2). Places have distinction and are determined by how they are used and experienced, but they are not static. By delineating local from global, I am accounting for the way users of those specific places see, know, and understand them and accounting for how agents inside and outside those places impact the seeing, knowing, and understanding.

Part of distinguishing between the specific farms in central Java and the global place as experienced by FAO and CGIAR is acknowledging that “the ubiquitous mobility of the world is too often portrayed as a universal condition resulting from transformations in capital (Massey qtd in Cresswell 71). The ways and reasons people move from place to
place, understand a place, or understand global flows of money, policy, or information are not homogenous. Tsing emphasizes this fact in *Friction* when she describes the way a particular story from Chico Mendes’s experiences as a rubber-tapper in Brazil made its way to the forest dwellers of Kalimantan, Indonesia in a globalized environmental effort to stop forest clearcutting. As the local place changes, so too does the story and its purpose. The way the story changes as it encounters a new local places is an example of the landscape being a “lively actor” (Tsing 29). It is not that a place as small and rural as a farm in central Java is completely separate from more urban or cosmopolitan places. That is a trap that scholars across disciplines warn against (Tsing, Street, Goggin, Donehower, Hogg and Schell, etc). A small farm in central Java encounters globalization through its situated context. That small farm, like Pak Ade’s at the base of a large terrace of small farms with its rat problems and its minimal access to water, is a lively actor in how global fluids as Urry calls them, or global movements, or global policies from NGOs, are responded to and interpreted.

Delineating a local place like central Java from the global is not about distinguishing them as separate (like concentric circles) or as the local completely erased by the global. The relationship between the place of central Java, Indonesia and FAO and CGIAR’s global place is an intra-active entanglement that obfuscates difference when observed from outside and distinguishes difference when observed from within. For example, before I traveled to central Java to interview the farmers, I identified food security as a clear goal for rice farming. The discourse of rice farming, which I did not yet see as an entanglement, was a conversation about how to ensure global food security. Once I went to the actual farms in central Java, I saw the discourse from within. What
seemed to be flat from the outside – that the discourse was in service to food security – became variegated and complex. In the introduction to a special issue of *Rhetoric Society Quarterly* on regional rhetorics, Rice explains that global and local are not concentric circles, but enfolded. She suggests conceptualizing of the regional as the fold. A region serves as a strategic interface between local and global. Regions enable local and global to meet and interact by enfolding them together. Rice contends, “[Regions] are important not so much for its veracity or its dialectic movement, but more for its ability to create novel ways of appearing in publics as publics” (211, emphasis in original). Rice’s argument echoes Tsing’s concept of friction. Both scholars are describing the ways in which the local is agentive in its dealings with the global. It responds and impacts. Global and local are, as Barad and I argue, entangled, but that does not mean that the larger subsumes the smaller.

Both Chapter Two and Chapter Four include sections discussing Donehower, Hogg, and Schell’s concept of rural literacies. I have explained why it is necessary to identify specific places, but one of the problems in the discourse of rice farming – the one that led me to believe the discourse was a conversation about how to achieve food security – is that rural places are often framed as needing help from urban centers of knowledge. FAO and CGIAR understand the globe from an urban perspective. They are based in cities in Europe like Rome and Paris that are very far away from the Asia and Africa they want to fix (see Chapter Five). This idea of *lesser than* urban stems from what Donehower, Hogg, and Schell define as “a more pervasive rhetoric of lack, originating from those who are not themselves rural and whose stake in rural communities differs from that of those who actually live there” (27). So much of the
reports analyzed in Chapter Five talk about rice farms in terms of lack and need. Later in this chapter, I compare how all of these human agents in the discourse of rice farming explain the importance of rice farming (or agriculture more generally). What I show is that these different agents truly understand rice farming differently. They have different objectives (food sovereignty and food security as an example), and enact literate practices that are developed in the specific places, like a farm in central Java, where they learn their ways of seeing and knowing and interpreting.

Chapters Four and Five (Data Collection and Analysis) reveal just how different the knowledges, literate practices, and goals of human agents in the discourse of rice farming can be depending on where they are developed. The chapters show that these things shape, and are shaped by, the ways the agents access the discourse of rice farming. The literate practices intra-act in ways that are social and, in the case of the farmers, communal and cultural. Chapters Four and Five also show how those knowledges and literate practices are impacted by the physically material nonhuman and inanimate agents with which they come into contact. All of the human agents whose interviews or published reports are analyzed for this dissertation agree that farming is important. How it is important to each of them is indicative of the troubles within this particular entanglement of the discourse of rice farming.

The Importance of Farming to Farmers

The last question I asked each of the farmers I interviewed was whether they think farming is an important job. This question was part of my original list of questions developed in the pilot study and the purpose was to give the farmers a chance to situate their jobs in whatever context they felt was relevant. The responses reflect the very
different ways they see themselves and what they do. They emphasize how important place and context are to the types of knowledges (including literacies) developed and enacted by each farmer.

Bapak Mohamed

Pak Mohamed’s response to this question matches his self-identified mission to be a farmer advocate and organic farming promoter. He explained that farming is important for the economy and the community, both locally and globally. He reiterated that he “[wants] to be the farmers’ champion in the country because [he] can influence the farming community about organic.” Pak Mohamed’s answer and his interview as a whole reveal someone who makes purposeful choices that he thinks will benefit everyone in the long run. His positioning of organic farming as the way to improve the economy and the community suggests someone confident that addressing local problems will lead to globally-felt results. He describes literate practices like the process of farming and the work of organic farming that are tied to intra-acting with his farm in physically material ways (see Chapter Four), but the impacts of rice farming are not just in the physical negotiations with the land. For Pak Mohamed, rice farming is important and impactful for the social betterment of Javanese farmers in Indonesia and the health of the land they farm.

