

**Scaling food security: a political ecology of  
agricultural policies and practices in  
Bukidnon, Philippines**

**by**

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A dissertation submitted to the Graduate Faculty in Earth &  
Environmental Sciences in partial fulfillment of the requirements for  
the degree of Doctor of Philosophy, The City University of New York

2013

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# Approval Page

This manuscript has been read and accepted for the Graduate Faculty in Earth and Environmental Sciences in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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# Abstract

Scaling food security: a political ecology of agricultural policies and practices in Bukidnon, Philippines

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Debates over food security strategies in the Philippines have pitted the neoliberal paradigm of trade liberalization, export cropping, and chemical and biotech agricultural methods against the food sovereignty paradigm of protectionism, staple cropping, and sustainable agriculture methods.

The Philippine government has long pushed for yield increases of staples. However, there has been dissonance between governmental desires for rice self-sufficiency and pursuit of a more export-oriented agricultural economy. The World Bank, the International Monetary Fund, the Asian Development Bank, and the World Trade Organization have pressured the government of the Philippines to adopt various tenets of neoliberalism (trade liberalization, privatization, deregulation, and budgetary austerity), which have hindered the achievement of Philippine goals for self-sufficiency in its staple foods and stunted the potential benefits of land reform.

Through ethnographic research of the social and ecological conditions in three rural villages in the province of Bukidnon, this examination of agrarian change explores how various actors—small farmers, collectives, large planters, and agribusiness corporations—have been scaling their projects in the agricultural economy.

The use of chemical inputs has damaged soils and saddled farmers with debts. In many cases, control of land has been lost to elites through sales or pawning arrangements. Relatively egalitarian corn- and rice-farming areas have given way to a stratified landscape of sugarcane and banana plantations, as former smallholders have been forced to work as wage laborers. Multinational agribusinesses have steered the area away from staple production and threatened human and environmental health with pesticide exposure and erosion.

Some farmers though have organized against these prevailing trends. Production and social reproduction have been rescaled through collective marketing, reciprocal labor arrangements, and more equitably gendered divisions of labor. Agroecological methods, such as composting, organic fertilization, seed saving, and indigenous pest control have scaled the reproduction of environmental conditions more locally and increased farmer incomes because their inputs are created on the farm. Protecting local control of the means of production—seeds, fertilizers, and especially land—has become an important method for preserving a smallholder class, maintaining more self-determination, and working toward greater food sovereignty.

# Acknowledgments

First and foremost, I would like to thank my dissertation advisor, Cindi Katz, whose warmth, humor, editorial skill, and academic expertise saw this project through from start to finish. I am deeply indebted to her. The quality of her input and guidance for this dissertation was truly impressive, and I am very thankful for her strong contribution to the overall direction of this project. She was continually able to see the forest as well as the smallest of the trees, and she was able to give advice on whatever level was necessary. I am inspired by her commitment to social justice, as well as the depth of her understanding of how everyday struggles work.

I would also like to thank the other members of the dissertation committee, William Solecki, Michael Menser, and especially Paige West, whose advice on both theoretical and practical matters was invaluable. I appreciate the very important feedback the whole committee made to this project and am grateful for how they consistently challenged me to reach new insights about my subject. I must also mention Neil Smith, who unfortunately departed from us too soon. His classes were the first ones I took at CUNY and his ideas resonate through many sections of this dissertation. Critical geographers everywhere owe deep debts to him and miss him greatly. I want to thank David Harvey as well, who helped me with the early direction of this research. His progressive scholarship has influenced all of the people so far mentioned.

I want to thank my parents and the rest of my extended family for their support and encouragement. They have been constant role models throughout my life for their compassion, their curiosity, and their enthusiasm for science in its many forms.

There are innumerable people who have helped me in various ways during the phases when I worked on this project in the United States. I want to thank a few individually: Cassia Mosdell for her loving support and encouragement; Jocelyn Cabangca Rosenfeld for sharing her intimate knowledge of the Philippines; Babette Audant as my go-to friend for things academically related; Ellen Twaddell for her patience and humor; and Myra Clerckx for her fresh perspectives and advice for the field.

There are countless people who I would like to thank in the Philippines, most of whom I cannot mention individually since I do not want to compromise the confidentiality of our conversations. Fortunately, I can mention some of the people who helped make this project possible. I would like to give my warm thanks to: Darlene Occeña-Gutierrez and Doracie Zoleta-Nantes, from the University of the Philippines – Diliman, who made my continuous stay in the Philippines possible and gave crucial help with the academic aspects of this project; Maria Janua Bacolod Polinar and Rhea Mae Cuñada for their great friendship and important logistical support; Gennyber Conjurado for her versatile translation talents and devotion to the project; and Irene Marbi Dublado for her warmth and intellect. Special thanks go to the leaders of MASIPAG, Amihan, and Makakabus who gave so generously of their time to help me with this project, and of course the farmers, wage laborers, government personnel, elected leaders, agribusiness personnel, academics, and activists who agreed to be interviewed for this study. I could not have done this without all of them. Suffice it to say that my warm thanks goes to all of the people of both Pangantucan and Valencia, Bukidnon who made me feel so welcome. I was continually impressed with their generosity, kindness, and good-hearted nature. They kept me laughing and smiling throughout the twelve months I spent there.

This dissertation is dedicated to the hard-working people of Bukidnon.

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# List of frequently used acronyms

## International acronyms:

ADB	Asian Development Bank
AoA	Agreement on Agriculture (World Trade Organization agreement)
FAO	Food and Agriculture Organization of the United Nations
GATT	General Agreement on Tariffs and Trade
IAASTD	International Assessment of Agricultural Knowledge, Science and Technology for Development
IFI	international financial institution
IMF	International Monetary Fund
IRRI	International Rice Research Institute
LVC	La Via Campesina
MAV	minimum access volume
QR	quantitative restriction
STE	state trading enterprise
UN	United Nations
US	United States of America
USAID	United States Agency for International Development
WTO	World Trade Organization

## Philippine government acronyms:

AFMA	Agriculture and Fisheries Modernization Act
AFP	Armed Forces of the Philippines
CARP	Comprehensive Agrarian Reform Program
DA	Department of Agriculture
DAR	Department of Agrarian Reform
DENR	Department of Environment and Natural Resources
ECC	Environmental Compliance Certificate
FSSP	Food Staples Sufficiency Program
JPEPA	Japan-Philippines Economic Partnership Agreement
LGU	Local Government Unit
NFA	National Food Authority
NIA	National Irrigation Authority
P	Peso (monetary unit of the Philippines)
PADCC	Philippine Agricultural Development and Commercial Corporation
PhP	Philippine Pesos (monetary unit of the Philippines)
RA	Republic Act (acts of the Philippine Congress)
SAFDZ	Strategic Agriculture and Fisheries Development Zones

**Other Philippines-specific acronyms:**

AAC	Agbalo Agricultural Collective
BMF-MPC	Bukidnon Masipag Farmers Multi-Purpose Cooperative
BUSCO	Bukidnon Sugar Corporation
CPP	Communist Party of the Philippines
DKMP	Democratic Peasant Movement of the Philippines
GARB	Genuine Agrarian Reform Bill
KMP	Peasant Movement of the Philippines
MASIPAG	Farmer-Scientist Partnership for Development, Inc.
NPA	New People's Army (military arm of the CPP)
OFW	Overseas Filipino Worker
PDAP	Philippine Development Assistance Programme
TFFS	Task Force Food Sovereignty
UNORKA	National Coordination of Autonomous Local Rural People's Organizations

**Other miscellaneous acronyms:**

Bt	<i>Bacillus thuringiensis</i> (a soil microbe used in some biotech crops)
GM	genetically modified
GMO	genetically modified organism
HVCC	high-value commercial crop
HYV	high-yielding variety
NGO	non-governmental organization
NPK	Nitrogen, Phosphorus, and Potassium (important fertilizer nutrients)
RR	Roundup Ready (a common line of GMO seeds created by Monsanto)

## **Part One: Scaling food security**

“We were growing corn with chemical fertilizer, but the costs got so high that we were losing money and we were going into debt. That is when we started selling and pawning our land to the sugarcane growers. Now we are worried that we will not have the money to pay back our pawning debt. We may not be able to get our land back. We will rely on my sister in Germany, who works as a cook in a convent, to send us money to cover our debts. But what if she gets homesick and decides to return to the Philippines? If we do not have the money to pay the debt, then the person we pawned the land to will just keep farming it. We used to plant rice, corn, *camote* [sweet potato], and white beans and we did not experience hunger because we fed ourselves. But now we are hungry because we cannot grow our own food.”

— a resident of a village in Bukidnon that has largely transitioned from small owner-operated corn and rice farms to large sugarcane and banana plantations.

“The big change I noticed is that when the big companies came over here, they changed the crops from corn and rice to sugarcane and banana plantations. There is globalization. Our crops are not for our consumption anymore. Our government must not allow the multinational corporations to rent so much land for commercial types of crops. The government should make staple foods a priority instead.”

— a resident of the same village who had his own farm and had tried working for a Dole banana plantation before quitting because of health concerns.

“What we try to do in our organization, Makakabus, is to improve the quality of the environment. Chemical agriculture has been destroying the land. Makakabus instead requires its members to make their own organic fertilizer. People watched the way we farm and they saw that we do not burn our rice straw. We compost it and use it as fertilizer. People saw that we were making more money this way since we did not have to pay for fertilizer. In our organization, even the laborers, not just the landowners, are more food secure than they used to be. In the chemical farms, the laborers are having difficulty with food security.”

— a member of a rice growing collective called Makakabus (in a different village in Bukidnon) whose members employ sustainable farming techniques and collective labor strategies.

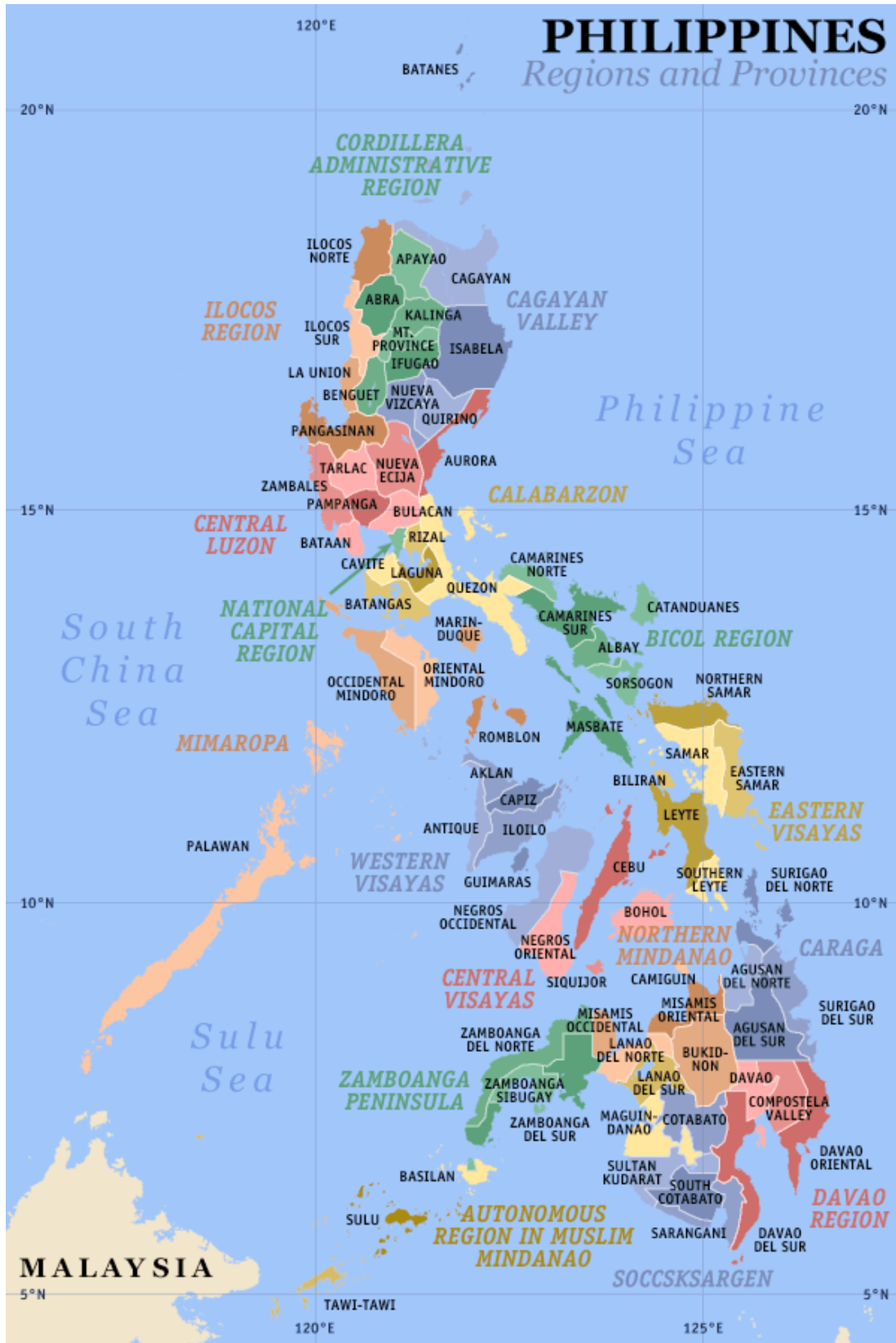


Figure P1.1: Philippines Regions and Provinces (Philippine Maps 2012): the province of Bukidnon, in tan, is in the north central portion of the southern island of Mindanao.



Figure P1.2: Relief map of portions of the province of Bukidnon and environs (Google Maps 2012). Interviews were conducted in small villages near Pangantucan and Valencia City, which are both visible in the southern portions of this map.



Figure P1.3: A *tapasero* (sugarcane cutter) returning to work in a sugarcane plantation in Bukidnon (photo by author).

Thousands of two-meter stalks of freshly cut sugarcane sat in tightly spaced rows like planks forming long boardwalks across the hillside. The meticulous organization that was evident from the morning's labor seemed incongruous with the spartan camp where the *tapaseros* (sugarcane cutters) were eating their lunch. Like an afterthought, a tattered blue plastic tarp fastened to tree branches was the only form of shelter from the elements. Throughout the six-day workweek, the laborers slept there in a dozen makeshift cots. Packed together without any space between them, the cots were constructed from discarded fertilizer sacks pulled taut over crude bamboo frames. After the simple meal was over, the *tapaseros* sharpened their cutting tools and proceeded back into the field, their hands gloveless and their feet only protected by flip flops (referred to as slippers in the Philippines). The pay they would receive for the day was one hundred Philippine pesos, or the 2009 equivalent of US\$2.13. Cutting sugarcane was considered men's work, though this group, like most, included boys who had dropped out of high school to supplement their parents' incomes. Women and girls worked in the sugarcane fields too, performing the tasks of weeding and stalk gleaning, often for wages even lower than what the *tapaseros* earned. Working as a *tapasero* only provided employment during the November to May harvesting season. Throughout the rest of the year, other jobs were sought, but relying on agricultural day labor was risky since work was often unavailable and even when there was work to do, getting rained out was a frequent occurrence. Hunger was commonplace among the families of the agricultural wage laboring class.

The aforementioned group of *tapaseros* was just one of many work crews that were hired by a local planter who had acquired control over a large amount of land in the area. He had accumulated this patchwork of land parcels via purchases, rental agreements, and

especially pawning arrangements with indebted smallholders who had relinquished control of their land to him as collateral for loans they were using for short-term living expenses. It was doubtful that these smallholders would ever regain control of their land from him since the use of the land itself had formerly been their main source of income.

I had already interviewed this planter, but I was curious to meet the other main sugarcane *haciendero* in town. When I visited the compound where he kept his trucks, I found that he was conducting business with an M16 assault rifle strapped matter-of-factly around his shoulder. He agreed to an interview, but said it needed to be Sunday at 7:00 AM. I was suspicious that he was trying to pick a time I would sleep through. When I arrived at 7:00 AM the following Sunday, unsurprisingly he canceled the meeting.

Besides sugarcane, another ascendant crop in the area was the Cavendish banana, an export variety that was being grown solely for foreign markets by the American multinational fruit corporation Dole. Dole's presence in the community was controversial because of the pesticides to which workers and the community in general were exposed, but also because it meant that local land was not being used for staple crops that could directly ensure the food security of the area. Dole was expanding rapidly in the rural Philippine province of Bukidnon as hilly, high-elevation villages like this one provided ideal locations to grow their sweet 'mountain bananas.'

What had happened in this village that had made it transition from an egalitarian community of small farmers growing corn and rice to a region that was dominated by sugarcane and banana planters? Why had so much local land fallen under the control of just a few people and why had whole families transitioned from working their own plots to working as wage laborers for someone else? What were the factors that aided

multinational exporters, seed purveyors, and fertilizer companies in this agricultural economy? Some of the answers had local explanations, though many of the economic processes occurring in this agricultural village had very distant influences.

For the members of a women-led organic rice-growing collective in another village in Bukidnon, a different narrative was unfolding.<sup>1</sup> The group took the name Makakabus, which means 'pro-poor' in the Visayan language and is also an acronym for '*Malahutayong Kahiusahan sa mga Kababayan-an sa Bukidnon*', which translates to Sustainable Unity of the Women of Bukidnon. These farmers were successfully challenging the consolidation of land in their community and maintaining more socio-economic equity within their group. Using sustainable agriculture techniques, they were producing their own farming inputs and relying on each other for reciprocal labor. In a region where typically one-fifth of children in the general population were underweight, their communitarian group dynamic had eliminated hunger within their organization.

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<sup>1</sup> Throughout this study, the term organic will refer to growing without the use of chemical fertilizers and chemical biocides (pesticides, herbicides, fungicides). Organic can also mean a focus on social reproduction and community, which was certainly the case with the rice-growing collective mentioned above, however, in this document, those social processes will be discussed separately from the word organic. Organic can also refer to third party certification of crops, though this will be discussed separately in Chapter Four, which addresses how sometimes governmental organic certification is a neoliberal process that actually has the potential to thwart the types of environmental and social reproduction taking place in small communities that have embraced sustainable methods. I use the term chemical agriculture (rather than conventional agriculture) to refer to the practices that include chemical fertilizers and chemical biocides since that is the dominant term among farmers organizations in the Philippines with whom I worked.



Figure P1.4: Makakabus members working in a rice field (photo by author).

How were the members of Makakabus able to achieve relative equity and food security? What were the social and ecological processes that were promoting economic stability in this community? And how were the differences in practices between the rice-growing collective and the sugarcane- and banana-dominated village illustrative of broader debates in rural development and food security?

The answers to these questions are complex, but control over the means of production (seeds, fertilizers, and most importantly farmland itself) was the most significant variable to analyze and the most significant source of struggle in Bukidnon's agricultural economy. Individual choices, farmers organizations' goals, government

policies, and corporate power all influenced who controlled the means of production in an increasingly contentious rural landscape.

By the time of my field work in 2008-2009, the Philippines had become a battleground between a vision of food security based on trade liberalization, export-orientation, and reliance on chemical and biotech agriculture, and a vision of food sovereignty based on sustainable agriculture, local self-sufficiency, and diversity of production. This study analyzes the social and ecological effects of these differing agricultural approaches as well as the ways in which various actors attempt to scale their projects to their advantage.

The debate over the benefits or dangers of globalization and neoliberal economic reforms is too often constructed in strictly economic terms. Globalization is not simply an economic rearrangement, but a geographic issue that alters the spaces of production, reproduction, and everyday life. How does the neoliberal project attempt to scale the agricultural economy? Conversely, how do resistance movements, such as the food sovereignty movement, not simply struggle for land and self-determination, but also attempt to scale the agricultural economy in their interest?

This research integrates issues of agriculture and food security with the underexamined realm of social and environmental reproduction. The debates on geographic scale as socially produced have focused increasingly on social reproduction (Marston 2000; Marston and Smith 2001), but there has been a call to expand the discussion to address the reproduction of environmental conditions as well (McCarthy 2005). The inseparability of the social and the environmental is an important part of a political ecology perspective (Blaikie 1985; Grossman 1984). For example: What are the

political and economic reasons that chemical fertilizer use becomes more or less common? How is soil fertility connected to changes in the social order? How do the cycling of nutrients and the flows of energy differ between farm types, and how does this influence the social fabric of the agricultural region? These are ways this research inquires into the interplay of social and environmental forces in the context of competing food security strategies and the construction of geographic scale.

It is important for us to conceive of scale as something that is continually constructed and contested rather than naturalized or 'given' (Smith 1992; Marston 2000). Rather than thinking of scale as something with ontological validity, it is more important to explore the ways that actors engage in scaling (Moore 2008; McCarthy 2005). In other words, scaling describes how actors attempt to manipulate their environments and/or the environments of others in ways that benefit them or promote their worldview. Chapter Two will explore the idea of scaling in more detail, but in brief, it can be thought of as undertaking actions that have spatial outcomes. Some examples are as follows: 1) an agribusiness markets the same seed internationally, without regard to variations in geography; 2) the World Trade Organization (WTO) enforces a trade policy among all member states; 3) a small farmer chooses to use composting rather than external fertilizer inputs; 4) a group of farmers use reciprocal labor and market their products collectively.

Through an examination of agribusiness strategies combined with an ethnography of a rural area in the Philippines, this project explores: 1) how the production of scale intersects with power relations in particular ecological contexts; and 2) what the results of different food security strategies are in terms of gender relations, class relations,

agricultural productivity, and the health of the farms' biotic communities, which are important for long-term security.



Figure P1.5: Adults and children walking to work in sugarcane fields in the morning in Bukidnon (photo by author).

The story that emerges out of this rural area is one in which the sugarcane- and banana-dominated community, which is influenced most strongly by neoliberal policies, is experiencing significant social, economic, and environmental problems. In the mean time, the tenets of food sovereignty (food self-sufficiency, democratization of land control, sustainable farming practices, gender equity, and class equity) are practiced by the members of the women-led organic rice-growing collective, who are succeeding in

generating a better quality of life. The experiences in a third community where interviews were conducted demonstrated a middle ground in terms of both practices and results. All three of these villages in Bukidnon were founded in the second half of the 20<sup>th</sup> century through the settlement of people who were originally from other parts of the Philippines. Thus, kinship networks are not what unite the experiences of the members of each of these communities. Rather the economic trajectories of the communities themselves are the stories to be analyzed, as well as how these different paths fit into broader contexts of Philippine agricultural development.