Bapak Yudi

In contrast to the outward-looking response of Pak Mohamed, Pak Budi’s response to the question of if rice farming is important was unsurprisingly tied to his own very particular circumstances. He answered, “Yes, it’s important because the only way for me to make money is to farm.” His answer, like all of his answers, reflects his
position as a contract farmer and the day-to-day realities of that living. It is a basic and
direct relationship between farming and his economic needs that appeared consistently in
all of his answers. Like Pak Mohamed, much of the way Pak Yudi describes his literate
practices on the small, rented farm in central Java show he is heavily impacted by the
inanimates and nonhumans he encounters as he does his job. But also like Pak Mohamed,
farming is important in ways that are not just physical. For Pak Yudi, those ways are tied
to individual livelihood rather than the well-being of his fellow Javanese rice farmers.
The chemicals he uses to fertilize the rice are tested and he knows he can count on them
to work, but he also knows from experience the best times to spread the fertilizer.
Manipulating his crop with the chemicals on a specific schedule enable him to best
control his economic future. He knows that planting rice that takes longer to grow means
there is a better chance that his crop will be ruined by rats and that will reduce how much
money he makes. Pak Yudi’s specific plot of land near the headquarters of SPPQT, which
he has rented since the 1980s, intra-acts with him in ways that determine how the literate
practices he enacts to farm develop. The descriptions of his literate practices reflect those
specific intra-actions and they are different from Pak Mohamed’s.

Bapak Agus

Unlike Pak Mohamed, Pak Agus was resistant to positioning himself or his job in
a global context, but he also was not completely driven by his individual economic needs
like Pak Yudi. His response shows a farmer with a very particular definition of
community: “[It is important] to work and it’s my everyday life. It’s for our needs too
(…) I get money for my family and I work with my neighbors. I feed people with the
rice. My family is more important, but if I sell it it’s also for families.” Pak Agus made
clear in his interview that family and neighbors make up the community to whom he feels responsible. Those intra-actions are the dominant impact on how his literate practices have developed even though he learned to farm by following his parents just like Pak Mohamed and Pak Yudi. Pak Agus’s lack of interest in the global state of farming or global ecological health appears more driven by idealism than Pak Yudi’s. He places value on what he believes it means to be a farmer in central Java that is communal and familial before it is economic or physical. When Pak Agus discusses the practice of learning to farm and the work he thinks the Indonesian government should do for farmers, his explanations are impacted by his intra-actions with his family and community. Pak Agus describes the importance of farming in the same way he describes his knowledges, literate practices, and goals in our interview. Even his descriptions of the physical intra-actions with his farm and the new fertilizer he uses, like in The Process of Farming section of Chapter Four, are embedded with the traditions of his family (the soil is soft like when his ancestors farmed) and his community (his rice is for the local schools and markets). His literate practices are impacted by his knowledges of the process of farming, organic farming, and how he learned about farming. He enacts them in order to do the work of farming and describes them in his answers. They are absolutely impacted by the physical materiality and specific place of his job. But above all, rice farming is important because of how it has shaped his social and familial relationships.

Bapak Ade

When asked if he thinks his job is important, Pak Ade replied, “Very important. If there are not farmers, all the people in the world will die.” The translator actually followed up on this question. He asked, “In your opinion, you give food to the world?”
and Pak Ade said that he did. The community of farmers that Pak Ade identifies is global and sounds very similar to how proponents of food security position farmers. They feed people. He contextualizes himself as part of that truth. When asked who it is that he thinks he feeds, he explained, “The whole world. The people in this village require a small amount of the food produced on this land. This land is large enough to feed many people.” This particular answer meant to highlight the difference between what is needed locally and what they can produce locally acknowledges the state of food security in some ways. Pak Ade’s response is basic need driven rather than driven by the future of farming like Pak Mohamed’s answer or family driven like Pak Agus or individual income driven like Pak Yudi. Pak Ade produces more than he needs (the physically material component of agriculture) and therefore feeds more than the people he encounters in his daily life (the social component).

Bapak Amadi

In Chapter Four, I discuss Pak Amadi’s statement that farming is in his heart in some detail. He followed up on that sentiment in his answer to whether he thought farming was important. He answered, “Very important. Everyone in this world is in need and is associated with farmers. Life in this world is supported by farmers (…) It is my soul. I have the spirit of a farmer.” This answer reveals a strong love for the job he sees as maintaining life itself. This way of imagining the job of the farmer suggests a motivation driven more by pride in producing something vital to humanity than economics. Pak Amadi makes the social material by pointing to how physical life is sustained by his job. His answer to why agriculture is important does not make the same distinction between the physical act of farming and the social impacts as the other
farmers. His literate practices such as planting, growing and harvesting using organic method and creating a cooperative to stabilize prices for farmers reveal he understands farming in the same ways, both physically material and social, but he sees those two components are more linked than perhaps all of the other human agents.

*The Importance of Farming to Global NGOs*

In each of the documents from FAO and CGIAR that I analyze in Chapter Five, the authors have an assertion in a Foreword or Executive Summary as to why *agriculture* is important. I emphasize that FAO and CGIAR are often describing the importance of agriculture rather than rice farming or rice farming in central Java because it is evidence of the NGOs’ particular, global place-based position. They are looking at agriculture on a global scale as part of the key to ending malnutrition and food insecurity. As Goggin argues in *Environmental Rhetoric and Ecologies of Place*, globalization is often framed as an erasure of difference; globalization flattens what makes local places specific. Urry’s explanation of Globally Integrated Networks (GINs) is a good example of this type of globalization. The descriptions of why agriculture is important that appear in the Forewords and Executive Summaries of these reports are other examples of it. Unlike the farmers, the FAO and CGIAR explanations are globally and institutionally situated first, as opposed to locally and communally. I argue in the introduction of this chapter that the global is a specific place, but that understanding the global itself as a place in this dissertation is not about erasing difference or subsuming the local, it is about delineating between global and local in order to observe how they entangle. I also explain in the introduction that FAO and CGIAR reports are coming from urban positions. That is, they do not experience rural places like central Java in the same ways as the farmers who live
and work there experience those places. The farmers are enacting literate practices that
develop from their rural literacies which, as Donehower, Hogg, and Schell explain, are
the knowledges necessary to sustain rural life. FAO and CGIAR are enacting literate
practices that have developed from urban ways of knowing. As global institutions, they
are physically situated in urban cities (Rome for FAO and 15 major cities around the
world for CGIAR including Jakarta, Indonesia). How these organizations engage with
farmers, rice farming as an object of study, and the actual work of rice farming is from an
urban, global-based perspective that impacts why FAO and CGIAR think rice farming is
important (and why it is often grouped under the heading of agriculture). The differences
between the explanations of the farmers and these of the global NGOs are clear evidence
that the places where human agents are developing their literate practices, including the
inanimates, other humans, and nonhumans they intra-act with, are crucial to how they
impact the discourse of rice farming.

FAO State of Food and Agriculture Report

The purpose of this report is to present various ways to eradicate global
malnutrition. Because malnutrition is the main subject, the authors of *The State of Food
and Agriculture* discuss the importance of agriculture in terms of how it fits into the
targeted purpose. In the Executive Summary located at the beginning of the report, which
summarizes the later pages and emphasizes the need for action, agriculture is presented as
one part of a larger food system that should be dedicated to improving nutrition across
the globe. The authors explain, “Maintaining the momentum of growth in agricultural
productivity will remain crucial in the coming decades as production of basic staple foods
needs to increase by 60 percent if it is to meet expected demand growth” (x) The authors
of this report state that the demand side of farming is the most important. Unlike what the farmers from central Java explain, which is that rice farming is important for individuals and communities, what is “crucial” about agriculture in this report is producing enough to keep up with demand. It is not farmer livelihood or familial tradition.

FAO State of Food Insecurity

Before presenting the quote from *The State of Food Insecurity* that reflects the documents’ presentation of why farming is important, I want to focus on a sentence from the Foreword that supports Pak Mohamed’s and Pak Yusuf’s argument that farmers are not the subject when the goal is food security. The authors state, “[With] political commitment, effective institutions, good policies, a comprehensive approach and adequate levels of investment, we can win the fight against hunger and poverty” (4). In this statement about what is important to food security, the actual act of farming is not mentioned. Instead, food security is listed as one of several targets of the statement above: “[Policy] interventions to improve food security need to include nutrition-sensitive interventions in agriculture and the food system as a whole, as well as in public health and education, especially of women” (4). What is telling here is the difference between food security and food sovereignty as defined by Pak Mohamed. In food security, agriculture is one of several factors highlighted as part of the solution to end world hunger. Food security is ensured by NGOs, governments, and policy makers. According to Pak Mohamed, in food sovereignty, agricultural policies are what need to be solved and they will be solved if farmers are given the autonomy to plant and farm using traditional seeds and organic methods.
FAO Regional Rice Strategy

Since this report focuses on rice specifically, the importance it places on rice farming is particularly interesting as a comparison to the farmers’ positions. In the Executive Summary, the authors assert, “Rice production is an important source of livelihood for around 140 million rice-farming households and for millions of rural poor who work on rice farms as hired labour. It is a strategic commodity as the overall economic growth and political stability of the region depend on an adequate, affordable and stable supply of this staple crop” (ix, emphasis added). In Chapter Five I discuss how this document declares that specific and physical places and farmers are of vital importance to the future of rice farming yet never shares the specifics of local places or farmers. This quote is reflective of that because it reveals FAO’s complex position as an organization that emphasizes locality without making locality knowable. As such, the breadth of impact of rice as a commodity is highlighted as why it is important. There are shared elements of how this document discusses the importance of rice farming and how the farmers in central Java discuss it. Every farmer talks about farmer livelihood in some way whether it is individual as with Pak Yudi and Ibu Siti or the larger community as with Pak Mohamed and Pak Amadi. Every farmer talks about the physical factors involved in farming, and in dealing with the economic realities of selling harvests, they talk about rice as a commodity. Yet their answers are specific to individual experience and their farms in central Java. The Regional Rice Strategy emphasizes place and physicality in general ways (farmers, commodity, region, crops) without the possibility of the details provided by the actual farmers.
The importance of agriculture in this document is in how its future as a science determines ways of adapting to climate change. One of the elements of learning to adapt, according to this report, is to learn more from local places and farmers and how they respond to changes in climate. Like the *Regional Rice Strategy*, this report manages to encourage focus on specific people and places without really sharing what that looks like. The Foreword states that “Agriculture and forestry are central to the [climate change] debate, since the sectors contribute about one-third of the global warming potential but are also very sensitive to a changing climate” (iii). It goes on to explain, “[The] CGIAR strives to foster sustainable agricultural growth through high-quality science aimed at benefiting the poor through stronger food security, better human nutrition and health, higher incomes and improved management of natural resources” (iii). Agriculture is important because of how it interacts with climate and is impacted by science. It is a physical act that is done in service to the social (poverty, food security) in ways that echo the way farmers talk about their literate practices of in the Process of Farming and Organic Farming sections of Chapter Four. However, the description of the importance of agriculture in CGIAR’s report reflects that the global is a place, both physical and social, from which CGIAR develops its literate practices. Agriculture, poverty, and food security are globalized and therefore do not reflect the specific central Javanese landscape, inanimates, nonhumans, and humans intra-acting to do rice farming.