The food price crisis of 2008 made many Filipinos food insecure as prices for staple foods like rice soared. In response, the federal government of the Philippines set out ambitious goals for achieving food security through national self-sufficiency, yet these efforts have been hampered by the institutional apparatuses of agribusinesses and the influences of neoliberal capitalism on governance. Specific government policies are in place and government agencies on a variety of levels have an array of programs to help ensure that staple production is prioritized, yet this study will show that these efforts are undermined by corporate expansion of export cropping, privatization schemes, trade liberalization, deregulation, and austerity measures. These global forces have impacts on every level of governance as well as on the decisions and options available to individuals in the Philippine agricultural economy.

The debate over protecting internal production of staple foods is increasingly politicized for many governments in the global South. Retaining higher degrees of food sovereignty can arguably preserve national security, foster environmental sustainability, provide continued employment and income for small farmers, and promote land tenure

## Ehrhart: Scaling Food Security

continuity in the farming sector. However, the WTO, exercising the neoliberal philosophy of trade liberalization, challenges protectionist measures that some governments use to discourage importation and encourage local self-sufficiency. The WTO argues that free trade of cheap food is the path toward ending hunger. Yet, food sovereignty advocates argue that imports of highly subsidized, artificially cheap grain from the global North need to be curtailed to keep local farmers from being undercut pricewise. The food sovereignty position is that when a nation's residents lose their ability to be self-sufficient in their staples, they are highly vulnerable to losing their food security.

# Chapter One: Introduction

## 1.1 Defining food security and food sovereignty

The FAO (2002)—Food and Agriculture Organization of the United Nations—in *The State of Food Insecurity in the World 2001*, describes food security as "a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life."

There is a tension in many places in the world between two fundamentally different food security strategies. One is a strategy that is essentially economic: concentrate on comparative advantage, focus on exports, and bring in the maximum amount of revenues, which will be used to purchase the maximum amount of food, much of which will be imported. The second is allied with the concept of food sovereignty, and is based on internally producing the food that will be consumed by the members of a nation, so that it is not necessary to rely on imports, which can be volatile in price and supply.

Food sovereignty is a concept that was advanced at the 1996 UN World Food Summit by La Via Campesina, a broad international coalition of farmers, peasants, agricultural wage laborers, and landless workers (Rosset 2003). In addition to emphasizing self-sufficiency, food sovereignty takes the concept of food security a step further by looking at *how* food is produced and exchanged (Bachmann, Cruzada, and Wright 2009). Autonomy and self-determination are important principles in food sovereignty. This is not only relevant for farmer independence, but for regional and national autonomy in setting agricultural production and trade policies.

Like food security, the concept of food sovereignty includes the issues of food provision and security in terms of getting enough calories and proper nutrition, but it also emphasizes promoting the means to grow food, protecting the economic viability of food producers, and respecting the independence of the cuisines of a region (Roberts 2003). Food sovereignty also exposes the political nature of food issues, which go beyond and can affect its technical or managerial aspects.

Food sovereignty is a political response to the ways in which the term food security has been watered down and gives no guidelines on how food procurement is going to happen. The FAO conditions for food security could be met through undemocratic or coercive means, so many food sovereignty advocates feel that there must be an expansion of the guidelines to ensure that self-determination is possible. McMichael (2005) goes as far as saying that the term food security has been wholly co-opted and institutionalized by the World Trade Organization (WTO) as a global market relation. However, most food sovereignty advocates I worked with in the Philippines generally accepted and worked with the term food security, but they saw food sovereignty as the preferred path toward food security. Sustainability is also a fundamental aspect of the food sovereignty framework. A major goal of the movement is to combine both environmental sustainability and community sustainability through the creation of locally based food networks that support diverse local economic systems (Bachmann, Cruzada, and Wright 2009).

While the food sovereignty approach is advocated by a broad, international base of small farmers, agricultural laborers, and activists for sustainability and labor rights, it is sometimes more difficult to discern who promotes the more limited framework for food security or even a name by which the approach should be known. This research will refer

to it as the neoliberal approach, since most actors who have promoted it, such as WTO officials, trade representatives, World Bank and International Monetary Fund (IMF) personnel, and some Northern government officials, have advocated the benefits of trade liberalization, privatization, deregulation, and market solutions to food security issues.

The criticism from free trade advocates of the food sovereignty and self-sufficiency approaches is that they do not capitalize on comparative advantage and are therefore inefficient. As United States Trade Representative to the WTO, Susan Schwab, said, "If every country in the world decided it wanted to produce its own food for consumption, there would be less food in the world, and more people would be hungry" (Bradsher and Martin 2008). Arguably, Schwab's statement against food self-sufficiency is hypocritical when one takes into account how the United States itself has pursued self-sufficiency strategies as a matter of national security (Hollander 2005). The American stance against food sovereignty in the global South can be seen as early as 1986, during the GATT-WTO (General Agreement on Tariffs and Trade – World Trade Organization) Uruguay Round negotiations when US Agriculture Secretary John Block said, "[The] idea that developing countries should feed themselves is an anachronism from a bygone era. They could better ensure their food security by relying on US agricultural products, which are available, in most cases at much lower cost" (quoted in Bello 2000).

One criticism of the neoliberal approach and Susan Schwab's stance on the benefits of comparative advantage is that a more locally oriented food production system may actually reduce the amount of wasted food, since a globalized system has a vastly more complicated supply chain with more links and transfer points at which waste and spoilage might occur.

Variability of fuel costs pose one of the most serious challenges to neoliberal food security. Present day food security in most nations is increasingly brittle, with food systems reliant on just-in-time deliveries of far-flung foodstuffs (Steel 2008). The food sovereignty framework argues that more locally oriented food systems are a precaution against volatility in food and fertilizer prices caused by sudden increases in the price of oil and natural gas. Indeed, the exploitation of comparative advantage and the practice of free trade inherently depend on cheap transportation costs. If the price of fuel becomes more expensive, the shipping of food and fertilizer long distances will become less and less logical. The neoliberal framework has been criticized for its efforts to curb environmental regulations that could drive up fuel prices, since the expansion of free trade is dependent on low transportation costs.

## **1.2 Food sovereignty and food security strategies**

One of the challenges of evaluating the merits or drawbacks of the food sovereignty and neoliberal approaches to food security is that the two sides do not simply have different ideas on the means to achieve food security, but arguably they have different views on the ends they are trying to achieve. One way of exploring the contrast between these two paradigms is to consider whether the neoliberal approach sees social and environmental reproduction merely as incidental to achieving the ends of well-matched production and consumption, and whether the food sovereignty approach sees well-matched production and consumption as one of the means to achieving the ends of harmonious social and environmental reproduction. Put another way, the neoliberal approach may be using utilitarian ethics to solve a production-consumption problem, while

the food sovereignty approach is using communitarian virtue ethics to solve social justice and ecological sustainability problems.<sup>2</sup> This section will therefore organize the arguments of the two paradigms in three subsections: production and consumption; social reproduction; and environmental reproduction. First though, a brief overview of the Green Revolution is in order.

### **1.2.1 The Green Revolution**

Many aspects of the clash between the food sovereignty and neoliberal approaches to food security are essentially an ongoing referendum on the past, present, and future promises of the Green Revolution, which is a set of agricultural technologies and techniques that have radically changed the face of commercial farming since the 1960s.<sup>3</sup> Hybrid seeds, often termed high yielding varieties (HYVs), were developed to respond well to the application of chemical fertilizers and chemical biocides. IR8, an HYV also known as ‘miracle rice,’ created by the International Rice Research Institute (IRRI) in the Philippines in the 1960s, increased rice yields dramatically across Asia in the late 1960s and 1970s. Innovations like IR8 were promoted as a solution to growing needs for food production as populations exploded in the global South (Singh 2011; Easterbrook 1997).

The term Green Revolution was coined by William Gaud (1968) of the United States Agency for International Development (USAID). In a Cold War milieu, he specifically

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<sup>2</sup> An even more critical view of the neoliberal approach would question if agribusinesses are actually concerned about meeting societal consumption needs necessary for food security, and if most corporate decisions are actually concerned with more than just boosting production and generating profits. Deciphering motivations of corporations is for the most part beyond the scope of this research. Thus I will restrict my analysis of corporations to observable actions and outward projections of discourses.

<sup>3</sup> See Shiva (2000) and Pollan (2006) for details on how the fertilizer and pesticide industries expanded as the result of post-World War II surpluses of petroleum and ammonium nitrate in the United States.

described a Green Revolution that stood in opposition to red revolutions. Mark Dowie (2001) argued that the Green Revolution was pushed by philanthropic foundations, USAID, and the World Bank as a counterinsurgency strategy to prevent the spread of communism. Rather than addressing hunger through social means, such as land reform or reducing economic inequality, the Green Revolution was an attempt to depoliticize the issue by making the narrative about using the power of science to increase yields.

The term Green Revolution is used less now because since the 1990s there has been a shift in corporate emphasis toward promoting agricultural biotechnology. The 'Gene Revolution,' however, can be seen as simply a new phase of the Green Revolution, since seed purveyors like Monsanto, Syngenta, and Pioneer are involved with both new genetically modified organism (GMO) technologies as well as the hybrid seed technologies from earlier decades. GMOs have been touted widely for higher yields, as well as traits like herbicide resistance and pest resistance. Yet the full promise of biotechnology has for the most part, not been fulfilled, as yield gains have been no more significant with GMOs as compared to other types of seeds (Gurian-Sherman 2009). The evolution of herbicide resistant weeds (Kaskey 2011) and pests that can withstand the toxins engineered to come out of GMO Bt (*Bacillus thuringiensis*) crops (Tabashnik et al. 2008) also call the future of GMO crops into question.<sup>4</sup> Biotech crops have also been controversial because there are

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<sup>4</sup> Glyphosate is a popular herbicide (trademarked as Roundup by Monsanto). Roundup Ready seeds are GMOs that are resistant to the herbicide, so farmers are encouraged to douse their fields in Roundup to kill weeds, but the crop will not be killed. Kaskey (2011) has described the appearance of 'superweeds' that are resistant to glyphosate. Bt crops, the other most popular GMOs that are marketed, are engineered to exude a toxin that deters pests, but reports are beginning to build of 'superpests' that have resistance to Bt (Tabashnik et al. 2008). Efforts to create GMOs that have enhanced nitrogen uptake are only in the developmental stages.

fears of genetic contamination of non-GMO plants, potentially resulting in the elimination of some traditional seed varieties (Shiva 2000). The preservation of biodiversity is a contentious topic between agribusinesses and sustainable agriculture advocates.

The Green Revolution has pushed agriculture towards a more industrial model in every region of the world, even if this was not the original intent of some of the instigators. By promoting higher-tech seeds, monocultures, chemical fertilizers, and pesticides, the emphasis has been on minimizing labor, but these technologies are capital-intensive and frequently water-intensive. Thus, where Green Revolution approaches may have originally been geared toward helping smallholders, land has been consolidated by wealthier farmers who have the capital to use the technologies, and economic inequality has increased (Shiva 1991, 2000; Gupta 1998; Bachmann, Cruzada, and Wright 2009). Capital-intensive Green Revolution technologies have led to more involvement from transnational investors, which increases the likelihood that value is captured by the foreign company financing the project, leaving local laborers with meager benefits.

The motivations for the Green Revolution may have been diverse. Certainly some saw increasing yields as a mission to help end hunger in the developing world. Yet corporate penetration of new markets was also likely an important motivation for the agribusinesses that have been involved in providing the inputs and processing the outputs. To put it more cynically, many have accused the multinationals of purposely enslaving the farmers of the developing world into a cycle of dependency on external inputs: seeds that cannot be reused; pest control that ultimately requires more intense pest control; and fertilizers that ultimately lead to more fertilizers (Shiva 2000; Wright 2003; Yap 2003; Bachmann, Cruzada, and Wright 2009).

Yapa (1996) argued that the Green Revolution promoted a narrative of a scientific imperative for 'improved' seeds and chemical inputs that socially constructed a sense of scarcity in the developing world, devaluing the 'reproductive power' of socrionature by substituting the 'productive power' of industrial inputs.

### **1.2.2 Production and Consumption**

Malthusian concerns<sup>5</sup> about population have haunted the food security debates for decades. As global food production has more than kept up pace with population growth, Malthus's predictions have thus far not been borne out, but the question remains whether gains in food production will continue to outstrip gains in population. Various analysts (Harding 2010; Stuart 2009; Lawrence 2008) argue that the era of food abundance is drawing to a close. It may become increasingly important to regularly assess world stocks of staples. World population, which passed 7 billion in 2011, is still rising rapidly, yet at a decreasing rate of increase since total fertility rates have declined significantly. The United Nations Population Division (2011) predicted that world population may reach 9.3 billion around the year 2050, according to their medium variant scenario. This could still pose serious problems for food security, but it seems to be far short of the doom scenarios that were predicted in the 1960s (Ehrlich 1969).

Resources and scarcity are culturally constructed concepts and are inherently political (Harvey 1974). This is not to say that world production of food will always be limitless, but certainly thus far world hunger has had much more to do with a lack of

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<sup>5</sup> Thomas Malthus (1998) predicted in 1798 that because human populations increase geometrically, while increases in food production merely increase arithmetically, famines would result. However, human population patterns have proven to be much more complex and food production capabilities much more advanced than he predicted.

political will to address hunger and inequalities in distribution than with an actual shortfall of food supplies. It is also important to remember that resources and scarcity are culturally constructed when we are considering how land is used in regard to food production. In other words, although traditional farmland may be somewhat limited, agricultural use of less obvious spaces will be one aspect of the changing food systems of the future that will partially negate some of the alarmist predictions of a sudden loss of capacity for food production. With that said though, loss of prime farmland could potentially jeopardize long-term food security, and this problem is occurring in many places around the world. The food sovereignty framework emphasizes local control of resources, food systems, and land use planning. This approach does not necessarily solve local problems, but suggests that there may at least be more political responsiveness if problems develop.

The neoliberal framework, on the other hand, emphasizes more top-down approaches that rely on technological solutions: if population goes up, then so must crop yields. Whether earnestly or cynically, corporations (Monsanto 2011) and governments (Butler 2004) have used population concerns to justify large-scale technological interventions in agriculture. Vandana Shiva (2000) has argued that the yield increases stemming from Green Revolution technologies have been illusory. Although outputs for a given single crop may be impressive, these have to be put into a context that monocropping (which is the norm in Green Revolution strategies) does not provide the farmer with different outputs from the same field the way that polycropping does. Also, polycropping may offer more sustainable yields through advantages like more varied harvesting times, fewer pest infestations, and a more ecological approach to soil fertility based on intercropping and/or crop rotation.

Badgley et al. (2007) have shown that organic and sustainable agriculture approaches actually have better potential than chemical agriculture to produce higher yields, with the obvious extra benefit that not only do these approaches work in the medium term, but they are the *only* approaches that are going to work in the long term, since the chemical agriculture approach does not preserve soil fertility (IAASTD 2008; Gurian-Sherman 2009). Rotation of organic leguminous crops, composting, and other strategies, can easily provide the nitrogen and other nutrients necessary.

The majority of those experiencing hunger in the world are in the rural areas of the developing world and ironically it is most commonly those families who are directly involved in the production of food who have difficulties getting proper nutrition (Lappé et al. 1998; World Bank 2007). This is because of the shift away from subsistence agriculture that has made rural agriculturalists dependent on the market for their food security. Instead of growing the staple foods of their diet, their food security is reliant on producing enough income from the products they sell or from their wages in the case of wage laborers. However, low farmgate prices<sup>6</sup> drive them into poverty and keep them hungry. Hunger is not usually due to a general lack of food in a society, but rather to poverty (Holt-Giménez 2009). So, while agribusiness and neoliberal rhetoric stresses the importance of increasing yields to fight hunger, an alternative viewpoint is that it is overproduction that often causes rural hunger because it keeps farmgate prices low for farmers (Patel 2008). In situations where farming is oriented toward commodity production and international trade, producers are at the whim of global markets and compete with a multitude of

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<sup>6</sup> A farmgate price is the unit price a farmer is paid for their output.

others.<sup>7</sup> Food sovereignty advocates argue that if production decisions are coordinated with local, regional, or national governments on the basis of need, then overproduction would be much less likely and farmers could get fair prices for their crops.

The neoliberal claim is that trade benefits all parties, as comparative advantage can be exploited by people in the North or the South, and as wealth and abundance are created, a rising tide lifts all boats<sup>8</sup> and everyone gains. Furthermore, the argument is that trade leads to foreign investment, innovation, efficiency, and modernization in the South, and this has been the basis for the WTO's branding of the Doha Round as the 'Development Round.' Director-General Pascal Lamy characterized the Doha Round as the WTO's method of "delivering on the Millennium Development Goals" of the UN (World Trade Organization 2008). The food sovereignty framework is skeptical of the blanket claims of the benefits of international trade, arguing that if labor and environmental relations are exploitative and extractive, then trade may lead to poverty and especially inequality, which could actually lead to an increase in food insecurity, particularly in rural areas where staple production has been supplanted by export. In developing areas, free trade has benefited some large producers who have advantageous locations and the capital to expand production, but the majority of small producers are not benefiting from trade liberalization, and thus rural poverty persists (Barndt 2008; Patel 2008).

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<sup>7</sup> Monopsony control of food processing and distributing means that even though farmers might be getting low prices for their crops, this does not necessarily translate into low prices for consumers.

<sup>8</sup> This phrase was used frequently by Robert Rubin, the US Secretary of the Treasury under President Clinton, who promoted neoliberal policies and free trade. Robert Reich, Clinton's Secretary of Labor, dissented, saying, "The rising tide is lifting all yachts, but rowboats and dinghies have had a harder time" (Bai 2007).

Looking at the era of neoliberal globalization, statistical analysis of changes in gross national income per capita shows that in 1980 the wealthiest decile of countries had 60 times the income than the poorest decile of countries, while by 2005, the wealthiest decile of countries had 122 times the income of the poorest decile of countries, effectively doubling their dominance (Pogge 2008). Furthermore, the amount of intranational inequality had increased during the era as well in nearly all of the countries that showed a clear trend. In other words, the poor had a declining percentage of the overall income, while the wealthy had an increasing percentage of the overall income. These types of trends often make it more difficult for the poor to attain the things that might help them with upward mobility, such as education, health care, and influence over the political process (Pogge 2008).

The FAO (2012) estimated that between 2007 and 2012 the number of undernourished hovered around 870 million, or roughly one in every eight people on the planet. The FAO (2010a) stated, “Global cereal harvests have been strong for the past several years, even as the number of undernourished people was rising” and that deep structural problems are preventing governments from addressing the needs of their populations. They said governments should “encourage increased investment in agriculture, expand safety nets and social assistance programmes, and enhance income-generating activities for the rural and urban poor.”

### **1.2.3 Social Reproduction**

Marston (2000) described social reproduction as the “social relations, objects and instruments that enable the maintenance of everyday life within capitalism.” Though the neoliberal paradigm might view land and labor as concerns that pertain to production, in

the food sovereignty framework, land control is an essential part of constructing the consciousness of a community and reproducing its social relations (Vergara-Camus 2009). Furthermore, in the food sovereignty framework, the social reproduction of labor is an end in itself. Discussions below will first consider issues of land control, and then the interfaces between labor and issues of knowledge, rootedness, and self-determination.

Food sovereignty advocates argue that retaining higher degrees of food sovereignty can preserve national security, provide continued employment and income, and promote land tenure continuity in the farming sector. Promoting both economic stability and political stability can build an agricultural middle class, and it is progress on these fronts that can advance social justice concerns such as issues of income equality and gender equality. La Via Campesina and other organizations that advocate for food sovereignty have done a great deal to advance gender issues in peasant movements in recent years (Desmarais 2008; Menser 2008). Chapter Seven will deal with the construction of gender in a community in Bukidnon that is working toward food sovereignty goals.

The control of territory is of central importance for effectuating food sovereignty projects. Likewise, land policies are essential concerns in the neoliberal paradigm as well. There is a limited amount of quality farmland in the world and some countries are especially lacking in fertile areas to cultivate. Food demand is predicted to rise faster than the availability of land. Indeed, availability of land may shrink as suburban sprawl converts farmland to residential and commercial purposes. Thus land use will become an increasingly contentious issue.

Wealthy or cash-rich nations, especially those with a dearth of agricultural land, are concerned about their own food security and are interested in the agricultural areas of the

global South. Especially since the food price crisis of 2008, these wealthy countries have strategized to make land purchases, long term leases, or contract arrangements in developing areas in order to secure dedicated food production that will be shipped to the wealthy nation (Rice 2009). This global land rush has been “fueled...by a growing sense that world markets cannot be trusted” to provide a stable and predictable food supply (Goering and Rodriguez 2008). Chapter 5 (Section 5.1.2) details some of the land deals that countries have pursued in the Philippines.<sup>9</sup>

The neoliberal paradigm has facilitated foreign investment in agricultural lands by working to liberalize investment policies, as well as liberalizing trade policies by reducing tariffs and trade barriers. The argument for these investments is that injections of capital will modernize agricultural productivity and provide jobs in the process. The food sovereignty framework, on the other hand, “promotes a genuine agrarian reform and defends access to, and the sharing of, productive territories free from the threat of privatisation and expulsion” (Nyéléni Forum for Food Sovereignty 2007). This democratization of territories is intended to facilitate the equitable reproduction of social relations. Thus the issue of the concentration of land control has become very contentious between food sovereignty advocates and the governments and investors who are involved in making these land deals.

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<sup>9</sup> As for other countries, The Center for Human Rights and Global Justice (2010) has detailed the investments of Sweden in Tanzania, and various Gulf oil states in Pakistan. Chinese, Indian, and Saudi investors have attempted land deals in Tanzania, Madagascar, Mozambique, Sudan and Mali, while Saudi investment plans in Ethiopia are on an especially large scale, with reports of scant compensation for local people, such as lease arrangements of \$10 per hectare per year (Butler 2010).

Neoliberal policies on foreign investment and liberalization of markets drive increases in plantation agriculture that change the types of labor available in rural communities. Farmland ends up getting sold, rented, or pawned to more large-scale and capital-intensive operators that utilize wage labor to perform the farming tasks (Borras and Franco 2005). This labor is usually less skilled, less rooted to the community, and lower paid. In many places around the world, the average age of smallholders is increasing. Younger rural people are not seeing enough income opportunities in family farming and are leaving for urban areas. Vital agricultural knowledge is being lost when it does not get passed down to younger generations.