**CGIAR GRiSP in Motion**

The last published report I analyze is another one that focuses specifically on rice. As with the other CGIAR report, science drives the framework and the solutions and
agriculture is in service to something else. It promotes a theory of agriculture that is very physical and is an example of the primary difference between global place and local place and how they impact the way rice farming is discussed. In the introduction, the director Bas Burman writes, “GRiSP aims to develop science-based solutions to today’s and tomorrow’s agricultural development problems. It mobilizes partners that operate on the cutting edge of science at one end of the globe and connects them with grassroots partners at the other” (3, emphasis added). Agriculture is important because of what it needs in order to develop more successfully. In the global place as I have defined it in the introduction to this chapter, where agriculture is understood from urban and institutional positions, science and solutions are separate from farming.

**Contributions**

By emphasizing that understanding specific places like central Java is necessary for understanding how the discourse of rice farming entangles, I am making two major contributions to the field of environmental rhetoric. First, by focusing on the inanimate, nonhuman, and human agents in central Java, I have expanded where, what, and who is studied in environmental rhetoric. That is a key component in this first contribution I am making to environmental rhetoric which, so far, has focused primarily on the United States in a way that does not challenge the flattening of difference between places. When most case studies in the field are looking in this one part of the world, it begins to stand in as a global representative. I contend that as a field, we need to be more active in differentiating between places and how place impacts the rhetorics of environmentalism and sustainability and the literate practices enacted in issues of environmentalism or sustainability. In the introduction to *Environmental Rhetoric and Ecologies of Place*,
Goggin explains, “Place is a concept of human value where globalization is seen and welcomed for many as a signifier of the redundancy of place as geospatial identity becomes increasingly irrelevant to communication and commerce” (3). Redundancy of place as an identifier is often welcomed in the ways globalization is theorized and discussed. By analyzing a farming community in central Java, I challenge the idea that redundancy of place as identifier is inevitable or even possible. In many ways environmental rhetoric already challenges this perception of globalization because, as Goggin goes on to explain, “The environmental impacts of global commerce are always located someplace that is real and discrete” (4). However, the literature published in the field does not yet reflect the reality of extreme variation between places and environmental impacts on those places. In 1996, Herndl and Brown argue in their collection *Green Culture* for an ethics of social responsibility in how the idea of “environment” is talked about so that the public can participate more fully. They are absolutely arguing for the need to bring in the discourses of specific people in specific places, but *Green Culture* is a collection of American case studies. One chapter, Katz and Miller’s “Low-Level Radioactive Waste Siting Controversy,” argues for the necessity of better public participation in how decisions about the environment get made. Another, Waddell’s “Saving the Great Lakes” examines all of the ways bureaucracy dictates how information gets disseminated to the public rather than the public being active participants in producing information. Ken Deluca’s 1999 *Image Politics* similarly argues that we need to see humans are part of nature. He analyzes the way the media as it currently exists is not a democratizing force for the public. His examples all come from American media representations of usually, but not always, American examples of
environmental action. Waddell’s 1998 *Landmark Essays on Rhetoric and the Environment* is replete with persuasive essays about the state of American environmentalism. Killingsworth and Palmer’s *Ecospeak*, itself a landmark in the field published in 1992, is an analysis of the ways Americans engage in “ecospeak” and therefore remove humans from environment in unproductive ways. There are exceptions to this trend, of course. Mimi Sheller describes how tourism impacts detrimentally impacts the environment of Caribbean Islands in *Consuming the Caribbean* in part because tourists forget that local people live and work on those islands. Goggin and Long published an article in *Community Literacy Journal* about the coalition between a Bermudian newspaper and the residents of Bermuda in a fight against a hotel developer. However, as a collection of scholarship including *Environmental Rhetoric and Ecologies of Place*, environmental rhetoric is overwhelmingly about places within the United States. My dissertation fills that gap a little more.

The second major contribution I am making to the field of environmental rhetoric is by focusing more closely on the impact of inanimate and nohuman agents on the discourse of rice farming. Much of the scholarship listed above and elsewhere describes the need for more public (non-institutional, nongovernmental) participation in decisions that impact the environments where people live or visit or want to preserve. Herndl and Brown, Myerson and Rydin, and Killingsworth and Palmer all argue for the need to stop differentiating between human and environment. Rickert and Barad emphatically argue for an approach to existence that acknowledges humans are embedded in the places they dwell and that other agents are also embedded there. My dissertation presents an extended analysis of what this kind of materialism looks like. I present here an example
of the specific ways place (including inanimates, nonhumans, and humans) impacts the literate practices of the farmers and the global NGOs. Chapters Four and Five provide diffractive readings of the discourse of rice farming. They “[mark] difference from within and as part of an entangled state” of the discourse (Barad 89). Chapter Four marks the components of the discourse of rice farming that come from small farmers and farms in central Java. Chapter Five marks the components of the discourse of rice farming that come from global NGOs and local farmer organizations. Both chapters show that the discourse is complex and, depending on what is being measured, influenced by different knowledges, literate practices, and goals used to do the work of rice farming or discuss rice farming. In this chapter, I share the impacts of performing diffractive readings of the discourse of rice farming. Barad explains that “objectivity cannot be about producing undistorted representations from afar; rather, objectivity is about being accountable to the specific materializations of which we are a part” (91). Looking for differences from within the discourse accounts for the specific material engagements that create those differences.

In Chapter Four, I highlighted that farmers’ relationships with their land (own or rent), their communities, SPPQT, and Indonesia all factored into the types of knowledges they value and literate practices they enact as they perform and talk about rice farming. The diffractive reading of how the farmers described those literate practice revealed the elements that all of the farmers shared. For example in “The Process of Farming,” reading the farmers answers as entangled showed they share knowledges of seasons, water, rice variety, and chemical and organic fertilizers. However, the way each enacts that literate practice (the actual process of farming) depends on those established
relationships with land, community, etc and that impacts how they describe the practice. Pak Mohamed, the farmer with the largest farm and the only farm certified as organic and the leader of a cooperative, describes his process of farming in a way that suggests he believes that organic farming – the material intra-action between himself as the farmer and the organic inanimates (fertilizers, water, rice) – is the key to the social improvement of farmers. He promotes organic farming as the key to food sovereignty for the farmers in Indonesia. Those material intra-actions have impacted his literate practice and why he thinks farming is important. He shares a basic knowledge of how to grow rice with the other farmers, but Pak Mohamed’s is impacted by the engagements he has with his cooperative and his verified organic farm and that impacts how he talks about rice farming.

In contrast, Pak Yudi describes his process of farming in ways that suggest his knowledge of how to farm is functional and practical. His description of the process of farming, equipped with the mentioning of specific chemical fertilizers and pesticides, is matter of fact and primarily physically material. Pak Yudi’s tone reveals that the skills he learned in order to be a farmer are impacted by the inanimates with which he interacts like the chemical fertilizers and his hand sickle. They are the tools he uses to perform the act of farming. Pak Yudi’s engagement with the place where he farms and his tools shape the way he talks about his social intra-actions. He buys seeds from the local government’s cooperative by taking price and yield into account. He does not consider his land’s health as Pak Agus does, the traditions of his family as Pak Ade does or the future of Javanese rice farmers as Pak Mohamed and Pak Amadi do.
Pak Agus describes his process of farming in a way that reveals the pride he takes in the hard work of farming and in the decision to switch to organic methods even though he cannot be labeled an organic farmer. As such, it is a different combination of physically material and social intra-actions from the other farmers. Pak Agus is very matter of fact about how he farms. However his decision to emphasize the difficult work by saying things like, “In one month, I am already weeding” and the benefits of organic by saying things like, “I love the new fertilizer. The cow fertilizer is not the same as the usual one” suggests an enactment of his literate practice (that actual process of farming) that is strongly impacted by personal motivation and a dedication to the work. Knowing how to farm is a functional thing, but choosing to switch to organic is a personal choice to make a change for the better. The intra-actions Pak Agus has with his family and community impact the choices he makes for his farm which impact the intra-actions with the inanimates and nonhumans on his farm. The results of the changes to the physical act of farming in turn impact how Pak Agus describes that act.

These three farmers all describe literate practices enacted in the process of farming that have some similarities – they all need to know how to do rice farming in order to be rice farmers. But each farmer’s literate practices take shape because of their engagements with the places they farm and their relationships to the communities in those places like Pak Mohamed’s work with the NGO and Pak Agus’s sale of rice to local schools. From the outside of the discourse of rice farming, the process of farming seems stable. A diffractive reading of the farmers’ descriptions of their knowledges, literate practices, and goals as part of the entanglement shows how farmers’ agency changes as they intra-act with the other agents in the discourse. Knowing how to farm is place-based
because farming is by its nature an intra-action with the physical land. How the farmers describe the process of farming is impacted by how the actual work of farming intra-acts with the physical farms. This is material entanglement and an example of how humans are not distinct from their environments.

The reality that the process of farming is not stable within the discourse of rice farming sheds new light on the global literate practices revealed in the ways FAO and CGIAR describe the sustainability of farming and how they refer to the process of farming. I analyze the farmers’ knowledges, literate practices, and goals through their interview answers. I analyze FAO and CGIAR’s knowledges and literate practices through their descriptions of how to achieve their goals of poverty alleviation, food security, and eradicating malnutrition. How they describe these things reveals situated and global place-based knowledges and literate practices that have different relationships and engagements with local place and context. In Chapter Five I detail how the FAO and CGIAR use the term “sustainability” for two purposes. Each group uses the term sustainability to discuss environmental impact on physical land and to discuss the long-term economic and social tenability of certain policy or farming-practice decisions.