The food sovereignty framework prioritizes labor concerns, as the movement springs mainly from small-scale food producers themselves. The Nyéléni declaration, from a food sovereignty conference in Mali in 2007, states, “Food sovereignty promotes transparent trade that guarantees just income to all peoples” (Nyéléni Forum for Food Sovereignty 2007). They promote a more communitarian approach focused on sustainability, land tenure continuity, local markets, and fair compensation for the laborers that can re-stabilize rural communities.

Both the neoliberal framework and the food sovereignty framework use the rhetoric of self-determination to argue their positions. The neoliberal position stresses the choices that are made available to farmers and consumers. The idea is that science and industry have provided superior seeds and other inputs, and that the freedom of the market has made these things available. Likewise, the freedom of the market supposedly gives the farmer nearly limitless choices on where to sell the outputs. Farmers can supposedly

determine their own fate by using self-interest to decide what are the best crops to grow, the best methods to employ, and the best place to market their products.

The food sovereignty framework challenges the accuracy of that picture. First of all, the choices that corporations offer in regard to inputs are not as wide as they appear. Agribusinesses actually market a relatively small number of choices to farmers. But more importantly, opting into the inputs they offer often means to tether oneself to a particular set of techniques that require substantial capital investments, and because of the nature of the seeds and the persistent need for increased applications of chemicals (fertilizers and/or biocides), the farmer must keep returning to the products of the agribusiness season after season. The food sovereignty advocates say this is not freedom at all, but rather enslavement.

The food sovereignty framework argues that a different picture of self-determination can be achieved through an approach based on low external input farming. Seeds can be developed on site instead of relying on the high tech seeds that are peddled by agribusinesses. Local organic farmers associations and NGOs often have seed banks that they offer in order to help people convert to sustainable methods. Then, with some crops, if the farmer is willing to use seed selection and simple cross breeding, they can develop their own new varieties that are tailored to their exact geographic specificities, such as climate, moisture content of the soil, soil type, mineral content of the soil, topography, availability of light, and whatever other factors might be unique to their parcel of land (Frossard 1994; Bachmann, Cruzada, and Wright 2009). They achieve self-determination in both the sense of not having to purchase seeds externally and in creating their own unique methods that benefit them the most. Another similar process of self-determination

may come when farmers choose to compost on-site materials, such as crop waste, to create their own fertilizers, rather than opting for external inputs of chemical fertilizers for which they must pay.

Producing for a local community or region does not give the sort of limitless possibilities that are hypothetically part of the trade liberalization paradigm. Yet food sovereignty advocates argue there is probably more freedom involved in the more localized model. If a farmer is producing for their locality or region, they have much easier access to market signals about what the community wants and needs. This means it is less likely that they will be shut out or undercompensated for their products. This can be seen by farmers as a way to increase their levels of self-determination. Furthermore, when farmers are not producing export-oriented cash crops, they are less likely to be engaged in monocultures. Some might even be very diversified in their production, which means they have greater means for ensuring their own food security and the food security of their region, which are both essential elements in constructing communities where reproducing social relations in an equitable way is a central focus.

#### **1.2.4 Environmental Reproduction**

Environmental reproduction can be defined as the socio-ecological relations that reproduce the environmental conditions of a community or system. Agribusinesses have frequently promoted their products using the language of ecological sustainability. Monsanto (2011), for example, argued that their advances in seed technology reduce tillage, conserve water and nitrogen, and increase yields, which means less deforestation for new cropland. However, food sovereignty and environmental advocates tend to

criticize large agribusinesses for promoting an industrial agriculture paradigm characterized by a variety of negative ecological impacts.

Controversies persist on the extent to which safety standards for developing, testing, marketing, and assessing health impacts of GMOs should be based on the precautionary principle. The Rio Declaration of 1992's principle 15 describes the precautionary principle: "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation" (United Nations Environment Programme 1992). Chapter Four (Section 4.2.1) explores the conflicts between pro- and anti-biotech advocates in the Philippines.<sup>10</sup>

The supposed advantage of using chemical fertilizers, besides saving labor, is that a farmer can add nitrogen when they need nitrogen, phosphorus when they need phosphorus, etc (Baligar and Bennett 1986). However, sustainable agriculture advocates argue that this atomistic approach does not respect the complexities of soil chemistry (Altieri and Nicholls 2003). The nutrients in soil are not simply a triumvirate of nitrogen, phosphorus, and potassium (NPK). There are numerous other micronutrients and organisms that contribute to soil fertility. Unfortunately, not only do the chemical fertilizers often not provide these other nutrients, the chemical fertilizers even kill off soil organisms that produce these nutrients (Verma and Katiyar 2009). As the amount of organic matter is progressively reduced over cropping seasons, then the soil has a greater

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<sup>10</sup> See Lieberman and Gray (2008) about European and American interpretations of the precautionary principle that were respectively stringent and weak. Developing countries such as the Philippines have increasingly moved toward acceptance of GMOs in the wake of a WTO dispute resolution that did not recognize the precautionary principle as a significant reason to impede the international trade of GMOs (Winham 2009).

and greater need for NPK inputs to take up the slack. Farmers complain that they have to spend more and more money on fertilizers in order to get the same results that they did in the past. As one Philippine government official explained to me, much like a drug addict with a need for an increasingly strong fix, the soil can become addicted to the chemicals, and at some point, the yields simply come down, even if the chemicals are provided (see also Gruhn, Goletti, and Yudelman 2000).

Climate change may jeopardize certain farming ecosystems, or at least curtail their reliability and yields with the unpredictability of weather patterns and water supplies. In industrial agriculture, monocropping is the norm and biodiversity is typically reduced. This reliance on one crop creates more vulnerability if weather stresses cause crop failure. Sustainable agriculture typically keeps farm diversity at higher levels and reduces both the economic and ecological vulnerability of the farm.

Agriculture itself is often a major contributor to greenhouse gases (Lappé 2009; LEAD 2006). The creation, processing, and transport of chemical fertilizers result in the emissions of greenhouse gases. Sustainable agriculture curtails emissions for a number of reasons. Sustainable farmers are likely to rely on saved seeds rather than high-tech seeds that have traveled long distances. They may compost crop wastes to produce their own fertilizers, and they rely much less on mechanization. When sustainable farmers produce for local markets, this means less fuel is used in the transport of their goods to market.

If they are including animals in their farm systems, sustainable farmers are more likely to raise them using methods that cycle energy within the system rather than demanding outside inputs. For example, sustainable farmers may use animals for plowing,

use their manure for fertilizer, and feed them using crop wastes or on-site grasses rather than externally sourced grains from faraway locations.

The global need for agricultural development planning spawned the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), a committee of scientists, UN representatives, governmental and nongovernmental officials, farmers groups, and industry representatives. The recommendations of the IAASTD (2008) included both a push for the financial recognition of the positive ecosystem services that sustainable farms perform as well as a search for ways in which chemical-intensive and export-crop farms could be made to financially internalize the negative externalities that are the result of the chemical/export paradigm. The execution of these courses of action would drive agricultural production in many places closer to the local scale. Many economists and environmentalists have favored a global carbon tax as a potential way to implement some of these changes (*The Economist* 2011), but recent international climate summits have not produced any agreement toward this end.

With the dramatic fluctuations in the price of fertilizers and the future possibility of an international carbon tax and/or environmental taxes, the calculus of efficiency in farming is changing. While fertilizer-intensive export-cropping may in some instances bring high gross yields, if analyzed instead in terms of return per unit of energy expenditure, localized sustainable farming may be far more efficient because transport is not necessary for the chemical inputs and the commodities themselves travel shorter distances when going to market (Hecht 1987). Furthermore, HYVs and biotech crops may in some cases produce higher yields in a decontextualized, reductive comparison with traditional crops, but when farming systems in general are compared, the interactions

among soil, water, and plant genetic resources in a traditional mixed farming system can be superior to monoculture (Shiva 1991; Grossman 1984; Watts 1987).

### **1.3 Historical and geographic background of the Philippines**

Spread over latitudes ranging from 4.5° North to 21.5° North, the land area of the Philippines (~300,000 km<sup>2</sup>) is roughly equivalent to the state of Arizona and had an estimated 2010 population of 93 million (United Nations Population Division 2010).

After more than 300 years of Spanish colonialism (1565-1898), the Philippines became a territory of the United States as a result of the spoils of the Spanish-American War. Although eventually achieving full political independence in 1946, the Philippines has continued to be manipulated economically by American interests, particularly agribusinesses that seek to profit from its tropical agricultural potential.

The American colonial period of the early 20<sup>th</sup> century solidified the power of landlords at the expense of the peasantry. “To maintain stability in the colony, the U.S. made an alliance with local landed elites and forged them into a national ruling class” (Bello, Kinley, and Elinson 1982: 7). But by the late 1960s, friction between classes was increasing. In 1968, during the presidency of Ferdinand Marcos, the Communist Party of the Philippines was revived along with its military arm, the Maoist rural insurgency network known as the New People’s Army (NPA) that still operates in the countryside today. By 1972, in an effort to consolidate his power, Marcos declared martial law. In response, the US adhered more to its concerns for protecting trading interests than protecting democracy: “The legitimacy of the government was eroding, yet all likely alternatives to Marcos were unpalatable since they would probably follow nationalist

economic strategies” (Bello, Kinley, and Elinson 1982: 14).

In the meantime, the agricultural sector of the Philippines was becoming more oriented toward exports. The World Bank, motivated by a desire to integrate the Philippines into a world capitalist trading system, promoted foreign (especially American) investment in export agriculture and facilitated the creation of pineapple and banana plantations, among other crops (Bello, Kinley, and Elinson 1982). The Philippines was the object of American attention for its strategic military position and because development programs were designed as counter-insurgency strategies in places where there were left-wing rebel movements (Molle 2007). As opinion soured on the Vietnam conflict, the American public grew weary of direct bilateral involvement with countries in the global South. Thus policy and influence were instead channeled through international financial institutions.

The late 1960s and 1970s were also the years when Philippine agriculture became increasingly oriented toward the Green Revolution technologies of the International Rice Research Institute (IRRI) in Los Baños, Laguna, Philippines (Burley 1973; Roumasset 1976; Nazarea-Sandoval 1995). By 1973, the World Bank threw its weight behind the Philippine government’s *Masagana 99* credit program, which bundled credit for Filipino farmers with a package of HYVs, chemical fertilizers, pesticides, and herbicides, presenting a technical solution for the persistent poverty of the countryside, while ignoring the long-standing need for redistributive land reform (Bello, Kinley, and Elinson 1982; Borras et al. 2009). Although yields from Green Revolution crops did increase under certain ideal conditions, by the 1980s some Filipino farmers were complaining that the Green Revolution was a scourge (Bello, Kinley, and Elinson 1982; Aerni, Phan-Huy, and Rieder 1999). Even when

yields went up, the increasing price of the inputs lowered farmers' incomes and poverty worsened. Monocropping left farmers susceptible to market irregularities (Scott 1976; see also Grossman 1984), pest infestations, illnesses from pesticide exposure, reduced biodiversity levels on the farms, and soils with nutrient imbalances and deficiencies.

By the 1990s, Filipino farmers were polarizing in their attitudes toward the new developments in crop biotechnology. While some wanted to take advantage of cutting edge techniques, others held that genetically modified (GM) crops were another ploy of the transnational corporations to make farmers dependent on outside technology, noting that GM seeds are ill suited to the peculiarities of their specific lands (Aerni, Phan-Huy, and Rieder 1999) and threaten the biodiversity of their ecosystems (Altieri 2005). The biotech approach has been criticized as top-down and global, whereas many farmers want to employ solutions tailored to their distinct needs. Since 2000, resistance to the biotech paradigm in the Philippines has included uprootings of GM test fields (MASIPAG 2001), hunger strikes (de Quiros 2003), and mass protests against the WTO's projects of agricultural trade liberalization and its support of biotech corporations (Ronquillo 2005). Although GM corn (such as Bt corn and Roundup Ready corn) has been commercially grown amid controversy in the Philippines since 2003, GM rice is not yet formally approved and will prove to be a contentious issue as there are plans for both its importation and domestic commercialization (Clapp 2004; Abano 2007; Ociones 2007; Lynn 2008; *Reuters* 2008; McKie 2013).

The International Rice Research Institute (IRRI) and the Philippine Rice Research Institute (PhilRice), adopting the logic of the WTO, promoted trade liberalization in their publication *Why Does the Philippines Import Rice?* (Dawe 2006). The Institutes argued that

the importation of more rice, the internal production of less rice, and the production of more High Value Commercial Crops (HVCC) are the best paths to pursue since this will drive rice prices down and the poor will benefit. In light of what was about to occur in 2008, it is troubling that one of the chapters of the book was titled, "The world rice market can be trusted" (Dawe 2006).

Severe global increases in food prices catapulted issues of food security into public debate in 2008. Rice prices especially soared (Buerkle 2008; von Braun 2008), with the Philippines seeing increases of 50% from February to April 2008, due to export restrictions from the major rice exporting countries. Rice is the most important staple in the Philippines and in recent years, the Philippines has been at or near the top of the list of the world's largest importers of rice. Poor people were especially vulnerable to these price shocks, and violent protests occurred in the country (Buerkle 2008; Bradsher and Martin 2008). The Philippines had been a rice exporter in the early 1990s, but there was a steady decline in the percent of production in relation to consumption, with 104.7% in 1990-1992 declining to 87.7% by 2005-2007 (FAO 2010b). Thus the Philippines has been a net rice importer every year since 1995 (Ignacio 2005), the year the Philippines acceded to the WTO.

In the 2005-2007 period, the Philippines only exported 85.9% as much food as the overall amount of food that they imported, which is shocking for a country with a 36.5% rural population and a labor force that is 36% agricultural (FAO 2010b). The FAO (2011) reported that the countries hit hardest by the 2008 food price crisis were those that were import-dependent. FAO (2010b) data showed a reduction in the percentage of undernourished Filipinos from 1990 (24%) to 2007 (15%), but the 2008 food price crisis

reversed that trend and 21.5% of the population experienced hunger in 2011 (Social Weather Stations 2011).<sup>11</sup>

In reaction to the food crisis, the heads of the World Bank and IMF committed to further opening world markets (Dunphy 2008). Trade and technology were touted as the way to attack the problem, with the exploitation of comparative advantage to pave the way toward food security.

What is the connection between trade policy and the local farmers of the Philippines? The reason it matters, especially in the case of rice, is that the Philippines is not an especially cheap place to produce rice, and if internally produced rice is not competitive with imported rice, then domestic producers are at risk in a liberalized market. Some have argued that there are significant geographic obstacles, such as varied topography and a lack of large river deltas (such as the Chao Phraya in Thailand, the Irrawaddy in Burma/Myanmar, and the Mekong in Cambodia and Vietnam) that restrain the Philippines from being a top rice producer (Dawe 2006). However, other factors are probably far more important. Land use decisions, quality of infrastructure, and government investment in agriculture, such as subsidization, all play important roles in the production and pricing of rice. The United States, for example, can sell cheaper than the Philippines in a variety of crops, as the 2008 US Farm Bill is just the most recent in a long line of pieces of legislation that have given major agricultural subsidies, especially to staple crops like corn, wheat, soybeans, and rice, encouraging production on a huge scale (Monke

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<sup>11</sup> Robert Paarlberg (2008), political scientist at Wellesley, argued that the 2008 fluctuations of food prices did not cause hunger among the poor since “most of the world’s hungry people do not use international food markets.” The statistics above show how misinformed his assertion was, since international prices do indeed affect the poor, especially in countries that are not self-sufficient in their staples.

2008). The rice subsidies alone have been nearly a billion dollars per year in the US (Environmental Working Group 2011).

Liberalization would result in a flood of cheap subsidized rice, which would undercut Filipino farmers. Chapter Five (Section 5.3) will deal with more of the specifics of liberalization's present and potential effects on the agricultural economy of the Philippines, particularly in regard to the staples of rice and corn. If staple farmers are undercut, then this can result in more crop conversions and a further erosion of the food sovereignty of the Philippines.

The conflict between the strategies of export-orientation and local self-sufficiency in the Philippines grew more complex in April 2008 when President Gloria Macapagal Arroyo set a goal of 98% rice self-sufficiency by 2010 (but later modified it to 100% by 2013). Food sovereignty advocates have welcomed this commitment, but they remain skeptical about the productionist orientation of the self-sufficiency plan that is based on yield increases rather than land policies. What is lacking in the government's plans are strategies to reverse the trend of land conversions that have turned former rice and corn fields into plantations of bananas, pineapples, and other export crops (Gamolo 2008).

Agribusinesses and large landowners have continued to acquire or lease superior farmlands (Franco and Borrás 2007), gradually wresting control of agriculture from peasant farmers, leaving many of them only with the options of leaving their land, migrating toward land with marginal soils, or accepting employment as agricultural laborers for the plantations. This process is leading to the proletarianization of many rural populations in the Philippines (see Breman 2000 and Scott 1976). The current situation is, thus, not only a battle over decisions about agricultural techniques and whether or not to

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produce for local needs, but it is a battle over territory as well. This study seeks to answer the following questions. Can farmers produce geographies wherein they can achieve self-determination? Can communities farm collectively rather than as virtual employees of transnational seed companies and agribusinesses? Can the means of production—particularly land and seeds—be controlled locally? Each of these questions raises dynamic issues of geographic scale.

## Chapter Two: Theoretical frameworks

The choices that people make about agricultural practices are not carried out in the abstract; they take place in a wide array of contested spaces. They are intrinsically and overtly spatial activities, and it is for this reason that a geographical analysis is especially needed. Competition and cooperation are produced and mediated in part through productions of geographic scale, and illuminating the intricate differences in power relations that are involved in scalar relationships is an important aspect of this project. Globalization is not just an economic rearrangement, but it is a spatial project as well.

This chapter will look first at the theoretical debates surrounding geographic scale. Then there will be shorter sections on theorizations of neoliberalism as well as the frameworks through which food security and food sovereignty are debated.

### **2.1 Scale theory: social construction of scale**

Scale has become one of the most debated concepts in human geography over the past thirty years. Are notions of scale simply tied to the spatial extent of a thing, process, or interaction? Or does scale also pertain to notions of hierarchical structuring of sociospatial relations? Are scales real 'things' in the world or are they simply discourses without ontological grounding? This section will look at some of the ways that scale theorization has changed and grown and will explore key issues such as scale-as-size (a matter of 'horizontal' spatial extent) versus scale-as-level (a hierarchical, 'vertical' arrangement of space), as well as discussions regarding ontology and epistemology.

### **2.1.1 Review of the literature on scale theorization**

The one point of consensus forged among human geographers in recent decades is that hierarchical scales are socially produced or socially constructed. They are not ‘given’ or ‘natural,’ but instead are the outcomes of human activity, contingent on the interactions of different actors and expressive of the power relations between these actors. Peter Taylor (1982) proposed that the emergence of scales has been closely connected to the expansion of capitalist production. Neil Smith (1984) gave scale theory more explanatory weight by analyzing the uneven movement of capital across space and noted that “the hierarchical ordering of scales [is] a certain candidate for abolition in a revolutionized social geography” (1992: 66). Yet Smith (1996) warned that the fetishization of “spaces of flows,” which is a common alternate spatial metaphor, can obscure the politics of scale.

For Smith (1993), distinctions such as local, national, and global have become ‘intuitive fictions,’ yet Smith (1992; 1993) pushed scale theory to analyze not only economic and governmental concerns, but social and cultural issues as well, while advocating for research on the scales of the body and the home. Sallie Marston (2000) argued that scholarship on the social construction of scale had been focusing on capitalist production, whereas scale scholarship needs to address the processes of social reproduction and consumption as well. The gendering of these processes has been an important part of the story of how scale is produced. In the context of my study, gender relations and various types of development influence each other and simultaneously influence how households and communities are scaled. Marston and Smith (2001) argued that households should not be considered “relatively stable background structures” since they are contingent on a variety of processes and power dynamics, just like the state.

One of Erik Swyngedouw's important contributions has been to include questions of nature and ecology in scale theory inquiries (1997; 2000; 2004). Rather than focusing simply on human phenomena, Swyngedouw's work has helped spur interrogations of scale in a wide variety of political ecology contexts. When considering water resources for example, the watershed can make a simple spatial scale (Molle 2007), even though we must still consider how these arrangements are mutable and that problems within a certain watershed may have originated from outside the watershed. Likewise, solutions to these problems may come from outside of the watershed as well. Compared to hydrological issues, it is even more difficult with food systems to fall back on a natural basis for the boundaries of a scale of interaction. This surfaces in debates over how to define local food. Still, it can be beneficial to analyze how ideas of natural boundaries, in tension with political and cultural boundaries, influence discourses of scale, as well as discourses about the problems of food production. Blaikie and Brookfield (1987) conveyed how political ecology issues can be influenced by processes at local, national, and international levels, which has been an important starting point for many political ecology projects, but even these spatial distinctions or levels themselves need to be problematized by scholars, since they are not simply backdrops to the action, but rather a part of the processes themselves (Rangan and Kull 2009).

Katherine Jones (1998) was one of the first theorists to advocate approaching scale as an epistemological structure—"a way of knowing or apprehending." This helped open up the debates on whether scale was being reified by some theorists. In my research, I feel it is important to focus on the politics of the scaling activities of various actors without reifying their scalar constructions. Do scales have ontological validity? Sallie Marston, John

Paul Jones III, and Keith Woodward (2005) reviewed how confusing notions of scale and the politics of scale had become. Discussion of hierarchical scales had, in their opinion, too often reified faulty notions of scale. Their assessment was that scales do not have ontological validity and that a 'flat ontology' should replace the idea of scale in human geography.

The first reason that Marston, Jones, and Woodward (2005) chose to abandon hierarchical scale is that there has been confusion between "scale as *size*—what is also called a horizontal measure of 'scope' or 'extensiveness'—and scale as *level*—a vertically imagined, 'nested hierarchical ordering of space' (Howitt 2002, 305)." An illustration of this potential confusion would be if Alaska and Rhode Island are referred to as being at the same scale, even though in reality, they are simply at the same level (i.e., they are both states), since they have drastically different spatial extents (McCarthy 2010). Marston, Jones, and Woodward (2005) argued that there are "insufficient grounds to maintain the distinction" between scale-as-size and scale-as-level. I argue that collapsing the distinction would be an error, since scale-as-size can reflect real, tangible changes in the spatial extent of something, while scale-as-level is an epistemological construct.

Marston, Jones, and Woodward (2005) argued that epistemological ordering frames are encountered not "in a vertical imaginary, but on the ground, in practice, the result of marking territories horizontally through boundaries and enclosures, documents and rules, enforcing agents and their authoritative resources." It is a salient point that the manifestations of scale are experienced physically. Thus it is all the more perplexing that Marston, Jones, and Woodward (2005) wished to get rid of scale in human geography. The fact that the effects of epistemological ordering frames can be experienced viscerally

should mean that we want to study them all the more (Moore 2008; Leitner and Miller 2007). Kaiser and Nikiforova (2008) said the removal of scale from critical geography would have the unfortunate consequence of reinforcing unequal power relationships because scale would be taken for granted rather than analyzed for how and by whom our ideas of scale are produced. Gonzalez (2006: 838) noted that political actors and movements try to make the scaling of their projects as “natural, normal and legitimate as possible,” concealing how those actors may benefit from the project. Paasi (2004) stressed that spatial categories like scale need to be kept ‘theoretically visible.’

The second reservation Marston, Jones, and Woodward (2005: 421) had about scale regards problematic binaries such as local-global. Notions of verticality tend to privilege the causality of the global over ‘smaller’ scales such as the urban or the community. This privileging is especially problematic if a theorist falls back on ideas of the force of abstract global capital. So it is admirable that Marston, Jones, and Woodward (2005) wanted to remind us that hegemony and power are not monolithic abstractions, but the acts of individuals, usually working in concert with others. Critical of researchers looking ‘up’ rather than ‘sideways’ for the sources of restructuring, they worried about “eviscerating agency at one end of the hierarchy in favor of such terms as ‘global capitalism’, ‘international political economy’, ‘larger scale forces’ and ‘national social formations.’” In other words, there are real individuals who are responsible for restructuring. Rearrangements do not occur because of some invisible hand of neoliberal capitalism.

This is an excellent point, though I do not think it is grounds to abandon the study of hierarchical scale. Marston, Jones, and Woodward (2005: 421) admit that these “most privileged social actors” who are doing the restructuring typically are “more efficacious in

spatial *reach*.” I think this extended spatial reach is important and shows the way that scale-as-size and scale-as-level are tied together. It is precisely this extension of spatial reach that creates the discourse, or the illusion, if you will, of hierarchical scale. We need to refrain from theorization that masks the responsibilities of individuals. However, at the same time, we need to recognize that these actors may be using discourses of hierarchical scales (and/or horizontal networks) in order to execute their projects.

Marston, Jones, and Woodward (2005: 422) claimed, “In a flat (as opposed to horizontal) ontology, we discard the centring essentialism that infuses not only the up-down vertical imaginary but also the radiating (out from here) spatiality of horizontality.” Yet what understanding does the flat ontology help us accomplish? The authors “propose that it is necessary to invent—perhaps endlessly—new spatial concepts that linger upon the materialities and singularities of space.” Liberating perhaps, but what a lot of work! Their approach has value since a hazard of looking at vertical and horizontal categorizations is that we might slip into accepting these categorizations. Yet, by relying on the invention of new concepts, the transferability of the analysis from one project to another is more challenging with the flat ontology. It may provide accuracy for a specific subject, but may be worse than scalar approaches for providing any general theoretical tools for understanding the politics of sociospatial processes. With analysis of the social construction of scale, one should avoid simply channeling things into the same old categories (which is the criticism that Marston, Jones, and Woodward make), but when one does see a similar pattern of actors manipulating the discourses of scale, then an analysis of the power relations that are involved in this discourse makes sense. For example, if one can identify the ways in which international financial institutions (IFIs) have used loan

conditions to mandate scalar changes in the power structures of governments in one part of the world, it may be possible to recognize these strategies in other parts of the world and seek to redress or counteract this hegemonic pressure.

Saussure (1966) and Foucault (1971; 1977) showed that language plays a part in constructing reality rather than simply reflecting it. Categorization is a means of control. In the article, "Rethinking scale as a geographical category: from analysis to practice," Adam Moore (2008) skillfully argued about the pitfalls of using scale as an academic category of analysis in human geography, while showing that we still need to engage with the ways that discourses of scale are used in the real world. Moore (2008: 203) felt that it is important to draw distinctions between scale as a category of analysis and scale as a category of practice:

In adopting scale as a category of analysis geographers tend to reify it as a fundamental ontological entity, thereby treating a social category employed in the practice of sociospatial politics as a central theoretical tool. I argue that this analytical manoeuvre is neither helpful nor necessary, and outline its consequences in analyses of the politics of scale.

When we do use scales as analytical categories, Moore argued that it "directs attention away from the various social actors and practices involved in scale politics" (2008: 211).

Treating scale as a category of analysis is theoretically problematic. "The tendency to partition the social world into hierarchically ordered spatial 'containers' is what we want to explain—not explain things with" (Moore 2008: 212). Yet treating scale as a category of analysis is a methodological roadblock as well. "As long as scale as a substantial category of analysis is the focal point of geographic research, the scalar practices of social actors will tend to remain at the margins of disciplinary attention" (Moore 2008: 212). If we think of scales as material entities or processes, then there is a risk that scalar representations will

be treated as corroborative evidence “rather than socio-spatial projects and political manoeuvres to be interrogated” (2008: 211).

Moore (2008) agreed with part of Marston, Jones, and Woodward’s (2005) ‘intervention’ in scale theory, however, he argued that “their proposal to do away not just with a hierarchical scalar ontology, but to ‘eliminate scale as a concept in human geography’ (2005: 416) – and thus presumably any reference to scale politics is a misguided case of throwing the baby out with the bathwater” (Moore 2008: 213). I am in agreement with Moore, who went on to argue, “It is not necessary to retain a commitment to the existence of scales in order to analyse the politics of scale. Just as we can research nationalist practices without assuming that nations are real entities, it is possible to develop theories of scale politics without scales” (2008: 213). As Brubaker, Loveman, and Stamatov (2004: 45) asserted, nations “are not things in the world, but perspectives on the world—not ontological but epistemological realities.” To take another example, many would agree that race is a socially constructed category with no ontological validity, but it makes no sense to refrain from analyzing racial categorization. Instead we need to talk about what are the processes and political projects that have created our conceptions about race and that continue to construct the category of race. Likewise, regarding scales, I am in agreement with Moore, who argued, “To claim that scales are epistemological—not ontological—realities does not diminish their importance. Rather it alerts us to the real and important ways scalar categorization structures not only personal perceptions but social relations” (2008: 214).

Like Neil Smith’s assertions that the politics of scale are motivated by individuals’ and groups’ efforts to remake sociospatial arrangements to their benefit, Moore (2008:

218) said, “Scale politics is ... always connected to spatial projects—attempts to crystallize certain sociospatial arrangements in consciousness and practice in order to further social, political or cultural aims.” Transnational corporations sometimes invoke the scale of the ‘global’ to legitimate their presence as fundamental players in the economic landscape (Kelly 1997; Moore 2008).

Moore (2008: 215) asked, “What makes it more or less likely for particular scalar categories and categorizations to take hold in practice?” Huber and Emel (2009) said this depends on social actors’ and organizations’ power to manipulate both the discursive and material dimensions of scale. If we see scales as sets of discourses and practices instead of concrete entities (Paasi 2004), we can concentrate on how “specific scalar configurations solidify in consciousness and practice” (Moore 2008: 214). This is not simply some poststructuralist exercise in analysis, because as Moore (2008: 214) said, “there are very material consequences when specific scalar formulations are successfully disseminated and utilized by powerful political actors and institutions to further specific political projects.”

Danny MacKinnon (2011) proposed to replace the term ‘the politics of scale’ with ‘scalar politics.’ Using the adjective scalar as opposed to the noun scale may help push us to not reify the idea of scale, and instead to think of processes that are informed by people’s *ideas* of scale. I appreciate this direction taken by MacKinnon, however, I advocate that use of the verb ‘scaling’ is an even more appropriate way of stressing that when people pursue a particular project, this is an action. Scaling is often a combination of making material changes in spatial arrangements along with making discursive use of spatial categories and ideas of hierarchies and networks. This idea will be expanded upon in the next section.

### 2.1.2 Scaling

I would like to address when we may want to use the term scale (in both scale-as-size and scale-as-level contexts), as well as propose when we might use the terms scaling and hierarchical scaling. If scale can be defined as the relative size or extent of something, we can use the term scale (in this scale-as-size context) in a real-world descriptive way if we are simply describing the size or spatial extent of a thing, process, or interaction. However, because scale-as-level is an epistemological construct, then we should use the term carefully because this type of scale lacks an ontological basis. If we do use the term scale to refer to scale-as-level, then it should be in the context of describing a discourse that people are using, trying to manipulate, or to which they are being subjected.

In order to emphasize the active quality of socio-spatial interactions, I propose that we use the active verb *scaling* to describe the actions that people are taking in their environments. In regard to scale-as-size, we can define scaling as the act of trying to alter or establish the relative size or extent of a thing, a process, or an interaction. For example, one might scale a thing such as a farm by making it larger or smaller. One might scale a process, such as the cycling of nutrients by either composting on-site materials or seeking out external inputs. Or one might scale an interaction, such as a trading relationship by dealing either with neighbors and other nearby people or by dealing with distant commodity processors. Each of these examples is consistent with the simple idea of scale relating to the size or extent of something.

In regard to scale-as-level, it is common to see discussion of scale where there is reference to hierarchically nested structures. Scale in this sense exists as a discourse, not always in an overtly conscious way, but nonetheless as a way people have of organizing

space that is imbued with the power relationships in their lives. Here we need to discuss what is referred to as the production of scale or the social construction of scale. While the term 'production of scale' focuses our attention on the material outcomes of capitalist processes, the term 'social construction of scale' more readily includes both these material dimensions as well as the discursive dimensions of scale construction (Huber and Emel 2009).

I argue that hierarchical scales may be epistemological realities (albeit sometimes vague realities), but not material realities in the broader sense of tangible, touchable things. Common examples are the official manifestations of governmental power, which in the case of the Philippines could be hierarchically arranged in a nested fashion as nation, region, province, municipality, and *barangay*. Although these may have some duration over time, they are still socially constructed levels. They are certainly not 'given' or fixed since they are contested and malleable. The question is whether we should refer to these levels as scales. I argue that we need to avoid reification of hierarchical scales as things in themselves. Hence it is often more appropriate to discuss the *hierarchical scaling* of different projects. This terminology stresses the discursive nature of notions of hierarchical scale. Hierarchical scaling can describe the situations in which actors attempt to use, construct, alter, or obliterate social constructions of scale that are classifiable as epistemological constructs.

Scaling, as a verb, should be emphasized, to show that we are considering an action or a process, whereas scale as a noun is a more fixed term that can lead to reification if we are not examining it critically. I prefer to use the term scaling over the politics of scale or scalar politics because it is a more dynamic word that emphasizes the actions of various

actors. Although the politics of scale does not necessarily reify scale, many readers instinctively read in an ontological grounding of scale, even when authors explicitly reject that framework. Scalar politics is less prone to misinterpretation from readers, yet MacKinnon (2011), who proposed this term, does indeed argue for the ontological basis of scales, which I believe is problematic.

Hierarchical scaling is connected with the simple scaling of spatial extent or size. This connection is based on the commonality of changes in areal extent that are typical in either of these senses of scaling. It is important to resist the conflation of scale-as-size and scale-as-level, and at the same time I think we need to recognize a tension between scaling in the context of size and scaling in the sense of hierarchical scaling. If we are rigorous in the refusal to reify scale-as-level, we can separate, but yet recognize the connections between the two. The tension exists because it is not often that simply one type of scaling is occurring in isolation; they usually occur in tandem. Manipulation of spatial extent and the discursive construction of 'scale' come together, sometimes for fleeting moments, but also sometimes with lasting ramifications when the construction of scale is reinforced by various power relationships.

In regard to production, I look at policies on export cropping vs. staple cropping as scaling issues. Are there governmental policies to protect lands devoted to staple crops from conversion to export crops? Is there support for internal production that leads to food self-sufficiency? What are the government's policies on staple crop price supports? Likewise, there are scaling issues around consumption. Trade liberalization is touted in the neoliberal camp as the method through which cheap food will be supplied. Food sovereignty advocates argue that protectionism is sometimes necessary. Will the

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government be scaling the food system more toward international trade or will the government try to promote national self-sufficiency or even regional self-sufficiency? Will government regulations on organic agriculture be oriented toward facilitating the exportation of organic foods or will regulations encourage small farmers to produce organic foods for domestic markets?

There are also scaling issues in the government's relationship to social reproduction, affecting such things as equity in the provision of social reproduction. Will men be more involved in tasks such as childcare, eldercare, and domestic activities? As women become more involved in economic development projects, will the government do more to provide daycare and healthcare? How do development projects rescale, or fail to rescale, the tasks of social reproduction?

While earlier scale scholarship dealt mostly with production (Taylor 1982), and then subsequently consumption and social reproduction (Marston 2000), McCarthy (2005) has stressed the need for scale scholarship to include the reproduction of environmental conditions. In the context of this study, we need to think of different actors involved in scaling processes. Do government agencies support locally-focused organic fertilization programs or do they encourage the use of distantly-sourced inputs through things like hybrid seed subsidies and chemical fertilizer subsidies? How are soil organisms themselves actors in these processes? How does water district management affect the success of organic growing areas? In agricultural decision-making in the rural Philippines, there are different strategies that result in different scales of the reproduction of environmental conditions. Some agriculturalists orient their enterprises to fit into global networks of capital as they source inputs from multinational seed, fertilizer, and pesticide

companies. Others orient themselves more locally to the farm and the community as they use traditional open-pollinated seeds, compost crop residues, create their own fertilizer, select seeds for future planting, and recycle nutrients on a farm-wide scale.



Figure 2.1: Bukidnon rice fields: sustainable agriculture groups like Makakabus in Bukidnon scale their reproduction of environmental conditions very locally by using open-pollinated seeds and composting rice straw into organic fertilizer (photo by author).



Figure 2.2: Vermicomposting is an increasingly popular way for sustainable farmers in Bukidnon to produce organic fertilizer on-site (photo by author).

One of the challenges in the field of scale theory is to resist splitting the human and the non-human and instead to emphasize the agency of both human and non-human actors in the ecology. In this sense, non-human nature takes part in the scaling of the reproduction of environmental conditions. Animals (such as pests), plants (such as seeds and weeds), and organic matter (in soil) all influence socionatural processes.

One might ask why should we analyze various projects of scaling? Why should we be concerned about the changes in spatial extent of various things, processes, or interactions? So what if the spatial extent or size changes? Scaling matters because it influences how individuals and groups relate to each other, and affects the variety of ways that people experience (or potentially do not experience) self-determination. When we think of the process of scaling from the perspective of a farming family, there may be issues of spatial extent, such as whether the farm size is growing or shrinking, whether the area under cultivation is changing, whether hectareage is maximized, or whether land use is

geared toward sustainability or diversification. Furthermore, the distance traveled for the transaction between farmer and buyer may be changing. Yet there may be more thoroughly discursive factors in play as well. Is the farmer engaging in production marketed to a 'local' community or are they oriented to 'global' export markets and what factors influence that decision?

Multinational corporations may help socially construct the global scale, as can be seen by their cooperation with the World Trade Organization, a global federation of member states, yet corporations may also invoke the idea of networks, in which farmers, distributors, processors, consumers, etc. are linked together in what may be portrayed as mutually beneficial relationships. We need to think critically about what drives the particular metaphors that are used. Are horizontal metaphors employed to obscure the large inequities that may exist in those relationships? Alternately, are hierarchical metaphors employed in those situations where certain actors want to maintain the structural power relationships that have been socially constructed?

Moore (2008) emphasized how epistemological ideas about scale influence material realities. Moore was concerned with how actors use scale categories "to construct space and social relations for specific political aims" (2008: 217). In the example of Philippine restructuring of governance with the Local Government Code of 1991, some powers of the central state were devolved to the (local) municipalities. The legislation came as a result of pressure from the IMF, which could be considered a 'global' governance institution, which was likewise under the pressure of 'global' corporations. These manipulations might be considered what Smith (2004) called 'scale bending,' as there is a rescaling of the state.

This incident and its ramifications for the rescaling of agricultural development will be discussed further in Chapter Five (Section 5.2.1).

In a political ecology project such as this, it is necessary to engage scale construction in contexts of production, consumption, social reproduction, and the reproduction of environmental conditions. We need to explain how power flows through a socrionatural system by looking at how different actors (both human and non-human)—sometimes allied and sometimes oppositional—manipulate their environments. In this way, scale theory can be a tool to help facilitate projects for social justice and ecological sensitivity. Exploring the politics behind the decisions to establish, reinforce, challenge, alter, or even overturn various notions of scales can illuminate these workings of power. Our ideas of scales are socially produced and it may be important that strategies for social and environmental change both work within existing scalar arrangements and at the same time, work to modify or overturn them (McCarthy 2005). Understanding scaling struggles can be an important way of comprehending and advancing struggles for food sovereignty and more progressive class and gender relations.

## **2.2 Neoliberal economic reforms**

A 'remake' of nineteenth century laissez-faire for the twentieth century (Peck 2008), neoliberalism has been characterized in a variety of ways: political doctrine, economic project, regulatory practice, or even as a process of governmentalization (Bakker 2010). In the wake of Keynesianism and especially since the fall of the Soviet Union and other eastern bloc governments, neoliberalism has become the most dominant political-economic ideology, not just in the capitalist countries of the former First World and the

post-socialist countries of the former Second World, but also among the elites of Southern (formerly Third World) countries as well. While neoliberalism takes different forms in different contexts, some of the key projects that have related to agricultural development have been trade liberalization, deregulation, and privatization.

Neoliberal policies on agricultural development are often couched in the language of poverty reduction, food security, and increased production (Escobar 1995; Clapp 2005). Neoliberal reforms are promoted as depoliticized reactions to economic issues, since they are presented as modifications that allow markets to operate naturally, yet they are inherently political-economic and ecological projects (McCarthy and Prudham 2004; see also Harvey 1974). Neoliberal projects on the national scale are frequently hybridized with remnants of Keynesianism and are neither purely an “inside job,” nor simply an “external imposition” (Peck 2004).

In the Philippines, implemented and proposed neoliberal reforms that have influenced agriculture have been of a variety of types: price and market liberalization; governmental structure reform; privatization of land; privatization of agricultural agencies; promotion of export cropping; environmental deregulation; and removal of agricultural subsidies. Even an action such as land reform, which is ostensibly progressive, has been rendered through a neoliberal framework and has arguably been engineered to result in ‘accumulation by dispossession’ (Harvey 2005a, 2005b) as elites pluck parcels of privatized land when smallholders fall into debt. This process is a sort of ‘two-for-one’ for accomplishing the neoliberal project since, in addition to moving land into the hands of those who can use more ‘modernized’ and highly capitalized agricultural approaches, it also creates a dispossessed labor class for the plantation wage-labor economy (McMichael

2008a). In this sense, privatization and the de-peasantization of the rural landscape are purposeful strategies of capital accumulation where agribusinesses benefit from lowered wages (McMichael 2008b).

The neoliberal position on food security, which focuses on trade liberalization, is, arguably, as follows: if hunger is a global problem, it requires a solution with a global approach. Producing more food and producing it more cheaply is the answer. This way there will be enough food to go around and the poor will be able to afford to buy it. When barriers to international trade are removed, people can produce what they produce best and trade it internationally. Efficiency is gained, prices come down, and free trade provides the greatest benefit to the greatest number of people. Hunger will be eliminated through trade (Glipo 2006).

Critics of neoliberalism argue that international trade does not necessarily benefit all parties since not every country is on even footing, so trade relations may become skewed. Food sovereignty advocates argue that more localized planning for food systems creates more accountability for meeting the needs of hungry citizens. Sometimes protectionism for domestic producers is part of this approach.

Karl Polanyi (1944) described how the economic logic of capitalism could become increasingly detached and 'disembedded' from social relations as there is a focus on commodities and the market, but this does not mean that the actual *practices* of neoliberal capitalism are somehow separate from material realities. Neil Brenner and Nik Theodore (2002) wrote about how neoliberal rhetoric should not obscure the fact that specific actors carry out neoliberal reforms in order to achieve their own projects:

In contrast to neoliberal ideology, in which market forces are assumed to operate according to immutable laws no matter where they are "unleashed," we emphasize

the contextual *embeddedness* of neoliberal restructuring projects insofar as they have been produced within national, regional, and local contexts defined by the legacies of inherited institutional frameworks, policy regimes, regulatory practices, and political struggles.

Of course this applies in the Philippines, and my study tracks some of the specific actions and modifications through which neoliberal reforms have been implemented there.

Many scholars have analyzed neoliberalism and changing conceptions of the role of the state in the economy. The neoliberal 'hollowing out' of the state (Jessop 1994; McCarthy and Prudham 2004) has been described as a project of denying power to the national scale in order that corporations may operate with fewer restraints. The creation of the WTO has been interpreted by some as an attempt to restrict the power of national governments since governments can act as barriers to free trade. The structural adjustment programs of the IMF and other IFIs can also be seen as ways of restricting the power of national governments. With this said though, Mansfield (2005) asserts that the national scale is still a potent force in many political and economic arenas, and even institutions like the WTO and IMF routinely rely on the state to execute their projects. As Hughes (2006) noted, "political intervention and forms of regulation continue to govern transnational trade despite the laissez-faire logic of neoliberalism."

Capitalism's accumulation project has been geographic and it is important to understand the scaling of processes of capitalist expansion. Vinay Gidwani (2008) described capital's parasitic existence: "it draws its force by attempting to divert or attach itself to other kinds of energy or logic—cultural, political, nonhuman—whose contributions, like those of history's subalterns, are erased from conventional accounts." Parasite derives from a Greek word meaning something or someone who is eating at another's table. In this context of a political ecological analysis of a neoliberal global food

regime, I would like to focus on the ways in which capital has attached itself to, firstly, the energy of hydrocarbons in fossil fuels used in the chemical/export agriculture paradigm, secondly, the abundant energies of both sun and water that can be found in tropical places like the Philippines, and thirdly, the energies of human labor in the agricultural economy. Here, in an export oriented agricultural system, we see where the agribusiness corporations of the North are nearly literally eating at another's table. It is precisely this situation that the food sovereignty paradigm wishes to remedy.