For example, the FAO frames farming as part of larger global efforts to curb climate change, poverty, malnutrition, and environmental degradation. For the NGO, it is a given that environmentally sustainable practices are reflective of the global and important values of land stewardship and responsibility to future generations. The way the NGO describes sustainability and how to enact sustainability in their reports is place-based, but the place is so big it has no distinctions like the farms of central Java. There is an assumption in the way FAO describes sustainable practices that they explain will lead
to the alleviation of climate change, poverty, malnutrition, and environmental
degradation. FAO assumes that the farmers’ enactment of the process of farming will
reflect the global values. But farmers’ process of farming changes depending on the
specifics of the farmer’s physical farm, family, and community position. As an act talked
about by FAO, the process of farming is taken up as one part of much larger issues being
addressed by the NGO and loses those distinctions.

The CGIAR describes sustainability and how to enact sustainability in a way that
frames the process of farming a little differently. Because it is a science-based NGO,
sustainability for CGIAR is about physically material intra-actions that lead to healthier
physical environments. The NGO presents the process of farming in local places as a way
to gain information about climate change adaptation and it presents science-dominated
seed modification and diversification as a way to ensure rice farming can continue. But
like the FAO, CGIAR does not really share how adaptation, seed choice, or the act of
farming happens in specific locations. Pak Yudi details a process of farming that is very
physical in its intra-actions and uses seeds that have been developed using laboratory
science. He uses chemicals created in labs as pesticides. It is a specific example from a
farmer who, despite his similar focus with CGIAR on the physical components of
farming and his use of scientifically developed materials, does not share the same goals
for the future of farming. CGIAR’s heavy focus on the physically material, in contrast to
the FAO, still does not present a clear picture of how different farming looks in different
places like Pak Yudi’s farm. His reasons for farming and why he thinks farming is
important are not reflected in how CGIAR frames the goals (food security, climate
change adaptation) that the process of farming is supposed to be aiming toward.
I explain in Chapter Five that the FAO and CGIAR often relegate farmers to the role of producing for consumers. In doing so, they erase the distinctions of the knowledges and literate practices that play a role in the process of farming, organic farming, learning about farming, and the rest of the themes highlighted in Chapter Four. It flattens in the name of global values and progress. In this chapter I emphasize the dangers of erasing distinctions of place in the name of global progress. This is a real example of what those dangers can look like. By deciding that there is a globally-shared value of sustainability, the FAO describes an enactment of “sustainability” that attempts to create a shared understanding of the social and economic importance of rice farming. But their descriptions in the different reports attempt to shape the discourse of rice farming to reflect what they see as a shared cultural understanding of what farming should be when it is not at all shared. The CGIAR reports describe “sustainability” in a way that attempts to reflect a shared scientific understanding of what farming should be when farmers like Pak Yudi, Pak Agus, and Pak Ade are not interested in the science as it is labeled by CGIAR. While they have similar goals of food security and poverty alleviation, as well as goals for improving the tenability of the environment as a global thing, even these two global NGOs are impacted differently by their intra-actions with place and agents. They are certainly impacted differently than the farmers in central Java.

From the outside, the discourse of rice farming seems to have a unified understanding of the role of farmers and on how farmers understand the process of farming. But, as this diffractive reading of the human agents in my analysis demonstrates, these are not unified things in reality. Erasing locality in the name of global unification has in some respects erased the farmers’ engagements with their specific places and their
autonomy over how the process of farming gets talked about and planned. On the local level, their specific enactments of the knowledges needed to do rice farming (their literate practices) remain individual and reflective of place and community engagements. But on the global level, their knowledges, literate practices (intra-acting with their farms using their knowledges of rice, water, fertilizers, seasons, etc), and goals are not visible. Further, the importance and purpose of the act of farming is not agreed upon among farmers in central Java or FAO and CGIAR. Those disagreements have the potential cause problems for the future of rice farming.

Reading the discourse of rice farming as an entanglement of central Javanese rice farmers’ and FAO and CGIAR’s distinct knowledges and literate practices and their engagements with the inanimate, nonhuman, and other human agents embedded in their specific places reveals agents that have different ways of knowing, different purposes of farming, and different goals. The global agents are currently shaping the discourse so that it seems as if there are fewer entanglements than there are. However, this is not stopping the local agents in central Java from maintaining their specific ways of doing rice farming. If global NGOs like FAO and CGIAR continue to describe the future of rice farming as a set of stable global and cultural values, their goals for food security and alleviation of malnutrition or poverty or climate change could be difficult to achieve because not all the agents in the discourse are represented equally.

Future Directions

There are a few limitations to this study. There were issues of language during the interviews that impacted what questions I could ask and therefore the directions each interview took. The amount of time I was able to spend with the farmers was very short
so all information about each farmer came from one or two interactions. The short period of time I spent in central Java also means I cannot make qualified predictions for the future of rice farming. And the documents published by the global NGOs are not the most recent versions because the newest reports were published after this project was begun. My suggestions for further research are based on these limitations.

First, I present this dissertation as a contribution to environmental rhetoric in part because it is a study that takes place outside of the United States. The farmers and I shared difficulties in the interview because of the need for a translator. We relied on a third party to make ourselves understood and that is problematic when discussing “real” and specific experiences of the public. I have been taking lessons in the Indonesian language for a year. In the future, I would like to return to Indonesia to interview farmers in their own language. Addressing the third limitation, I would also like to spend a much longer time with the farmers. There is a lot of potential for studying material interactions between physical places, inanimates, and nonhumans with humans in doing a long-term, native-language study. Performing a study in this way would enable me to observe those material interactions over a long period of time and record how they impact social and economic decisions made by farmers. It would enable a more complex understanding of how humans impact and are impacted by their environments.