Liberal (and neoliberal) property law is geared toward freedom to accumulate rather than freedom of self-sufficiency. Agrarian reform programs using community land titling could help guarantee community food self-sufficiency. However, in places like the Philippines, agrarian reform is generally based on individual titling of land parcels. Since the (neo)liberal model is dominant, the freedom to accumulate is prioritized and made possible by private property norms that are protected by the state. In neoliberalism, notions of equality are based on equality of opportunity, not equality of distribution. In other words, inequity is permissible. Those who have control over the most land (and the most advantageously-placed land) are in the best position to both produce and accumulate. In liberalism in general, and especially neoliberalism, conceptions of freedom and rights are geared toward the individualistic concerns of protecting surplus rather than communitarian concerns of subsistence for all.

What is 'liberal' about neoliberalism? The rhetoric is that neoliberalism offers less coercion and less direct pressure from the state. Yet, is this freedom real or illusory? The liberalizing project may ostensibly set people free from their obligations to state and to community. But is it truly emancipatory? Or is the illusion of self-determination part of the

game of neoliberal capitalism? By broadening scales of economic interaction out to ever more distant levels, it is ever more difficult for the citizen to see the forest through the trees. Where does consumption match up with production? Globalization and specialization make the economies of different countries and regions more dependent on each other and this can make it more difficult for citizens to exercise political influence because they may need to scale their political projects on a greater number of levels and connect to a greater number of other groups than they would if their economies were more localized. Many peasants link the intensification of rural poverty to the onslaught of neoliberal economic reforms; thus the scaling of peasant political activism is increasingly global rather than local or national, as has traditionally been the case.

### **2.3 Perspectives on food sovereignty and food security**

If the population of a country must depend for their next meal on the vagaries and price swings of the global economy, on the goodwill of a superpower not to use food as a weapon, or on the unpredictability and high cost of long-distance shipping, then that country is not secure, neither in the sense of national security nor in the sense of food security. Food sovereignty thus goes beyond the concept of food security, which says nothing about where food comes from or how it is produced (Rosset 2009).

As described in Chapter One, food security is about a population having its food and nutrition needs met, while the concept of food sovereignty deals more specifically with how those needs will be met—to what extent will there be food self-sufficiency; what agricultural trade policies will be in effect; what level of coordination will exist between producers and consumers; what economic protection will exist for those who are producing the food; and what environmental protection will exist for those areas where the food is grown.

As we can see from this list of concerns, efforts to promote food sovereignty are fundamentally political economic rather than simply technical or managerial. Thus exploring the meaning of the word sovereignty is important, since it can mean different things in different contexts. It can mean hegemony, supremacy, or dominion over a people or a territory. Yet it can also mean freedom and self-determination, as in freedom from the rule of someone else.<sup>12</sup> It is interesting how we can see the relationality of sovereignty in the sense that in the former example, it is about exercising power over a domain, top-down, while the latter example is about exercising power bottom-up against a potentially controlling force. An appeal for support of self-determination can be made through Article 25 of the United Nations' International Covenant on Economic, Social and Cultural Rights that deals with the right to self-determination and citizens exercising sovereignty over "their natural wealth and resources" (United Nations 1966).

How does sovereignty relate to both government and to food? What is the purpose of government? Is it to dominate people? Or is it to empower people who are being governed? We can see that food sovereignty movements are bottom-up movements that resist control from distant places. In the food sovereignty framework, the WTO challenges to protectionism are often viewed as infringements on national sovereignty. Fighting global organizations by engaging politics at the national level is one of the strategies used by food sovereignty advocates. Food sovereignty "puts those who produce, distribute, and consume food at the heart of the food systems and policies rather than the demands of markets and corporations" (Nyéléni Forum for Food Sovereignty 2007).

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<sup>12</sup> Menser (2008) defines self-determination as "the right of a particular group of persons to define, justify and concretely articulate the normative framework under which they act, deliberate, and plan with others."

The neoliberal and food sovereignty frameworks offer competing discourses of ‘freedom.’ Neoliberal rhetoric focuses on freedom where producers have the ability to choose their path, sell what they will, and buy what they will. Food sovereignty rhetoric espouses freedom from external influence over national and/or local food policy (Menser 2008). Self-determination is a central concern for those who are pursuing food sovereignty. Ultimately the fight for food sovereignty is a fight for political sovereignty in general (Nyéléni Forum for Food Sovereignty 2007) and is one of the principal facets of a greater ‘Global Justice Movement’ (Menser 2008). To the extent that the movement may attract not simply more food producers, but consumers as well, it has the potential to be a revolutionary force.

With over 130 organizations in over 60 countries, and tens of millions of members, La Via Campesina (‘the way of the peasant’; LVC) advocates for land reform and is one of the most ambitiously transnational social movements in the world (Desmarais 2003). By operating in so many places and coordinating so many geographically diverse groups, it illustrates an extremely broad strategy of scaling the project of food sovereignty. LVC seeks to “expose and oppose” neoliberal land policies promoted by institutions like the World Bank (Borras 2010). In Chapter Four (Section 4.3), I will detail some of the experiences of Philippine groups that have been associated with LVC.

According to Holt-Giménez (2009), there are many smallholders around the world involved with horizontally oriented farmer networks practicing agroecological<sup>13</sup> methods,

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<sup>13</sup> Agroecology is a mode of agricultural production that “draws upon local and traditional knowledge in combination with laboratory studies to farm in such a way as to meet local cultural needs, provide for human health, and conserve biodiversity” (Menser 2008). Agroecology shares much with organic agriculture, such as a preference for organic

but these groups are not necessarily involved with the social movements that address the underlying political and economic conditions that support neoliberal and chemical agricultural paradigms over the sustainable paradigm. Some smallholder organizations may be associated with NGOs that are themselves tied to neoliberal projects. Other NGOs might be ideologically open to joining broader social movements, but for various reasons, do not choose to scale their projects in this way. In this study, I will analyze how these different concerns and approaches to sustainable agriculture play out in the context of the Philippines.

The human right to food is one theoretical framework in which food security questions get debated (Mechlem 2004; Hussein 2002). First of all, there is a stance among some right-to-food advocates that food is not like other commodities. They argue that food should not be commoditized at all, since it is fundamental to our existence. So when we are devising trade policies, to subject food to the same economic logic that we use for other consumer products is questionable. In many places around the world—and the Philippines is no exception—farmers are the hungriest segment of the population (Chavez, Manahan, and Purugganan 2004). This contradiction arises in part because food is commodified and fetches a relatively low price on the market and in part because many farmers are growing food that they themselves do not eat.

The right to food is often considered to be protected by the Universal Declaration of Human Rights. Article 25 (1) states: “Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food...”

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fertilizers, traditional pesticides, open-pollinated seeds, intercropping, crop rotation, and polyculture.

(United Nations 1948). Yet the World Food Summit in 2002 failed to produce any strong resolutions on the right to food. Wright (2003) explained: “If understood as a human right, access to food would constitute an individual claim against the state generating not only individual entitlements but also state obligations.” US negotiators at the Summit showed strong opposition to the right to food and suggested instead trade liberalization and structural adjustment programs of budgetary austerity and privatization to ensure food security for indebted nations (Wright 2003). It is debatable whether the US objections stem more from pragmatic reservations about the difficulties of implementing a right that leads to entitlements (see Alston 1984) or whether the reluctance derives from ideological commitments to the tenets of neoliberalism. Issues of scaling the right to food could become contentious as appeals for entitlements could be claimed nationally or even internationally (Wright 2003), and it may be precisely because of these scale issues that the US wished to avoid potential responsibility for fulfilling entitlements coming from other countries, or even simply from within the US. Liberty rights simply need to be guarded from being infringed upon. Yet a welfare right, such as the right to food, must be provided, and of course this begs the question of who is required to provide that right (O’Neill 2005). Is it the farmer, the local government, the national government, or is it a global responsibility? How is the provision of a welfare right scaled?

Does the right to food work in the context of a technical-managerial approach to food security? There are both ecological and socio-political considerations. First, in regard to the ecological ramifications, there is a potential blind spot in the right-to-food discourse if it assumes the production of food is a given. It is important to remember that food production is always an ecological issue (as well as a labor production issue, which I

discuss in the next paragraph). The production of food is an ecologically embedded process that depends on myriad factors. The right to food arguably has to be pursued along with an agroecological agenda. If not, then governments are liable to use lax regulation or promote production shortcuts to achieve food security for their people in the short term, which could result in serious ecological damage.

Secondly, if the economic well-being of food-producing communities is not taken into account, the right to food could result in government abuses such as the appropriation of land from producers or forced sales where farmers are not able to get fair prices for their crops. Just as monetization can obscure the value of food, food as a right can obscure its social relations and processes of production and distribution. Also, if a government that is responsible for ensuring the right to food relies on international commodities markets for procuring food, it will likely deal with great fluctuations in food prices, which can create budgetary problems, if not outright political instability. Furthermore, the right to food can be satisfied through food aid and/or the 'dumping' of commodities, yet these practices can lead to the disintegration of local production systems, necessitating continued dependency.

It is for these reasons that I am leery of accepting a rights framework without interrogating what will be the overarching political-ecological and political-economic relations through which the food system is conducted. Food as a human right can be politically expedient and socially progressive, or alternately it can be socially and/or ecologically disastrous. Some food sovereignty advocates argue that the problems that would arise through the application of the right-to-food in a technical-managerial food security strategy would not arise if the right-to-food were applied in a food sovereignty framework, because localized planning would obviate the need for outside intervention.

Alternately, Jacqueline Mowbray (2007) argued that in order to curb hunger, food sovereignty should be used as a *legal* principle, because national sovereignty can be more readily included in frameworks of international relations.<sup>14</sup> Countries or sub-national groups would be able to challenge those parts of the international economic order that restrict their food sovereignty. The right to food, on the other hand, can be nebulous in terms of how it would be operationalized. Again we see here the difference between the feasibility of welfare rights as opposed to liberty rights.

The food sovereignty framework may also be legitimized through another appeal to the Universal Declaration of Human Rights. Article 23, Title 1 states: “Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment” (United Nations 1948). We need to consider whether the WTO’s directives for eliminating protectionism can be challenged as violations of the human right to work. Telling nations what they can and cannot do with their trade policies can be interpreted as a violation of their sovereignty. Protecting the jobs of domestic producers is a way of adding more certainty and local accountability into food systems.

In addition to labor issues, land policies are a fundamental concern for food sovereignty movements. In general, the food sovereignty framework calls for policies that reflect a ‘land-for-the-tiller’ philosophy. In other words land should not be controlled by elites who are not actually doing the farming themselves. To the degree that elites *do* have control, then land reform programs are necessary. However, there is not necessarily

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<sup>14</sup> While groups like LVC might readily use this type of strategy in the future, they would not be satisfied with manifesting food sovereignty in simply a legal context, since they view it as an intrinsically social movement as well that is premised on an overhaul of the relations of social and environmental reproduction.

agreement within the food sovereignty movement on the specifics of land reform (Akram-Lodhi 2007). For example, should there be individual titling of agricultural land deeds? Or should there be community titling, in order to discourage elites from picking off parcels one by one, as well as to encourage more community planning in terms of crop selection, environmental protection, marketing, and labor arrangements? Land and labor policies are always going to be mutually constitutive.

The phrase ‘scaling food sovereignty’ can describe more than one process. First, there is the more fundamental decision that groups must make in terms of the areal extent of the functional region of food self-sufficiency, such as national, regional, provincial, municipal, bioregional, or watershed. This is of course complicated by the decision of what food(s) to include—a primary staple food; an array of important staples; or the majority of the social group’s food needs. One example of a national-level primary staple food goal is the Philippine government’s goal for 100% rice self-sufficiency by 2013.

Yet, another way of conceiving of the phrase ‘scaling food sovereignty’ is to describe how to politically operationalize the goals of the movement for food sovereignty. Will this entail the empowerment of farmers to cultivate with fewer external inputs? Will it mean linking together different farmers’ organizations and coordinating their marketing strategies? Will it mean enlisting one or more of the different levels of government to formally commit to: promoting integrated production and consumption systems; enforcing and/or modifying land reform policies; creating trade policies that protect internal production; and/or enforcing environmental policies that secure the long-term sustainability of farming ecosystems? Organizations struggle with deciding how exactly to scale their projects. For example, when should there be international networking; when

should there be calls for national sovereignty in terms of trade policy; and when should there be a focus on 'local community' efforts for food self-sufficiency?

In conclusion, not all of the actors in agricultural systems are either neoliberal corporate expansionists or food sovereignty warriors. There are plenty of people who do not fit into either camp. But these two opposing discourses do exert considerable influence on the politics of the food system of the Philippines. So I have articulated here some of the opposing forces at work. Looking spatially at practices of production, consumption, social reproduction, and environmental reproduction—as I do in this study—gives us insight into how food is regarded in everyday life and politics. Neoliberalism is an economic program that is based on scaling more producers and consumers into wider markets, yet certain producers, some independent and others organized into networks, challenge these attempts at vertical integration and work for food sovereignty through self-sufficiency in the realm of production, provision for local people in the realm of consumption, progressive gender politics in the realm of social reproduction, and environmental protection in the realm of the reproduction of environmental conditions. These concerns are at the core of my project.

## Chapter Three: Research methodology

In this chapter, Section 3.1 will give background on how and why the specific interview sites were selected, as well as some demographic information on the residents of the communities. (Before Chapter Six, the introduction to Part Three will give more complete descriptions and histories of the communities where interviews were conducted.) Section 3.2 will detail the specific research questions and methodologies used to conduct the research.

### 3.1 Selection and description of field sites

In late 2005, I developed an interest in how the history of Spanish and American colonialism in the Philippines in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries might be mirrored by a sort of American corporate neo-colonialism going on in the Philippines in the 21<sup>st</sup> century. Though now there is no colonial presence in the sense of an occupying power, the arrangements designed to extract surplus from the agricultural economy of the Philippines are arguably similar to what existed in previous eras.

I spent six weeks from June to August 2007 in the Philippines to select a site for my field research. I met with the leadership of a number of NGOs. Amihan (National Federation of Peasant Women) provided background information on issues facing the peasantry in general and women especially. KMP (Peasant Movement of the Philippines) provided me with further background and helped in the logistics of site selection. I also went to the triennial general assembly of MASIPAG (Farmer-Scientist Partnership for

Development), a national organization that encourages economic independence for farmers via diversified organic farming.

Although transnational corporations are active in many parts of the country, I looked for a research site on the large southern island of Mindanao because it is there that foreign agribusinesses have conducted some of their most vigorous expansions in recent decades. The island has a number of areas that are more recently settled than other parts of the Philippines. Mindanao is similar in land area to the state of Kentucky or the country of Hungary, and had an estimated 2007 population of 22 million (National Statistics Office, Republic of the Philippines 2007).



Figure 3.1: A Cavendish export banana plantation in Bukidnon on the island of Mindanao (photo by author).

On Mindanao, the province of Bukidnon is largely agricultural and suitable for the production of the staple crops of rice and corn, but in many spots there have been large-scale land conversions into plantations for export crops such as bananas and pineapples. Bukidnon is not unique in this sense, but is more heavily oriented to plantation agriculture than the average province. The Philippines ranked second in world banana production with 9% of global production, and third in banana exports with 10% of global exports (Macabasco 2011). In 2010, Bukidnon had 20.8% of the Philippine hectareage of Cavendish bananas, which are the main fresh export variety. Bukidnon also had 34.2% of the national hectareage of pineapple and 15.6% of the national hectareage of sugarcane. In comparison, Bukidnon had only 1.7% of white corn hectareage and 1.9% of rice hectareage (Bureau of Agricultural Statistics 2011). Bukidnon is similar in land area to Delaware and Rhode Island combined, or the country of Jamaica, and had a 2007 estimated population of 1.2 million (National Statistics Office, Republic of the Philippines 2007). Bukidnon is divided into 21 municipalities (analogous to counties in the US), which are subdivided into *barangays* (comparable to townships or villages in a rural context).<sup>15</sup>

I investigated a number of farming villages in Bukidnon, focusing on places whose economies were close to being exclusively agricultural. I chose three different locations on which to focus during my twelve months of fieldwork in 2008-2009. These were selected on the basis that one community embodied the organic and staple crop paradigms very well, while another embodied the chemical and cash crop paradigms, and yet another

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<sup>15</sup> A *barangay* is the smallest unit of government with a formally elected government. In addition to a main (eponymous) village, a rural *barangay* may have smaller villages, sometimes called *sitios*. However, *purok* is the term for a sub-unit of a *barangay* and *puroks* have informal leadership.

occupied a middle ground between paradigms. Furthermore, each community was distinct in its types of social differentiation and styles of communitarianism. Working in these settings afforded a unique opportunity to observe the differences in labor and agricultural practices in the different villages, while holding some other variables (such as ethnicity, religion, linguistic family, and education) relatively constant.

I was introduced to the governor of Bukidnon in a formal meeting arranged by the leadership of a provincial NGO that focuses on rural and agricultural issues. The governor graciously provided a letter and a literal stamp of approval for my project, which facilitated meetings with provincial government agencies and the mayors of the two municipalities in which I did research. The mayors also gave letters of approval that were used to facilitate meetings with municipal government agencies and *punong barangay* (*barangay* captains). Two of the communities in which I did interviews had farmers organizations, so I relied on a core of four people in the leadership of each organization to introduce me to interview subjects and arrange meetings. In the other village, I relied especially on the *barangay* secretary and the chair of the *barangay* agriculture committee to facilitate meetings and provide guidance in finding the most accurate cross-section of the community possible.

I interviewed 24, 45, and 32 heads of households respectively from the three communities, for a total of 101 farming family interviews. Occupational and income data was collected for *all* members of the households. I interviewed all of the residents of the first village, all of whom were members of the same farmers organization. In the second village, which did not have a strong farmers organization, I strove to get a representative sample of the community. I made sure to interview a spectrum of people involved in the local agricultural economy: large landowners, small landowners, tenant farmers, renters of

farmland, and wage laborers. In the third village, I interviewed all of the members of an organic farmers organization and a sampling of additional people in the village who were engaged in chemical farming.

It was typical to interview both members of a married couple, though in instances where one partner was absent, just one partner was interviewed. There were also a small number of households that were unmarried or widowed individuals (though in some cases these were still multigenerational households). In multigenerational households, typically the oldest individual or married couple of working age was chosen as the main interview subjects. In each of the communities, 4% of the interviewees were retired. In the different locations, I noted differences in occupation, land tenure, farming methods, crop choices, geography, and organizational affiliation or lack thereof.

Table 3.1: Overview of three villages.

	Agbalo	Butong	Cabangkalan
Number of households interviewed	24	45	32
Population of households interviewed	93	224	145
Total population of village	93	2,282	6,015
Total population of <i>barangay</i>	3,920	2,282	6,015
% of households in key farmers organization interviewed	100%	N/A	100%
Main crops	White corn	Sugarcane, white corn, yellow corn, bananas	Rice

In order to protect the privacy of the interview subjects, I have changed the names of all three villages. The first location I will refer to as Agbalo, which is the village of the organization that I will give the pseudonym AAC (Agbalo Agricultural Collective). Agbalo is the community already mentioned whose farmers occupied a middle ground in terms of their methods and were thus not generalizable as a whole into the organic or chemical paradigms. Some residents, particularly the leaders of the community, used organic and sustainable methods, while other residents did not use chemical fertilizers simply because they lacked the budget. A small number of the community's farmers did use chemical fertilizers. Erosion of the soils in this hilly area was a problem. White corn, Agbalo's staple, was the leading crop, but many people grew cassava and a mix of other cash crops and staple crops as well. Although AAC's 28 hectares were collectively held, land parcels were divided by family and AAC members did not market their crops collectively. Though they were primarily subsistence farmers, many residents also supplemented their income through agricultural wage labor in nearby sugarcane fields.

Butong is topographically similar to Agbalo and in the same municipality. Whereas I interviewed the entirety of the households in Agbalo, I simply interviewed a representative cross section of Butong, about 10% of the households, since time did not permit interviewing the entire *barangay*. This is a community that has no strong farmers organizations. In the 1950s and 1960s, in order to quell unrest in other regions of the country, landless rural dwellers were offered 12-hectare parcels of land in relatively unsettled parts of Mindanao, and this was the origin of most of the current population of Butong. In the mean time, most of these land holdings have since been subdivided among latter generations and subsequently pawned, sold, or rented to those in more privileged

positions. In the process, the community has changed from an emphasis on smallholder agriculture (mostly corn, but rice as well) to an economy that is now mostly devoted to the sugarcane plantations of a local elite and the banana plantations of Dole. Consequently wage laborers now constitute a large part of the community. Most of the farms and all of the plantations in Butong operate in the chemical agriculture paradigm.

Cabangkalan is in a neighboring municipality. Whereas the first two villages are in hilly uplands, Cabangkalan is mostly a flat, lowland river valley that has been irrigated for rice production since 1984. The focus of the interviews here was on an organic rice growers organization named Makakabus. (As mentioned above, in order to protect the anonymity of community members, the names of the three villages have been changed. However, the members of Makakabus expressed their desire to have their true organizational name used in this study.) Makakabus has strict farming rules for its members and an ambitious program to reclaim pawned land that was previously in rice cultivation using chemical inputs. One of their objectives is to return land control to small farmers. Makakabus is an organization led entirely by women, though membership numbers are fairly equal by gender. I also interviewed some chemical rice farmers and laborers outside of the organization to provide contrast.

Table 3.2: Demographic data for main interview subjects.

	Agbalo	Butong	Cabangkalan (Makakabus members only)
Number of households interviewed in each village*	24	45	24

Total number of residents in the households interviewed	93	224	98
Average number of people per household	3.9	5.0	4.1
Average age of residents in interviewed households	26.9	27.7	30.1
Average age of primary interviewees	46.4	50.0	49.9
Percent of residents in interviewed households between 15 and 59	53.8%	61.2%	53.1%
Number of residents aged 15 to 59 per household	2.1	3.0	2.2
Percent of residents in interviewed households under the age of 15	41.9%	32.1%	32.7%
Number of children under the age of 15 per household	1.6	1.6	1.3
Percent of residents in interviewed households age 60 or over	4.3%	6.7%	14.3%
Number of people age 60 or over per household	0.2	0.3	0.6
Percent of interview subjects born in the municipality	20.8%	22.2%	29.2%
Percent of interview subjects born in other parts of Bukidnon	20.8%	11.1%	4.2%
Percent of interview subjects born in other provinces	58.3%	66.7%	66.7%

\* Eight more households were interviewed in Cabangkalan who were not affiliated with Makakabus. These households are not included in this data chart.

### 3.2 Research questions and methodology

In order to answer my research questions, I drew heavily on structured recorded interviews, usually approximately two hours in length. The interview questions can be

seen in Appendix A. I supplemented the structured interviews with casual conversations, participant observation in the villages and fields, and attendance of farmers organization meetings.<sup>16</sup> I also interviewed on-site supervisors of plantations, management representatives of agribusinesses, input (fertilizer, seed, and pesticide) dealers, and academics in relevant fields. I interviewed elected government officials and appointed agency personnel at levels including the *barangay*, municipality, province, region, and nation. I supplemented this with archival research of local government administrative units (in both Pangantucan and Valencia municipalities and at the *barangay* level of each village) and government agencies (Department of Agriculture, Department of Agrarian Reform, and Department of Environment and Natural Resources at the municipal, provincial, and regional levels, as well as the Department of Agriculture at the national level).

I worked with a translator for the interviews with farming families. Visayan (also known as Cebuano in its core region on Cebu) is the language used most commonly throughout Bukidnon. Most interviews were conducted in Visayan, though Ilonggo, which is another language from the Visayas region (in the central part of the Philippines), was used for some interviews in Cabangkalan.<sup>17</sup> Tagalog, which is the basis of the national language Pilipino, was present in some advertising materials and other miscellaneous contexts, though was not the first language of any of the farming families interviewed. The translator was fluent in all of these languages. English (which is also an official language of

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<sup>16</sup> I attended two meetings each with Makakabus (January and April 2009) and AAC (October 2008 and July 2009) where all members were present. Butong did not have a regularly functioning farmers organization.

<sup>17</sup> For all of the villages, those interview subjects who were born in other provinces were overwhelmingly from the Visayas region.

the Philippines) is a standard language of government and higher education, so all interviews with government agency personnel, elected officials, agribusiness management personnel, and academics were conducted in English.

Through a fine-grained analysis of agency and agricultural decision-making and practice, we can see ways that social differentiation is constructed within a small community (Rankin 2003). I pursued this approach in each village, while also examining how each community was (and was not) differentiated from wider spatial scales in terms of issues like gender equity, class relations, productivity, and the health of its people and its farming ecology. At the same time, I investigated how the multiple effects of the uneven social relations of trade, finance, and policy development alter land use, cultivation patterns, and land tenure relations in Bukidnon. The study assesses how different agricultural strategies in this part of the Philippines enhance or reduce food security, and analyzes how sociospatial relations are altered in the process.

### **3.2.1 Research Questions**

#### **1) How does the production of scale intersect with power relations in particular ecological contexts?**

A scale may not be a thing in itself, but examining the process of scaling can reveal shifting relations of cooperation and conflict. This study sought to elucidate how the everyday practices and struggles among local farmers and other social actors involved in agricultural production and marketing in the area, as well as actors in non-local places, produce and reproduce the scalar relationships that affect the local farming economy. In order to understand the political-ecological scaling strategies of various actors, I made detailed observations of the everyday activities and rhythms of agriculture in Bukidnon

with particular attention to their spatiality. My observations and casual and structured conversations focused on the following subtopics:

**1.1) How are the neoliberal and corporate agribusiness projects being scaled?**

I explored how corporations were scaling their projects in Bukidnon. For example, how did Dole negotiate its entry into the vicinity of Agbalo and Butong? Was there a high degree of open planning and consultation with local residents or were the arrangements made simply with local government leaders and other power brokers? What have Dole's strategies been in the way they acquire land and join parcels together to form plantations? I was able to speak with a number of present and former Dole employees, municipal leaders, and local residents who have been most affected by the arrival of Dole about Dole's interactions with the community. I asked questions about what Dole looks for when they are scouting locations, how much rent they offer to land owners, what the terms of their contracts are, and what are the regulations they need to meet when they are registering for an environmental compliance certificate.

I also looked at the practices of Chiquita in the vicinity of Agbalo and Butong. How were their strategies different in terms of contracting with local elites rather than setting up their own banana plantations? What did this mean in terms of labor and compensation for workers? What did this mean in terms of environmental impacts? And what did it mean for the size of the plantations?

I was interested to see whether agribusiness corporations were framing the issues of development as technological rather than political-economic. Is there a corporate fixation on yields and efficiency that 'depoliticizes' (Ferguson 1994) the food system? In interviews with leaders of agribusinesses, such as seed companies, would their discourses

be about production gains or community development? Are they scaling their strategies to connect with farmers atomistically? Or do they attempt to cultivate connections with entire villages or regions through outreach programs or educational efforts? In order to answer these questions, I asked managers of agribusinesses about their companies' activities and collected the variety of their advertising and informational materials circulating in the area. I also asked farmers what drove their decisions about seeds, fertilizers, and other inputs, as well as how they perceived the corporate input providers.

I also looked into the history of agricultural development in the Philippines to see how corporations have scaled their concerns in matters such as WTO trade disputes with other countries or navigating through the complexities of the land reform laws. How have corporations promoted and protected gains in the export orientation of the Philippine economy? The production of scale is never politically neutral (Swyngedouw 1997), so it is necessary to look at how agribusinesses attempt to integrate local agricultural economies with global commodities markets. Furthermore, by looking at records of cropping patterns (on national, provincial, municipal, and *barangay* levels) as well as government environmental inspection records, I assessed the ways that corporate activities alter both the economic and the ecological landscape.

I asked people in Bukidnon how the privatization of agricultural land has affected their lives. Who benefits from these processes and who loses and how are communities spatially reconfigured when these types of conversions occur? Likewise, what happens when agribusiness projects are abandoned?

How do international institutions, such as the WTO, the World Bank, the IMF, and the Asian Development Bank attempt to scale agricultural economies? How do neoliberal

policies like trade liberalization, privatization, and deregulation affect the local, regional, and national agricultural economies? I researched a variety of documents pertaining to these international institutions' interactions with the Philippine government and spoke to agricultural development personnel at a variety of government offices (from the national to the local), NGOs, and universities, as well as the farming families themselves, to find how these broad policies affect spatial (re)arrangements in Bukidnon, and what sorts of specific impacts they have across scale. I looked at national import/export agricultural trade imbalances; fluxes in the amounts of imported staples; fluxes in farmgate prices (through national historical records as well as interviewing local people); and the various struggles over the existence and responsibilities of a state trading enterprise (STE).

### **1.2) How are small and medium sized farmers scaling their operations?**

In the three villages, I looked at different strategies and experiences in terms of labor arrangements, marketing plans, food self-sufficiency, activity spaces, and farming techniques.

In terms of labor, I was able to observe and record a wide range of practices, such as collective and reciprocal labor arrangements; being paid in kind or paid in cash; tenant farming; sharecropping; and simply nuclear family farming.

As for marketing strategies, there was one example of an organization acting as a local market consolidator for 24 families. Yet, most small farmers simply sold to local commodities processors or middlemen and thus had very little bargaining power.

To determine the scalar relationships in the food system, I researched how much of the agricultural output is consumed locally, and whether this amount has changed over the years. In order to do this, I engaged in detailed discussions with interview subjects to

ascertain what foods they were eating and what percentage of their diet was purchased and what percentage came from the crops that they were growing. I also addressed where and to whom the output is sold, and the relations (personal or otherwise) between grower and buyer. I also looked at records for what was being grown in each community and whether these crops were local staples or cash crops bound for distant markets. Among the questions I sought to answer were, are the peasant land struggles and attempts to farm sustainably challenging the scales that larger landowners and agribusinesses are trying to establish? In what ways are these challenges understood by the local population and by those in positions of influence locally and regionally? Who is having success—unaffiliated individual farmers or groups of families that are bound together in cooperatives or collectives?

In order to determine how people's occupational activities have changed, I had interviewees give family histories with a special focus on their work experiences. I asked them how much time they devote per week to each of their work tasks to see whether they had hybrid occupational identities. For each job, I asked about the commuting distance so I could understand how different agricultural approaches affect commute times and the areal extent of people's activity spaces.

What are the relations between local people's conceptualizations of space, people's activity spaces, and their scalar constructions? At the end of each interview with a farming family, I gave the interviewee an instruction: "Draw a map of what is important to your work." I was interested to find what were the scales of the maps the people drew, what features were included in the maps, and how the maps revealed the ways people conceive of their laboring and environmental relationships. I was also interested to see whether

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there would be differences in the responses and maps between occupational categories, such as agricultural wage laborer, farm owner/operator, etc. I examined what differences emerged in their representations of such things as the local environment, the transportation infrastructure, the detail in its agricultural landscape, its community infrastructure, and the areal extent of their maps. Analyzing the respondents' representations enabled me to ascertain their sense of sociospatial relations and how they positioned themselves in them.

In order to understand the diversity of fertilization practices in the communities, I asked farmers what specific fertilizers they used, whether the fertilizers were created by themselves or purchased, and how much they paid. I was also interested to see whether people fit neatly into either the organic or chemical paradigms or if they were using hybridized approaches.

In order to understand whether farmers were using proactive strategies for their food security, I asked people whether they felt they had any special agricultural knowledge. Some farmers may engage in sustainable agriculture and use traditional techniques to create new seed varieties suited to their specific locations. Identification with and knowledge of a local place and the establishment of a local scale of interaction reinforce each other. I asked farmers such questions as: whether they save seeds or buy new seeds with every planting; what types of seeds do they use; from whom do they get them; and what influences their choices. I also asked farmers whether they were familiar with genetically modified (GM) crops, whether they use GM seeds, how they feel about genetically modified organisms (GMOs), whether they are interested in using biotech crops, and why or why not.

### **1.3) How are changes in land use decisions affecting the construction of scale in Bukidnon?**

The push for biofuels in both the global North and South is already having substantial effects on land use decisions in many countries, and the increases in global food and grain prices are partially attributable to the conversion of cropland to biofuel production (Naylor et al. 2007). Since sugarcane, which is ecologically suited to Bukidnon, may be one of the main environmentally viable sources of ethanol/biofuel in the future (Quitério 2007; Rosenthal 2008), this may result in a decrease of good agricultural lands being used for growing staple crops, thus orienting the farming economy further from local food self-sufficiency. I interviewed management personnel from BUSCO, which is the Bukidnon Sugar Company, one of the largest sugar millers in the Philippines, and recorded information about the fluctuations in their output in the years since they began operating in 1976. Even though BUSCO is not heavily involved with the creation of biofuels, if the national demand for sugarcane is kept high by biofuel demand, then this will influence cropping decisions in Bukidnon. Philippine legislation on biofuel quotas was also consulted. An assessment of the role of BUSCO and local sugarcane *hacenderos* in the changing economy of Bukidnon appears in Chapter Six.

Land struggles in the Philippines have become widespread as the government has adopted an economistic stance on land, promoting market-oriented land transfer schemes that benefit large landowners (Reid 2005; Weekley 2006; Franco and Borras 2007), while local groups of peasants frequently band together on the basis of place connections. State and private intimidation and violence against the peasant groups are commonplace (Franco and Borras 2007). By analyzing these situations, we can better understand how

state and local government actors, landowners, agribusinesses, and local farmers all scale their projects and assert their competing interests. By taking detailed oral histories from farmers, large landowners, elected officials, and government personnel, as well as analyzing the records on cropping choices, I assessed whether there have been significant changes in land ownership and cultivation patterns in the communities where I did interviews. I investigated the variety of responses to these shifts on the part of local farmers and their families, ranging from support for the conversions, to struggle against them, to disengagement from the process. I researched local government records and interviewed local people to understand local migration patterns and assess what relation they have to changing economic and land tenure arrangements, such as increasing privatization or influence of large landowners.<sup>18</sup> I researched what resettlement programs of the past have affected the area, as well as programs for the redistribution of land to peasants, such as the Comprehensive Agrarian Reform Program (CARP), which has a variety of different procedures for land transfer. I looked at how outside actors, such as international financial institutions, have influenced which types of land reform get practiced most. When I gathered farmers' family histories, I asked about the history of the

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<sup>18</sup> I was able to interview the municipal tax assessor for Pangantucan. He gave detailed accounts of the history of settlement for the area and the changes in land tenure that have occurred. Government personnel were frank though about the fact that land ownership records do not reflect who is truly in control of many parcels of land because of the prevalence of pawning and the use of 'dummy' landowners (where a landowner will use a relative or a sharecropper or other henchman as the official landowner even though they are actually in control of the land), because people are not allowed to have more than 12 hectares of land. So oral histories are often more reliable than the government records in this respect. In rural areas in the Philippines, the municipal mayors are often large landowners themselves (along with members of their family), so they do not have any incentive to clean up the corruption in land deals. Vote buying at election time is routine, so this prevents anti-corruption candidates from winning or usually even entering into races for local offices.

land on which they work, whether they had less or more land in the past, and whether there has been generational continuity in the land tenure.

**2) What are the results of different food security strategies in terms of gender relations, class relations, agricultural productivity, and the health of the farms' biotic communities?**

Though mixing different styles and paradigms of agriculture is fairly common (and this will be detailed in later chapters), there are two major competing agricultural paradigms, the first being that of cash cropping, export-orientation, monocropping, intensive use of chemicals (fertilizers, pesticides, and herbicides), and use of high-tech hybrid and/or biotech seeds. The second paradigm is that of sustainable agriculture, consisting typically of organic or IPM (integrated pest management) production techniques, relatively low levels of external inputs, diversity of cropping, and a focus on local or regional food needs rather than distant or foreign markets. My research studies the results of the different food security strategies in terms of the following subtopics:

**2.1) Gender relations in the farming economy of Bukidnon**

I traced the gender dynamics of migration patterns, nutritional allocation, household labor, plantation labor, and farm labor in the communities where I did interviews. I also documented what foods are routinely purchased and what are produced at home, and how the allocation of household budgets may differ between groups. By asking interviewees about the different work tasks they do and recording the number of hours spent at each work task, as well as asking about changing gender roles, my research assesses how the social relations of production and social reproduction vary by group and/or community.

The burden of rural changes in the global South typically falls disproportionately on women. Women are often not recognized as sources of agricultural knowledge and their agency is denied as men dominate market interactions or exchanges with development representatives (Mosse 2005). This is the case in many parts of the Philippines, but in one of the communities I researched, women were well recognized for their agricultural knowledge and they were working closely with a development organization. This afforded an opportunity to see very interesting contrasts in the ways that gender was being constructed in the settings where I worked. In the interviews with farming families, I asked how family structures might be changing and how the gendered division of labor might be altered as the agricultural economy moves in new directions. I did this by asking if and how women's and men's work tasks (in terms of agricultural work and house work and child care) in the community might be changing and what was changing for them personally.

In the Philippines, rural women are not only involved in the crop farming that men are, but are also usually responsible for most of the 'backyard' farming, raising things like vegetables, poultry, and small-scale livestock. As trade liberalization opens markets to these items, their prices tend to fall, making many women's income-producing activities unprofitable (Oliveros 1997). In the meantime, shifts toward large agro-enterprises tend to affect women more adversely than men in terms of working conditions, earning potentials, educational opportunities, and control over resources (IAASTD 2008). I investigated how shifting labor away from family farming and toward agricultural wage work has changed women's and men's roles in the community and in the household.

When looking at gender mobility and how it influences the construction of scale (Silvey 2004), the Philippines is an important area to analyze considering the extreme gender mobility in the society. Women constitute a majority of recent Overseas Filipino Workers (OFWs) in the 15-34 age group (Basa, Villamil, and de Guzman 2009). I asked farming families questions about family structure, gender composition, and mobility that could reveal whether and how these national trends are apparent in the local area. I asked about income derived from remittances of OFWs or relatives in other parts of the Philippines, and whether the household has any members in other parts of the world. I also looked at recent census records to analyze the sex ratios in the different municipalities and *barangays* to see how balanced the gender composition was. Furthermore, I kept track of the gender of all members of the households that I interviewed.

## **2.2) Class relations in the farming economy of Bukidnon**

In order to compare how much vertical integration of the production process occurs on the different types of farms and plantations, I asked about labor arrangements and the movement of agricultural inputs and outputs in the area. In order to understand local political-economic structures, I tracked the origins of seeds, fertilizers, and pesticides; recorded the purchases of harvests; and investigated credit arrangements, commodity processors, markets, and distribution networks. This was done through interviews and conversations with farmers, input dealers<sup>19</sup>, informal lenders, corn and cassava processors,

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<sup>19</sup> For input dealers, I asked the names of the best selling fertilizers (broken down by crop and whether they are chemical or organic), pesticides, herbicides, and seeds; their prices; their countries of origin; and their special characteristics. I also asked the input dealers what changes they have noticed in terms of variability of sales over the years and what changes they have noticed in the cropping choices of the region.

market vendors, seed producers, an organic products marketer, a conventional rice buyer, sugarcane mill managers, and local and regional NGO personnel.

Among the questions I investigated were: What are the decision-making structures of the local food economy? Where do farmers get agricultural information? Where do they see decisions affecting their lives as being made? Are government agricultural extension programs aiding rural residents equally or are there class (and other) discrepancies in the accrual of benefits? In the interviews with farmers, I asked people's opinions on whether they benefited from government programs and whether there were certain segments of their community who were especially helped or hurt by programs that might steer farmers toward particular agricultural strategies. I also discussed the matter of equity of benefits and access to information with local elected officials from the level of *barangay* to municipality to province.

I asked people about their family histories and their assessments of social differentiation and land tenure arrangements in their communities. I also spoke with government agency personnel and elected officials about the varied histories of land tenure arrangements and land reform programs in the area.

To assess how the pursuit of different food security strategies relates to labor arrangements along a spectrum from communitarianism to hierarchy, I asked questions about paid labor, workplace hierarchies, reciprocal labor, and cooperative arrangements. I compared the responses to these questions with what type of cropping and growing practices were being used. I looked for variance in the degrees to which agriculturalists were involved in cyclical modes of the reproduction of environmental conditions by asking them about their strategies in planting, fertilization, weed and insect control, and saving

seeds or not. How do farmers understand their security? In what ways do notions of wealth or independence figure into their calculation of security? To answer these questions, I listened to the ways that people spoke about what makes them food secure or why they or other members of their community are not food secure. I also asked people what they would like to see for the future of their communities, particularly in terms of what types of agricultural development they think will benefit their village the most. Will farmers negotiating shifts in the agricultural economy be able to rely more on a network of people whom they know or will their fates be largely in the hands of people in other places? To answer this question, I paid attention to matters such as to whom they are selling their agricultural products, how far these products are traveling, and how different governmental policies (from the local to the national) are influencing their lives and their agricultural decisions.

### **2.3) Productivity and profitability**

I asked interviewees about the various income-producing activities of each member of their household and how much income each activity produces. I also gathered data on the time allocations for each of these activities in order to understand what were their primary and (if applicable) secondary occupational orientations, as well as what work tasks were most efficiently bringing them income. I asked about their farming inputs, outputs, farmgate prices, profits, and how commodity price fluctuations may influence their income and how the fluctuations of prices of consumer goods may influence their daily expenditures. For agricultural laborers, I asked their earnings, how many landowners they work for during the year, how they get paid, and how they find employment. From these questions, I was able to build a better picture of the economic risks and benefits of

the various agricultural strategies being pursued in the area. In order to determine people's perceptions of the economic changes their communities were experiencing, I asked the open-ended question of whether life is better in the community now or was it better a generation ago.

#### **2.4) Health of the local farming community**

Determining the level of food security and the level of malnutrition in the different communities was done partially through using official data gathered by the local government units (LGUs). But I did not want to simply rely on government data<sup>20</sup>, so I used a variety of other methods to analyze the issues. One was to talk to *barangay* health workers who see the problems on an immediate and frequent basis.

It was admittedly somewhat difficult to know exactly how interviewees understood terms like food security and malnourishment/malnutrition. In each village I would bring up these questions with key informants to be sure that usage of the terms was consistent from one village to the next. Malnourishment/malnutrition was understood to mean below the range of normal weight (for a specific age and gender) because of lack of access to food. This was what children were being tested for by the LGU in each community, though the problem was definitely seen in some adults as well. The term food insecurity was based less on being underweight and more on people experiencing hunger during at least portions of the year.

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<sup>20</sup> I was curious if I would obtain similar findings as the LGU, but more importantly, in the case of the members of AAC and Makakabus, I was examining the *entire* membership (coincidentally 24 households in each case) of groups who were merely fractions of their overall *barangay* populations (3% and 1.5% respectively) and were somewhat atypical of the *barangay* overall, especially in the case of Makakabus. In the case of Butong, I interviewed 10% of the households (45 households) in the *barangay* and the cross section was meant to be representative of the entire *barangay*.

One of the difficult decisions I had to make about my interview questions was whether to directly ask people whether they had experienced hunger in the last year. I ultimately took the advice of people in local NGOs who said that this could be a very sensitive question and that some respondents would feel ashamed to talk about their own experiences. Furthermore, some might not answer the question openly. So I decided to rely on other proxies for determining the level of hunger in each community. The most important of these was to ask whether the level of food security for the community was improving or declining, followed with the question of why, which was answered in great detail by a number of respondents. I also asked people whether there was a problem in the community with malnutrition and if so, what percentage of the community experienced problems, and whether there were certain age, gender, or occupational groups that were especially likely to be experiencing problems.

The vast majority of interviews took place inside people's homes, so I was able to see living spaces up close. Often we would be in a kitchen area and in some instances food preparation was occurring. Only a handful of interviewees had refrigerators or closed cabinets, so I was often able to see what foods people had on hand.

I asked people to describe their families' diets, the percentage of their food they grow themselves, their overall food budget, and where they get their purchased food. Do they make adjustments in their activities or their consumption patterns when times are good or bad? How do seasonal variations affect them? I compared the groups of agriculturalists on their diets, their reliance on purchased food, and any apparent health problems related to these dietary practices.

I also collected information on the health impacts of the farming inputs used in the area. Through interviews with farmers as well as local health practitioners and authorities, I researched local people's experiences with and narratives of exposure to the pesticides, fertilizers, and genetically modified crops (cf., Gima 2004) used in the area.