Second, I spent a lot of time in this dissertation distinguishing between food security and food sovereignty. Food security, a global and consumption driven goal, is promoted and actively pursued by FAO and CGIAR. Food sovereignty, a local and production driven goal, is promoted and actively pursued by SPPQT (a local NGO) and the politically active farmers (Pak Mohamed, Pak Ade, and Pak Amadi). Food
sovereignty is gaining traction in response to calls from the global NGOs for more attention to be paid to local contexts. One future trajectory of this project would be to analyze the most recent documents published by FAO and CGIAR to determine if the food sovereignty movement finds its way into the language they use. This version of the study would also benefit from a long-term plan so that changes in the language and possibly the goals of these global NGOs could be mapped over time. Performing the study like this would lead to a better determination of how much impact the farmers’ literacies have on the discourse of rice farming.

Finally, my dissertation opens up the possibility of what a true literacy study of central Javanese rice farmers could reveal. I did not have the time to really learn about the literacies of the farmers (as I’ve defined as situated ways of knowing that lead to doing or making). I was able to learn about the practices that are enacted from those knowledges, but more time interviewing and talking with the farmers would open up the opportunity to describe their literacies and how they developed in more detail. Similarly, there is potential for a discourse analysis of the reports published by FAO and CGIAR. I was not able to examine the word choices of either NGO in great detail to look for repetition, emphasis, or uniqueness. A discourse analysis could reveal a lot about how the words these organizations use determine what the public knows and how the public thinks about issues like food security or climate change. This leads me to my last suggestion. I was not able to spend time examining the public sphere as a place where this discourse exists or analyze the NGO reports through the lens of environmental or risk communication studies. This component of the public sphere and the members of the public as agents is often part of case studies in environmental rhetoric and
communication scholarship (Waddell, Killingsworth and Palmer, Goggin, Simmons, Grabill, Cox) and it would be another way of positioning the relationships between the farmers, consumers, and NGOs.

**Conclusion**

A diffractive reading of the current discourse of rice farming reveals that the various agents have varying types of agency in shaping the discourse in central, Java Indonesia and in a global context. Inanimates such as rice, water, and pesticides have strong impact on the literate practices of the farmers and global NGOs. They impact the discourse by impacting how those human agents talk about the everyday act of rice farming (farmers) and the future and importance of agriculture (NGOs). The diffractive reading also reveals that there are shared aspects of how FAO and CGIAR talk about rice farming and even shared goals in the form of community cooperatives and more knowledge of local contexts. However, none of the agents I studied share conclusions or justifications of those goals. Their purposes are not aligned.

This dissertation suggests that how a discourse changes over time can be determined by studying it as a material entanglement that is impacted not only by human agents, but also nonhuman and inanimate agents. Continuing the study in any of the ways projected above would bolster the evidence that discourse is indeed a material entanglement and that knowing how each agent impacts the discourse allows for a more nuanced understanding of how it works that can lead to suggestions for how to align purposes in order to achieve goals.
Works Cited


Amadi. Personal Interview


“Dido.” SPPQT. Video.


Steve. Personal Interview. 10 November 2013.


“TOT Pembenihan.” SPPQT. Video.


This appendix provides brief biographical sketches of the seven farmers I interviewed in central Java and one farmer’s brother. All of the names of the farmers have been changed. Bapak is a title of respect in Indonesian and translates to Father. Pak is the conversational version of Bapak. Ibu is the title of respect for women and translates to Mother.

Bapak Mohamed

The first farmer I interviewed has a very close relationship with SPPQT. In fact, he also runs his own farmer cooperative that has created the first (and so far only) entirely organic village in Indonesia. He has been farming since he was a child and took over, then increased, the family farm from his father. Pak Mohamed owns one of the larger farms of all the farmers I interviewed. It is 3,000 meters in size. His village and cooperative currently farm twenty-two hectares of organic produce and employ 378 people. He uses indigenous, organic rice, natural filters for the water which flows down his terraces from a river a few kilometers away, and manual labor. The day I visited Pak Mohamed’s farm, I also interviewed one of his hired laborers who was busy planting rice.

Ibu Siti

Ibu Siti is the hired laborer I was able to interview. She is also the only woman I interviewed on this trip. As hired help, Ibu Siti does not own any land, but has been farming for over twenty years and working for Pak Mohamed for ten years. She also farms using traditional, manual methods. The day I interviewed her, she was in her fourth hour of individually placing rice plants into holes she was creating as she went. She was one of three women working for Pak Mohamed.
Bapak Budi

Pak Budi is Pak Mohamed’s brother. He is a teacher and speaks enough English that our interview did not require a translator. Pak Budi was promoted as someone who knew a lot about government agricultural policies and discussed what he sees as the future of farming in Indonesia at length.

Bapak Yudi

This was the only farmer that I interviewed who was not in a state of transitioning to organic farming. Pak Yudi is not affiliated with SPPQT, but he farms the land directly next to the NGO’s headquarters. He also farms the smallest plot of land of all the farmers I interviewed and does not own his land. He has been contracting it since the mid-1980s. Bapak Yudi is not familiar with food security or the Green Revolution though he has been farming for well over thirty years. His farm is not terraced like the other farmers’ fields. It is a flat piece of land that he irrigates to supplement rain supply. He was the only farmer in the middle of harvest at the time of our interview.