### **2.5) Health of the non-human biotic communities in the area**

To develop a sense of the effects of the different food security strategies on the diversity of flora and fauna and the reproduction of environmental conditions in the ecology of different cropping systems, I asked the agriculturalists questions about the area's biodiversity, soil fertility, and erosion, and I consulted with extensionists and soil scientists on the cropping patterns and soil quality of the area. What changes have there been in cropping? Are there differences between multicropping and monocropping farmers in their attention to microenvironments and other environmental factors (Watts 1987)? I asked farmers how they deal with soil erosion; what is done to fertilize the land on which they work; is crop rotation or letting fields lie fallow used to enhance the health of the soil; and what kinds of problems do they encounter with pests and what strategies they use to deal with them. This data helps explain whether rural land use strategies to minimize risk and maintain the resource base are being destabilized by shifts toward cash-cropping and export agriculture (Watts 1983; Watts 1987; Grossman 1984; Gudeman 1978).

### **3.2.2 Research Schedule**

I was invited by the Geography Department at the University of the Philippines-Diliman to be a Visiting Research Fellow for the period of September 2008 through August 2009. With that arrangement I was able to network with the faculty of the department and

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I was invited to be the keynote speaker for the National Conference on Geographical Studies in December 2008. I also presented the findings of my research at the end of the year in a speaking engagement on campus.

In the Manila/Quezon City area, in September 2008, I was able to reconnect with the NGOs, Amihan, KMP, and MASIPAG, that I had worked with in 2007. In September 2008, I traveled to Bukidnon, where I reconnected with local NGOs who temporarily housed me while I searched for permanent living space in the area where I did my interviews.

The rest of the year proceeded as follows:

- October 2008 – November 2008: Field research in Agbalo.
- November 2008 – February 2009: Field research in Butong.
- March 2009 – April 2009: Field research in Cabangklan.
- May 2009 – July 2009: Interviews and visits to agribusiness plantations and headquarters, agricultural supply dealers, seed companies, universities in the region, and offices of local, provincial, and regional government units and agencies.
- August 2009: Consultation and debriefing with local government units and Amihan. Interviews with national agribusiness representatives and government agencies. Presentation of findings to: University of the Philippines-Diliman Department of Geography; University of the Philippines-Los Baños School of Environmental Science and Management; and the national secretariat of MASIPAG at Los Baños.

## **Part Two: Incongruities of agricultural policies and practices in the Philippines**

The Philippines has been caught between two different agricultural paradigms, both in terms of the policies pursued by its government and in terms of the practices of agricultural development that are taking place in the rural areas. On one hand, there has been a grassroots movement for agriculture based on local self-sufficiency, staple cropping, sustainable methods, family farms, and land reform. On the other hand, agribusiness corporations have pushed for agriculture that is export-oriented and focused on cash cropping, chemical and biotech methods, plantations, and land privatization.

The significance of the contrast between these paradigms was intensified by the food price crisis of 2008. Suddenly the issues were more politicized and many citizens were asking the government to pursue policies of self-sufficiency in rice and a greater general degree of food sovereignty. The national government responded and the Department of Agriculture (DA) issued *The Blueprint for Food Security*, of which the following is an excerpt:

Food security and poverty alleviation top the political agenda of the present administration...Thus, making the country self-sufficient in food becomes the principal strategy in attaining food security. Adopting the strategy of self sufficiency enhances the country's capability in producing most of its food requirements and protecting them from the vagaries and uncertainties of the world market (Republic of the Philippines Department of Agriculture 2008).

This was a bold change of discourse for an embattled government that had previously been putting its trust in the world market. However, effectuating these changes proved to be difficult. Government personnel at a variety of levels were caught in a conundrum since, at the same time that they were under new directions to promote staple cropping, they were

still under great budgetary pressures, which caused many of them to seek export-oriented, investor-driven, highly-capitalized agriculture to bring greater tax revenues to their jurisdictions.

Under new leadership, in 2011, the Department of Agriculture (DA) replaced *The Blueprint for Food Security* with the Food Staples Sufficiency Program (FSSP). The DA was allotted a 61% higher budget for 2012 than 2010 to carry out its programs (Republic of the Philippines Department of Agriculture 2011). The plans focused on building farm to market roads, providing better post-harvest facilities, building new irrigation works, and rehabilitating and restoring existing irrigation works (providing water for a total of 224,850 hectares of farms). These are positive measures that provide infrastructure rather than soft subsidies. However, the new policies still do not address the issues of stalled land reform and the increasing use of land for export cropping.

At the same time, debates have intensified over the means by which food security can be achieved. Will sustainable agriculture and organic practices be encouraged or will chemical and biotech methods be viewed as the right approach? Are land reform, communitarianism, and the promotion of family farms the correct routes to ensure Philippine food security? Or is it more important to promote productivity through privatization and expansion of large-scale plantations? These are some of the questions addressed in Chapter Four.

Chapter Five details some of the specific impacts that neoliberal reforms have had on the agricultural economy of the Philippines. Privatization, deregulation, trade liberalization, and budgetary austerity have hindered the potential for *The Blueprint for Food Security* and the Food Staples Sufficiency Program to be fulfilled.

# Chapter Four: Food security strategies in the Philippines

Food security debates in the Philippines can be organized around three major questions: 1) Is food security best gained through cash cropping and export orientation or through self-sufficiency in staples?; 2) Is food security more easily achieved through sustainable agriculture or chemical and biotech agriculture?; and 3) What kinds of land use decisions and land policies are best for achieving food security? In the following sections, I will look at Philippine policies from the 1980s to the early 2010s, with a focus on the debates in the most recent years, using sources such as the Department of Agriculture, the Bureau of Agricultural Statistics, the Department of Agrarian Reform, the World Bank, the Philippine national press, various peasant activist groups, academics focusing on food security and agrarian issues, and the interviews I did with farmers, corporate representatives, and government personnel in 2008-2009.

## **4.1 Cash cropping and export orientation vs. self-sufficiency in staples**

### **4.1.1 Cash cropping and export orientation**

The logic of globalized capitalism is based on the exploitation of comparative advantage, which often requires long distance transport of commodities. With this logic, a country like the Philippines does not need to be self-sufficient in its staple foods, but instead can concentrate on the crops in which it has a comparative advantage, such as tropical fruits. Relying on high value commercial crops (HVCCs) is an economic means to an end in this food security strategy. Table 4.1 (below) shows the growth of two of the

most important export crops in the Philippines. Banana hectarage grew 32.42% from 1995 to 2010 and pineapple hectarage grew 43.52% over the same time period. To put this in perspective, the hectarage of rice expanded 15.84% from 1995 to 2010 and the hectarage of corn shrank 7.18% over the same time period. The growth of the hectarage of all crops other than bananas and pineapples from 1995 to 2010 was 11.2%.

Table 4.1: Five-year snapshots of hectarage of bananas and pineapples planted (Bureau of Agricultural Statistics 2011).

	1990	1995	2000	2005	2010
<b>Banana</b>	311,819	339,398	382,491	417,755	449,443
<b>Pineapple</b>	40,795	41,580	42,968	49,215	58,547

Governments need to stay financially solvent. Because there is a perception that export-crop plantations will generate significant revenues, the Philippine national government has largely looked to the export-crop strategy to bring in foreign exchange earnings and to generate taxes. Local government units are also motivated by financial concerns to stimulate monetized commerce that brings in tax revenues rather than subsistence agriculture that goes unrecorded and untaxed. However, the mayor of Pangantucan, Bukidnon told me that the amount of tax revenue that was collected from multinationals by his local government was disappointingly modest, despite a substantial presence of agribusiness corporations. Many people in Pangantucan expressed to me their displeasure with Dole for exaggerating the economic benefits that Dole would bring to the community when they were seeking approval for entry into the Pangantucan area.

Food sovereignty advocates challenge the export-crop strategy in the Philippines, especially considering the tax breaks that are offered to developers. The irony is that,

while a reason for attracting investment is to build a tax base, the Philippine government, like so many other governments, entices foreign investment with special incentives, such as tax holidays, exemption of payment of local government fees, simplified export practices, and declarations of special economic zones. The direct revenue benefits of this type of development to local communities are meager and the national benefits are often deferred through these special incentives.

The export-oriented strategy is criticized in the Philippines (among other developing countries) on the basis that the foreign corporations that control the plantations are capturing most of the value produced, while local laborers do not gain substantial benefits (Chavez, Manahan, and Purugganan 2004; Glipo and Pascual 2005; Quitariano 2009; Feranil and Teves 2011). Thus the 'high value' in HVCC only really accrues to the investor. Increasing minimum wages and ensuring that well-paid full-time workers are prioritized over contract laborers, part-time laborers, and seasonal laborers can address this problem. However, many governments, including that of the Philippines, seem hesitant to enforce labor and environmental standards strictly, since they are afraid that the 'race to the bottom' mentality of multinationals will mean that investment will leave the country in search of where labor and land can be exploited more thoroughly. Chapter Five will detail some of the ways in which government regulation has been curtailed and underfunded as a result of neoliberal economic reforms.

The World Bank pushed the Philippines to expand its export cropping, especially from the early 1980s onward, and especially in Mindanao (Borras et al. 2009). Robin Broad (1988) found, through leaked World Bank reports and confidential interviews with World Bank staff, that some Bank personnel knew that these policies were simply

strategies to get the Philippines to build earnings that could be used to repay loans, and admitted that this type of development would likely induce poverty for rural Filipinos (Broad 1998). This calls into question how many of those who have endorsed export cropping, whether in the past or in the present day, really believe that it will have a positive effect on food security or if they are simply promoting policies that will help the Philippines service their debt.

Mindanao has been called the food basket of the Philippines, yet it has far higher rates of hunger (33.7%) than the country as a whole (23.7%) (Feranil and Teves 2011). The conventional wisdom among a number of government personnel I spoke to is that Mindanao's hunger is due to the poverty that stems from its history of ethnic and religious conflict, but Feranil and Teves (2011) argue that the hunger and poverty are linked to the region's reliance on export agriculture, and that food security is not protected when staple crops are not grown and agricultural wage labor jobs pay too low. In 2006, Mindanao produced 60% of the nation's coconuts, 80% of its bananas, 90% of its pineapples, 100% of its rubber, and 75% of its coffee, yet only 23% of its rice (Feranil and Teves 2011).

Reliance on the whims of demand for cash crops in international markets can be a risky strategy. It is more difficult for farmers to get market signals when they are producing for distant markets. The collapse of coffee prices in the late 1990s and early 2000s (Hallam 2003) is an example of how relying on global commodities can leave farmers vulnerable to drops in prices due to increases in supply that are difficult to detect from afar. Coffee is especially problematic because it is a perennial; thus, Filipino farmers are often reluctant to uproot and plant something else since they would then lose the initial investment, which they may still be trying to recoup. Nevertheless, coffee is one of the only

export crops in the Philippines to have declining hectarage during the 2000s. Deregulation of the international coffee market during the 1990s led to a rapid decline in the prices coffee producers could get for their beans (West 2010; Doane 2012).

One of the arguments for an agricultural economy that focuses on export crops is that food security is improved through higher incomes because the wages that are paid at corporate plantations are higher than the wages at small farms and informal plantations. I found that it is true that in those corporate plantations that are regulated<sup>21</sup>, the take-home wages are moderately higher than the prevailing rates for wage laborers in operations such as small corn farms and medium sized sugarcane plantations. However, one must compare the banana plantation employees not simply to other wage laborers, but to the income possibilities of the smallholders whose livelihoods have been replaced by the banana plantation (as well as those who would be employed by the smallholder). With successful management of a family farm, an owner/operator can ensure a more substantial income from the land than what can be gained from wage labor on a banana plantation.<sup>22</sup> If middle class owner/operators are lost from the economy, local businesses receive less support and the economy loses the multiplier effects of local people spending money within the community. Furthermore, local owner/operators are more likely to be responsive to the needs of the community should there be a demand for something specific to be grown.

After coconut products, bananas are the Philippines' second largest agricultural

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<sup>21</sup> In Bukidnon, Chiquita was skirting labor regulations by using contract growing arrangements for their banana exports and worker pay was no better than on corn farms or sugarcane plantations.

<sup>22</sup> Farms of any type that were less than one hectare were on the whole struggling in Bukidnon, but farms were generally profitable if the farmer had more than one hectare *and* was combining sustainable methods and an effective (usually group-oriented) marketing plan.

export and production has expanded greatly since the Marcos administration pushed exportation of Cavendish bananas (the main fresh export variety), especially to Japan. As the Japanese market, which receives 85% of exported Philippine bananas (Glipo 2007), became saturated though, Australia, whose local growers were *not* the 'big three' fruit-exporting transnationals (Dole, Chiquita, and Del Monte), was pursued as an important market to penetrate. Robert Fagan (2005) described the 'banana war' that erupted between the Philippines and Australia when the latter refused imports of Philippine bananas on the basis that the bananas could be carrying a plant disease called *moko* (a bacterial wilt caused by *Ralstonia solanacearum*) that is prevalent in the banana-growing regions of Mindanao, but absent from Australia. The Philippines took the matter to the WTO dispute resolution board in 2003 on the basis that Australia was violating global economic agreements. Australian authorities were concerned that a loss in this decision could set a dangerous precedent for losing their sovereignty in terms of what they could allow and not allow in terms of a whole range of imports. The WTO never made a ruling in the case (World Trade Organization 2013). Australia made a decision to allow Philippine imports (Australian Government 2011), but the safety regulations on *moko* and black sigatoka (a leaf disease of banana plants caused by the fungus *Mycosphaerella fijiensis*) established by the Australian Department of Agriculture, Fisheries and Forestry were burdensome enough that by 2011 the Philippines had not reapplied for an import permit.

It is interesting to see how transnational corporations like Dole, Chiquita, and Del Monte scaled their objectives at a national level by using the Philippine government to challenge a different state in a global forum such as the WTO. The Australian government claimed they were justified in using SPS (sanitary and phytosanitary) standards to refuse

imports, but the burden of scientific proof was upon them to show that there was a clear danger of contamination to their domestic producers, rather than that they were simply engaging in protectionist measures for their own local banana growers (Fagan 2005).

While the transnationals spurred the WTO challenge to a certain extent, Fagan argued that it was the Philippine government that pushed the issue even more, since they saw earning foreign exchange as a priority.

There is a discourse among certain agribusinesses, development agencies, and technocrats that countries need to shift their prime agricultural lands to more export cropping and higher use of chemical fertilizers because it is more efficient and modern (Paarlberg 2010). At the World Food Summit in 1996, the UN's Food and Agriculture Organization (FAO) supported the idea of "subjecting national production systems to competitive pressures as a way of spurring efficiency" (Menezes 2001). The FAO even endorsed the same judgment as the WTO, World Bank, and IMF, that developing countries could best achieve food security through importation from developed nations (Menezes 2001). Yet producing monocultures for export actually does not necessarily mean higher levels of economic efficiency. Rosset (2000) and Altieri (2009) argued that small diversified farms are actually more productive and efficient and conserve resources more successfully than large farms. In 2009, the Valencia City Agriculture Officer told me that in order to protect food security, Valencia was planning on adopting a policy that would limit the percentage of agricultural land in each of its *barangays* that could be rented to multinational corporations.

#### 4.1.2 Self-sufficiency in staples

The Philippines, which had been a rice exporter in the early 1990s, was quickly becoming one of the world's top importers of rice in the years after their accession to the WTO in 1995. Table 4.2 (Bureau of Agricultural Statistics 2011) shows, in thousands of metric tons, the annual levels of buffer stocks, internal production, and importation of rice from 1990-2010. Note that the degree of importation in 1998 was anomalous because of the combined effects of floods and droughts that caused crop failures.

Table 4.2: Rice stocks, production, and imports for the Philippines in thousands of metric tons (Bureau of Agricultural Statistics 2011).

	SU Beginning Stocks	SU Production	SU Imports	SU Gross Supply	UT Exports
<b>Rice</b>					
1990	1,690	6,095	606	8,391	0
1991	1,899	6,326	0	8,225	10
1992	2,120	5,970	1	8,091	35
1993	1,673	6,170	202	8,045	c/
1994	1,444	6,892	0	8,336	0
1995	1,498	6,894	264	8,656	0
1996	1,422	7,379	867	9,668	0
1997	1,793	7,370	722	9,885	0
1998	1,979	5,595	2,171	9,745	c/
1999	2,279	7,708	834	10,821	c/
2000	2,365	8,103	639	11,107	c/
2001	2,166	8,472	808	11,446	c/
2002	2,271	8,679	1,196	12,146	c/
2003	2,448	8,829	886	12,163	c/
2004	2,362	9,481	1,001	12,844	c/
2005	2,051	9,550	1,822	13,423	c/
2006	2,094	10,024	1,716	13,834	c/
2007	2,253	10,621	1,805	14,679	c/
2008	2,172	10,997	2,432	15,601	1
2009	2,639	10,633	1,755	15,027	c/
2010	2,629	10,315	2,378	15,322	c/

SU - Supply

UT - Utilization

c/ - Less than 1 thousand metric ton

When the 2008 food price crisis resulted in countries like India and Thailand shutting down rice exports, prices shot up in the Philippines and hoarding by some speculators worsened the situation. It was in this climate, and as a politically expedient response to popular pressure, that the government of the Philippines decided to pursue an explicit strategy of national rice self-sufficiency. The country needed to make sure that it was not overly reliant on imports and would be able to provide for itself in terms of its staple crops. In this sense, food sovereignty became a matter of national security. The government was concerned about the power of labor groups, an organized national communist rural insurgency, and simply the possibility of the urban poor rioting in response to the high prices.

Task Force Food Sovereignty (TFFS) is a Manila-based organization of activists, consumers, urban poor, peasants, workers, and academics that advocates for policies on agricultural production and trade that they believe will help the Philippines achieve a higher degree of food sovereignty. TFFS was skeptical of the Arroyo administration's 2008 policies, saying that aspects of the new program, such as chemical fertilizer subsidies and rice distribution schemes may amount to nothing more than "expensive political gimmickry that provides yet another opportunity for big time corruption" (Glipo 2008).<sup>23</sup> TFFS recommended instead that the government should reject trade liberalization and invest

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<sup>23</sup> This accusation was referencing the 2004 scandal surrounding Undersecretary of Agriculture Jocjoc Balante's alleged diversion of P728 million (\$13 million using 2004 conversion rates) from a fertilizer fund into the election campaign of President Gloria Macapagal Arroyo. Marlene Garcia-Esperat, the whistle-blowing Department of Agriculture employee and journalist who broke the story, was murdered in her home in front of her family in March 2005. The convicted assailants testified that they were hired to murder Esperat by officials in her Central Mindanao (Region 12) office of the Department of Agriculture. Despite efforts by Esperat's family to get an arrest of those officials, warrants have not been served (Santos 2011).

heavily in irrigation, which they argued would result in transitioning some land away from export cropping and toward rice. In 2009, a senior official from the Department of Agrarian Reform expressed to me agreement on this issue that the central government was not putting enough funding into irrigation. TFFS also called on the government to declare a moratorium on debt servicing, since debt concerns were driving an export-oriented agricultural economy that was leasing an increasing amount of land to foreign investors (Doyo 2009) and not producing enough rice for the internal market.

The National Food Authority (NFA) is a government agency that purchases internally produced rice in order to both create a buffer stock, in case of shortages, and to provide price supports for domestic rice farmers.<sup>24</sup> In the fall of 2011 though, the NFA backed off of its original plan to purchase 870,000 metric tons (about 5% of internal production) of domestically produced *palay* (unhusked rice) for the year. Instead, because of budgetary constraints, the NFA stated they would significantly scale down that goal, which meant that more farmers needed to resort to selling to private rice traders that typically do not offer prices that are as good as the NFA price. This exerted a downward effect on the levels of rice production and further jeopardized the self-sufficiency goals of the country. Members of TFFS and the National Rice Farmers Council advocated raising the NFA procurement to 10% of internal production (Despuez 2012), which would make it “a level which will not only provide direct support to our farmers but also allow the NFA to effectively intervene in the market in terms of setting *palay* prices” (Mora 2011).

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<sup>24</sup> The NFA also handles importation of rice. Chapter Five will detail some of the ways that the NFA has been targeted for neoliberal economic reforms.

TFFS pushes the food sovereignty agenda at the national level, seeking to influence decision making within the Philippine national government. The Asia Pacific Network on Food Sovereignty (APNFS), also based in the Philippine capital region, is an umbrella group of organizations from a number of South Asian and Southeast Asian countries. They scale their activities as a regional bloc to promote food sovereignty and opposition to the neoliberal influences on agriculture, with the intention of blocking any advancement of the WTO Agreement on Agriculture, which is the blueprint for liberalizing agricultural trade among WTO members. In addition to involving Filipinos in international actions against the WTO, the APNFS has circulated position papers and organized citizen resistance to the Philippine government's free trade deals with China and Japan. The bilateral trade deals have gone forward, but resistance to the WTO's Agreement on Agriculture has arguably slowed down its implementation in the Philippines. Chapter Five will detail the struggles over protectionism.

It is interesting that even in mid-2011, three years after the rice price crisis drove millions into poverty and hunger, the World Bank was still pressing for the Philippines to abandon its goals for rice self-sufficiency. The World Bank has been critical of what it has called "a public policy and expenditure framework that continues to emphasize the pursuit of food security with a particular bias in favor of a single crop, namely rice" (World Bank 2011a). The Bank concluded that this emphasis on rice "has shifted the focus of public policies away from the development of a potentially vibrant agri-business sector and led to lost opportunities that resulted in declining competitiveness" (World Bank 2011a). The Bank criticized the agriculture sector for only producing 15% of economic output, while employing nearly 40% of the total workforce. But these statistics can obscure the

subsistence elements of the rural economies in those places where some of the farmers are feeding themselves and engaging in local trade that does not get tracked by the national government. In Bukidnon, among my study subjects who were growing staple crops and were organized into collectives, well over half of the food they consumed was non-monetized. In effect, the majority of these interview subjects' diets consisted of foods grown by themselves. Furthermore, many interviewees reported receiving food as payment for their labor.

#### **4.2 Sustainable/organic vs. chemical inputs**

The cycling of nutrients and energy in farming ecologies can have wide spatial variance depending on the soils, the water, the biotic diversity, and especially the techniques practiced and the choices made by the human actors in the system. Agricultural policies have a great deal of influence on these choices and on the constructed scales. Consequently these different practices and their different ecological effects can influence the long-term food security of a country like the Philippines.