Bapak Agus

Pak Agus is an organic farmer who is surrounded by farmers who do not use organic methods. Technically, this means his rice is semi-organic. He owns his land and it has been in his family for three generations. He remembers his father switching to more modern methods of farming, but he switched back to traditional seeds and methods in 2009. His field is terraced and he owns 1000 meters in total. While other farmers discussed the importance of international interest in organic rice, Pak Agus was adamant that his rice was for Indonesian people.
Bapak Ade

Like Pak Mohamed, Pak Ade’s farm is 3,000 meters. His is also a terraced field that relies on rain and water from a nearby river, but since his field is at the bottom of the terraces, once rainy season is over it is difficult to get enough water. His farm used to be fully organic, though also surrounded by farms that have not switched to organic, but he switched to a semi-organic method when rats ruined his crop a few years ago. He and his father, who works the field with him, decided to use a modified seed, though it is a locally developed seed, because it needs less time to grow than the organic seeds and therefore they could continue to compete with the surrounding farmers.

Bapak Amadi

The last farmer I interviewed, Pak Amadi, is also technically semi-organic. While he and his partners plant organic rice and use organic inputs, the surrounding fields are not organic and the water is not filtered. He and his partners are also contract farmers, so they do not own their land, but they farm five hectares in total. He is also the only farmer who left the profession for a while to do something else. But, he claimed he had to come back because farming was in his soul. Together with his partners, Pak Amadi is planning to create a village cooperative that will offer food security initiatives to the other farmers in his village.
APPENDIX B

NGO PUBLISHED TEXTS
I chose to explore published reports from two major, international agricultural organizations. The UN Food and Agriculture Organization (FAO) and CGIAR fund much of the scientific research done on agricultural development and are both heavily focused on food security. They shape what gets researched. Thus, I chose to analyze how they present what they see as the global state of rice and the global state of food security. Also included in my analysis are two recruitment videos from the local NGO that supported my trip to central Java, SPPQT and a document promoting the farmer cooperative headed by the first farmer I interviewed, Pak Mohamed. I chose to analyze the videos because they represent how SPPQT, in many ways the middle man between farmers and larger external forces like NGOs and the Indonesian government, attempts to attract farmers to its classes and projects. I analyzed the document from Pak Mohamed’s cooperative because it is an attempt by farmers to enter the discourse of rice farming in a formal, collective way. I refrained from sharing the name of the cooperative in order to maintain Pak Mohamed’s anonymity.

FAO Documents

The Food and Agriculture Organization of the United Nations is based out of Rome. Each year, they publish “state of” documents that describe a global overview of varying categories within the Food and Agriculture heading. For the purposes of this project, I analyze the 2013 “State of Food Insecurity” and “State of Food and Agriculture.” 2013 is the most recent year available on the FAO website. I chose these two documents because they focus on different components, but share the goal of increasing global food security.
The “State of Food Insecurity” summarizes the percentages and different types of malnutrition in the world broken down by region. It discusses the Millennium Development Goal (MDG) and World Food Summit (WFS) targets for reducing global malnutrition by 2015 and analyzes how each region is performing towards those targets. The emphasis is on food security and food consumption.

The “State of Food and Agriculture” still has as its primary objective increasing global food security, but it focuses on improvements to agriculture and other elements of the food supply chain that the FAO believes will contribute to their goal. The topic is therefore a slight change from a detailed description of how people are food insecure to a detailed description of how to address the problems leading to food insecurity.

The last report from FAO is “A Regional Rice Strategy for Sustainable Food Security in Asia and the Pacific” from 2014. As the title makes clear, this document is a rice-specific guideline for achieving food security. The emphasis on rice is important because I can analyze what language is shared with documents focused on agriculture and consumption more broadly and what language becomes more specific to the region and the crop.

CGIAR Documents

The two documents I analyze from CGIAR are “GRiSP in Motion” (Global Rice Science Partnership) from 2014 and “Climate, Agriculture, and Food Security: A Strategy for Change” from 2009. The first document was chosen because it was published CGIAR, specifically its consortium member the International Rice Research Institute (IRRI) and is often cited by FAO in its documents. The link between The IRRI and Green Revolution is well documented. The IRRI developed the first high yield
variety seeds that were widely dispersed to begin the GR in the 1960s. It continues to be part of the CGIAR and influential in global plans for food security. The second document was chosen because it specifically emphasizes food security in ways very similar to the documents from FAO. CGIAR differs from FAO in that it also recommends scientific articles published in journals such as *Nature* and *Sustainability*, but in order to look at comparable documents, I made the decision to analyze only those published or sponsored by the organization itself.

**SPPQT Recruitment Videos**

SPPQT, the NGO that sponsored my visits to the farms, gave me copies of two videos they use in their recruitment of farmers into their established programs. The first video, “Dido” is modeled after a soap opera and presents the story of a boy who needs to support his family with the banana trees they have on their property. SPPQT offers him a community-driven means of earning income from his banana trees. The second video shows the process of training farmers and other community members how to train other farmers on new techniques in farming. It is used to recruit potential trainers who will go out into the villages of central Java. These videos are in Indonesian, but they include English subtitles.

**Farmer Cooperative Promotional Document**

Pak Mohamed gave me a copy, translated to English, of the document he uses to promote his farmer cooperative. The document explains what his cooperative does, why they have chosen to return to traditional and organic farming methods, and the benefits and expectations for changing methods.