Is food security more easily achieved through sustainable agriculture or chemical agriculture? The main argument in the arsenal of the chemical paradigm is that yields will be higher than in organic farming systems. In a wide-ranging study of 840 farming families over Luzon, the Visayas, and Mindanao (the three major regions of the Philippines), Bachmann, Cruzada, and Wright (2009) found that in 2007, fully organic rice farmers were yielding 3,424 kilos/hectare, while conventional farmers were yielding 3,478 kilos/hectare. This is a difference of less than 1.6%. The study though also found that the organic farmers' yields were increasing over time, while the conventional farmers' yields were

actually decreasing, presumably because of nutrient deficiencies in the soil. The study also showed incomes were 27% higher for the organic farmers than the conventional farmers because the input costs for organic farmers were negligible compared to the overhead necessary in chemical farming. In a comparison of the incomes of the poorest quartile of organic farmers and the poorest quartile of conventional farmers, the difference was even more dramatic, with the organic farmers having 47% higher incomes. These higher incomes, along with the practice of saving rice for personal consumption<sup>25</sup>, led to greater perceived food security, based on “accessibility of food, quality of food (nutrition, diversity and safety), [and] freedom from vulnerability (reliability of food sources, minimised risk)” (Bachmann, Cruzada, and Wright 2009). For the organic farmers, 88% of them felt more food secure in 2007 than in 2000, while only 2% felt less food secure. For the conventional farmers, 39% felt more food secure in 2007 than in 2000, while 18% of them felt less food secure (Bachmann, Cruzada, and Wright 2009). Food security was also higher for the organic farmers because they reported better health outcomes from the diversified organic cropping on their farms, which led to more balanced diets high in fruits and vegetables.

The peasant organizations of the Philippines are generally supportive of the sustainable agriculture paradigm. The national organization that deals most specifically with enabling and supporting farmers in their efforts to farm organically is MASIPAG (The Farmer-Scientist Partnership for Development, Inc.). MASIPAG, although it is a national organization, uses tactics that are more typically executed at the level of the community or

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<sup>25</sup> Both organic and conventional rice farmers are likely to save part of the harvest for their family’s consumption. However, organic farmers are much more likely to meet all of their rice needs this way, since some conventional farmers are obliged to sell their entire harvest to those who have extended credit to them for the inputs used in growing that crop.

even individual farm. They focus on developing farmer independence through strategies of reducing external farming inputs, increasing farming incomes, and creating more communal and reciprocal labor arrangements in agricultural communities.

Some peasant groups simply endorse sustainable agriculture without formally requiring their members who are owner/operators to farm organically, whereas MASIPAG requires all of its members to be 100% organic in their production methods. Farmers converting to organic practices generally have trouble with profitability in their first two years, but they enjoy a definite income advantage over a ten-year horizon (Acs, Berentsen, and Huirne 2007). MASIPAG attempts to help farmers with that transition through the provision of organic seeds and training on composting and farming techniques such as creating concoctions based out of local organic materials to use as natural pesticides or fertilizers (Broad and Cavanagh 2012). MASIPAG also trains farmers to use basic tools, sophisticated knowledge, and assiduous labor to select favorable seeds and do a hands-on hybridization technique to develop stable and productive new seed varieties that are suited specifically to their particular geographic circumstances, thus turning a present-day conception of technology transfer (from scientist to peasant) on its head (Frossard 1994). “MASIPAG is about escaping the mindset of dependency” (Bachmann, Cruzada, and Wright 2009).

Recognized by the UN Convention on Biological Diversity for not just preserving, but enhancing the diversity of rice varieties in the Philippines, MASIPAG is an organization that is based in Los Baños, Laguna on the island of Luzon. By the late 2000s MASIPAG consisted of 672 people’s organizations representing the participation of 35,000 farming families in 45 provinces (Bachmann, Cruzada, and Wright 2009). MASIPAG has a strong presence in

Mindanao, with a regional office in Cagayan de Oro and a 9.5-hectare test farm called the MASIPAG Biodiversity Center located in Bukidnon. On this farm are kept 600 native varieties of rice and 40 varieties of corn, as well as fruit trees, vegetables, herbs, native chickens, goats, pigs, and ducks (McCrossan 2010). MASIPAG's emphases on diversified farming, improving farmer incomes, and ecological restoration are part of an international trend in recognizing the importance of multifunctionality in rural communities, in the sense that, besides producing food and fiber, farming communities can be important in promoting both economic and ecological stability for the greater society (Wilson 2010).

The World Bank, one of the original promoters of the Green Revolution, is now going through a gradual transition in their agricultural philosophy. Although their recommendations on pesticides are not those of an organic purist—"integrated pest management that combines agroecological principles with judicious use of pesticides can increase yields and reduce environmental damage" (World Bank 2007)—this is a notable change from the blanket support for the chemical paradigm that the World Bank showed in previous decades. In intensive high-input farming systems in Asia, the World Bank (2007) found "growing evidence that soil-health degradation and pest and weed buildup are slowing productivity growth," along with the problem of fertilizer nutrient runoff causing algal blooms and wetlands destruction. The Bank suggested mixed legume-cereal systems to reduce the need for chemical fertilizers, as well as an end to fertilizer subsidies that encourage wasteful use of fertilizers. Growing legumes replenishes nitrogen in the soil for whatever is grown subsequently, and thus can be an important part of an organic cropping cycle. In the 2000s, the Philippines was an importer of legumes like soybeans, peanuts, and mung beans (Bureau of Agricultural Statistics 2011). Reliance on importation was an

indicator that the Department of Agriculture was lagging in the promotion of crop rotation and sustainable farming techniques. However, under Secretary of Agriculture Proceso Alcala (2010-present), the department has promoted more leguminous cropping for soil fertility and environmental benefits (Republic of the Philippines Department of Agriculture Bureau of Agricultural Research 2011).

In irrigated rice farming areas in Bukidnon, I sometimes found tension between those in the chemical paradigm and those farmers who are using organic methods. First, the chemical farmers use more water than the organic farmers since the organic farms have more frequent fallow periods. Also, pesticide use may change the quality of the water, so upstream water use by chemical farms may mean that the irrigation water used in a downstream organic farm may have pesticide residues. There are different ways farmers may scale a response to this problem. Some of the organic farmers I spoke to said that they would like to put pressure on a particular *barangay*, municipal, or provincial government to enact legislation against the use of chemical inputs in situations where it could mean contamination of other farms. Because of the Local Government Code (Republic Act 7160 of 1991), local government units have the power to determine their own policies on such matters. However, even at the *barangay* level, there was not a critical mass of organic farmers in any of the communities I visited to effect these types of changes. If legislation would be enacted against the use of chemical inputs, it would be interesting to see if the agribusinesses that would be affected by the changes would organize themselves into any collective lobbying groups, potentially engaging in a new scaling endeavor.

Organic producers may also push for the enactment of new local legislation (or enforcement of existing federal legislation) that penalizes those farmers who burn their

crop residues.<sup>26</sup> This may encourage many farmers to compost their crop residues and adopt completely organic approaches. If that would lead to incorporating those farmers into cooperatives or collectives, then this may be beneficial in terms of providing economies of scale for the marketing operations of those organizations.

High value commercial crops (HVCC) may be able to accrue a higher profit margin to an investor than a staple crop because the produce is sold in markets with much higher food prices, yet it is questionable whether this can be sustained in the long term. The HVCC plantations tend to be very capital intensive and use inputs like chemical fertilizers, pesticides, and herbicides that hurt long-term fertility and productivity. For example, a number of banana plantations in the Davao area of southern Mindanao have been abandoned due to their lack of productivity after only two decades of growing. In the municipality of Pangantucan, Bukidnon, where I was based, I saw banana plantations that were abandoned after only four years of cultivation. Soils were dry, granular, and red, which denotes mineral deficiencies. It was unclear how much of this was due to the practices of Dole, the corporation that had attempted to grow in these areas, and how much was due to prior poor farming practices. Nonetheless, it was notable that Dole had abandoned its investment so soon.

During my fieldwork (2008-2009), I repeatedly found evidence that the Philippine government was caught between two different agricultural paradigms. On the one hand

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<sup>26</sup> The burning of crop residues on chemical farms creates smoke, which causes pollution for communities, but also releases the greenhouse gas carbon dioxide and thus adds to global problems of climate change, which has been blamed by many farmers for recent climate unpredictability and extreme weather events in the Philippines. Crop failures and erosion are associated with extreme precipitation, and the starts to each rainy season and dry season have been hard to predict, which means farmers may plant too early or too late.

evidence was mounting that soil fertility can only be sustained through organic practices, so the government had an increasing number of programs for organic fertilization. Yet, the inertia of decades of corporate influence and a Green Revolution mindset meant the government continued to promote certain aspects of the chemical/biotech agriculture approach. Corporations are adept in scaling their projects on a variety of different levels. There are national officers, regional coordinators, and local representatives who exert influence through advertising and outreach programs that work on these various levels. However, sources from both corporations and government agencies also confirmed that in many places there had been collusion between corporate representatives and government personnel on government development programs that included the products of the agribusinesses.

Government policy at a variety of levels influenced the scaling of the chemical paradigm, according to whether or not hybrid or GMO seeds, chemical fertilizers, and/or chemical pesticides were included in development programs. For example, at various points during the 2000s, fertilizer subsidy programs were promoted by the central government in Manila, hybrid seed subsidies came from the Region 10 (Northern Mindanao) office of the Department of Agriculture in Cagayan de Oro, and the issuance of hybrid seeds came from the Bukidnon Provincial government in Malaybalay.

One instance of blending paradigms I observed in 2009 was the government promotion, in some municipalities, of 'balanced fertilization,' in which there is a mixture of chemical and organic fertilizers. Another aspect of the syncretic approach of the DA is something that would bewilder organic farming purists: the use of hybrid seeds in an 'organic' program. Hybrid seeds are not open-pollinated and thus the farmer needs to

repeatedly buy new seeds from a vendor rather than save seeds to re-plant. Yet hybrid seed subsidies were included in many government organic programs, a testament to the continuing corporate influence on agriculture. Agriculture had for millennia been a reproductive process, but non-reproducible hybrid seeds (and now biotech seeds as well) have created a production process requiring external inputs akin to any other industry (Lewontin 1998); and agribusinesses that sell these seeds retain part of the surplus and expand the scales of the reproduction of environmental conditions. When I asked the Philippines Country Manager of Pioneer Hi-Bred, a leading American-based seed purveyor, whether Pioneer would consider marketing an open-pollinated variety that farmers could save, he candidly admitted that there would be no incentive to do so.

When President Gloria Macapagal Arroyo promoted the new self-sufficiency goals for rice in 2008, there was also an announcement of a new initiative for the creation of organic fertilizer, spurred in part by the fact that inorganic fertilizer prices are tied to the price of oil, which was skyrocketing in early 2008 (Apanay and Samonte 2008; Cariño 2008). Table 4.3 below shows five-year snapshots of the prices of the four most popular chemical fertilizers in the Philippines. The trios of numbers in parentheses indicate the proportions of nitrogen (N), phosphorus (P), and potassium (K).

Table 4.3 (below): Five-year snap shots of fertilizer prices for one 50-kilogram sack of fertilizer in nominal Philippine pesos (Bureau of Agricultural Statistics 2011).

**Fertilizers: Dealers' Prices by Fertilizer Grade and Year**

	1993	1998	2003	2008
<b>Ammophos (16-20-0)</b>	310.19	383.12	464.54	1,564.58
<b>Ammosul (21-0-0)</b>	182.05	247.30	314.19	901.49
<b>Complete (14-14-14)</b>	317.59	393.25	481.32	1,612.89
<b>Urea (45-0-0)</b>	268.60	379.75	537.90	1,524.75

Progress in the organic fertilizer programs of the government was slow at first, but more recently, there have been more substantial developments in the Philippine government to support sustainable agriculture. The Organic Agriculture Act (RA 10068) was approved in April 2010. One of the bill’s authors, Proceso Alcala, was subsequently appointed Secretary of the Department of Agriculture in June 2010. This has meant an end to subsidy programs for things like hybrid seeds and chemical fertilizers: “In general, we shall veer away from the provision of private goods and shift to the more strategic intervention of providing public goods which should be the role of government in the first place” (Republic of the Philippines Department of Agriculture 2011). Bukidnon followed the lead of the national government by passing its own organic agriculture code in 2011 that is patterned after RA 10068. The provincial office of the Department of Agriculture dedicated P5,000,000 (~US\$122,000 in 2013 conversion) into the implementation of educational projects and demonstration farms that started in January 2013 (Balane 2013). This is a notable development since the Provincial Agriculture Officer (the same person I interviewed in 2009) had previously been lukewarm on organic agriculture.



Figure 4.1: Rice fields in Cabangkalan. Although sustainable agriculture groups with strict production standards like Makakabus were ahead of the government in the promotion of organic agriculture, new government regulations on organic certification could criminalize small organic producers if they label products as organic without paying high certification fees (photo by author).

Filipino advocates of organic farming are glad to see official promotion of organic agriculture, however, RA 10068 does not do anything to make certification more economically feasible for small producers. In fact, there is concern that those non-certified farmers who have been, in good faith, using organic methods and marketing their products as organic could face criminalization (International Federation of Organic Agriculture Movements 2011). Makakabus successfully pursued governmental organic certification in 2005, but did not renew the certification in subsequent years because they could not afford

the fees, so they are one of the organizations that could be criminalized for selling products that are marked as organic but not certified by the government.

The MASIPAG Farmers Guarantee System is an example of a Participatory Guarantee System (PGS) that uses inspections and evaluations by peers to certify organic practices, especially with short chain commodities such as rice that will be marketed locally (International Federation of Organic Agriculture Movements 2012). This allows prices to stay within reach of consumers and allows small farmers, who make up the bulk of organic producers in the Philippines, to control their overhead by avoiding costly government certification. MASIPAG and other NGOs and local government units are calling for the Philippine government to recognize PGSs so that small organic farmers have the legal right to label their products organic.

RA 10068 may also hinder the ability of some local consumers to purchase organic products. If organic certification can only occur through expensive government permitting and inspections, then this could raise the price of organic products and limit the opportunities for organic foods to benefit all socio-economic levels of a society (Westwood and Lefilliatre 2011).

Neoliberalism has brought new regimes of organic certification to the South (West 2012) and in the process the articulation of what organic agriculture means in local places may change. When organic practices are pursued in a food sovereignty context, the emphasis is on local food security, sustainable staple cropping, preservation of local seed biodiversity, long-term soil fertility, community health impacts, and economic independence for farmers, whereas the overriding concern in organic agriculture for export markets is to create a product for Northern consumption. Furthermore, new

organic laws may be used as a marketing ploy by multinational seed corporations who want to sell certified organic seeds to farmers or plantation owners who are new to organic production (GRAIN 2008).

The irony of the neoliberalization of the organics industry is that it is partially market-driven by Northern consumers concerned about the environment, yet the new certifications have the potential to make environmental sustainability more difficult in the South, as small farmer and indigenous production systems are crowded out by corporate organic producers that will simply follow the letter of the law rather than engaging in agro-ecological practices. A further irony is that some Northern consumers may specifically buy organic products because they believe they are not participating in 'big agriculture,' but the new organic laws may actually drive agriculture in the South away from small producers toward agribusinesses.<sup>27</sup>

#### **4.2.1 Agricultural biotechnology**

KMP (*Kilusang Magbubukid ng Pilipinas*—Peasant Movement of the Philippines) and RESIST (Resistance and Solidarity Against Agrochemical TNCs) are two of the main organizations that organized protests and direct actions against the 1999-2001 field trials that American seed companies Monsanto and Pioneer conducted in Mindanao on genetically engineered Bt corn. Court orders were given to end the field trials in some locations, but Monsanto and Pioneer failed to show up in court until after the initial trials

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<sup>27</sup> On a related note, see Jaffee (2007) for an assessment of the effects of fair trade programs on Southern producers. One might argue fair trade is in keeping with the social justice goals of the food sovereignty movement. However, the fair trade movement is a market-based solution to social ills and in this way is very much in keeping with the neoliberal paradigm (West 2012). Furthermore, it caters to a privileged class in the North, and thus maintains a familiar North/South dichotomy in agricultural trade relations (Raynolds and Wilkinson 2007).

were complete and harvested. As subsequent trials were underway in August 2001, eight hundred farmers, indigenous people, and students uprooted a 1,700 square meter test plot (Inouye 2004; Cabanilla 2007). Part of the explanation protesters gave for targeting these crops was that they saw no reason for the government to approve an expensive seed that would do nothing in terms of directly feeding local people, since the genetically modified corn is only used as animal feed. This sentiment was confirmed during my fieldwork, as I asked farmers if they were interested in using GMO corn and they said they would not since they could not eat it. There has been opposition to genetically engineered food crops as well though, as activists uprooted test fields of Bt eggplant in 2010 and 2011 in Mindanao and Luzon (Fernandez 2011). Eventually, under pressure from environmental and sustainable agriculture groups such as Greenpeace and MASIPAG, the Philippine Supreme Court issued a writ of *kalikasan* (or writ of nature to defend Filipinos' constitutional right to a healthy environment) in May 2012, stopping the field trials of genetically modified eggplant (Felongco 2012).

USAID (United States Agency for International Development), which was involved in the project to test Bt eggplant, also came under fire years earlier in the Philippines for promoting the agendas of biotech companies. USAID was the main funder of a project called AGILE (Accelerating Growth Investments and Liberalization with Equity), which was developed in conjunction with the Philippine government in 1997. AGILE contractors helped the Philippine Department of Agriculture develop the Plant Variety Protection Act of 2002 (RA 9168), which established intellectual property guidelines necessary to protect the profit mechanisms of the biotech seed purveyors. AGILE also helped in the guidelines

for commercializing transgenic plants and took part in campaigns to disseminate information on biotechnology to the public (Bas 2003).

The biotech agenda has also been promoted in the Philippines by the International Service for the Acquisition of Agri-biotech Applications (ISAAA) through the partnering of agricultural research institutions and multinational corporations. ISAAA receives funding not only from the biotech corporations Monsanto, Pioneer/DuPont, Syngenta, and Bayer, but also the World Bank and USAID (Inouye 2004). In 2006, the ISAAA conducted a survey on “Public Understanding and Perception of and Attitude Towards Agricultural Biotechnology in the Philippines.” Bukidnon was one of the seven provinces selected where stakeholders (business leaders, consumers, extension workers, farmer leaders, policymakers, religious leaders, and scientists) were interviewed. The study reported, “There is the prevailing tendency for all stakeholders to perceive agricultural biotechnology as hazardous, but despite that they still view it as beneficial” (Torres et al. 2006). ISAAA, in partnership with the Agricultural Biotechnology Support Project II, the World Vegetable Center, and the Institute for Plant Breeding at the University of the Philippines-Los Baños, developed a genetically engineered salad-type tomato that they subsequently tested in Bukidnon (Mamaril 2009), which is the top salad-type tomato-producing province in the Philippines.

The Philippine provinces of Negros Occidental, Negros Oriental, Oriental Mindoro, and Bohol enacted legislation that prohibited the growing of GMO crops (Cabanilla 2007). These bans have not been overturned by the Philippine central government, nor have they been challenged by other countries as trade barriers by means of a WTO complaint.

### 4.3 Land use decisions

Land use planning and land policies can be extremely important for determining the food security strategy a nation pursues, as they influence decisions whether to focus more on self-sufficiency or on export earnings.

During the time of my research in the Philippines (2008-2009), the country was at a critical juncture in terms of property issues. The Philippine constitution forbids foreign ownership of agricultural lands, but President Gloria Macapagal Arroyo, in order to encourage foreign investment in rural areas, proposed changing the constitution to allow foreign ownership of agricultural land.<sup>28</sup> This was one aspect of the controversial ‘charter change’<sup>29</sup> that she was advocating. Planning for food sovereignty would become increasingly difficult, if not impossible, if great swaths of land would be sold to the highest foreign bidders. However, due to pressure from civil society, charter change was unsuccessful. Although the plan for foreign land sales was defeated, multinational corporations still exert a great deal of influence over land issues in the Philippines. Land markets are influenced when Filipino elites amass large landholdings to be leased to the multinationals, as well as when the multinationals rent land directly from small landowners.

When Dole looks for land in Mindanao for banana plantations, they research the local rate for land rental, offer a price that is a bit higher, thus ensuring the interest of the

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<sup>28</sup> President Arroyo advocated for numerous neoliberal policy positions during her political career. During her Senate career (1992-1998), she worked for Philippine accession to the World Trade Organization, foreign investment liberalization, and the creation of export processing zones. As President (2001-2010), she signed a bilateral free trade agreement with Japan and eradicated hectareage limits on banana plantations (Holden 2012).

<sup>29</sup> Charter change was abbreviated by critics as “cha cha” in order to illustrate the political maneuvering involved in the process.

land owner, and then offer five years of rent upfront to the owner. For a cash-strapped owner, it is an offer they often cannot refuse. The rent<sup>30</sup>, which seems favorable in the present, is fixed into a long term contract (25 years is typical, with discretion of early termination reserved only by Dole) and will likely not be seen as very lucrative to the owner in the latter years of the contract. If the owner does not want to renew the rental contract, they will probably be in a state where they have no capital to re-start farming the land themselves and will have lost years of experience in farming. In the meantime, the ecology of their soil will have changed, altered by pesticides and acidified by chemical fertilizers. When Dole plantations in Bukidnon have been inspected by the Department of Environment and Natural Resources, their record on erosion control has been very poor. I observed a variety of parcels of land in Bukidnon that had been in Dole banana production for less than four years and the soils were generally in poor condition.

Food sovereignty advocates stress that land reform is one of the pillars of their movement. Thus there is frustration with the Philippine government's recent self-sufficiency strategies since they are generally not based on changes in land policies, but only on increasing yields. Repeatedly when I talked to people in the Department of Agriculture, it was as if the quantity of land that could be planted in staple crops was static. There was seldom talk about increasing the amount of land put into rice or corn or shifting away from export crops. Chapter Five (Section 5.1.1) will provide a short history of land reform in the Philippines, the influences that the World Bank has had on the matter, and

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<sup>30</sup> In Bukidnon in 2009, Dole was offering P12,000/hectare/year, which was higher than the usual P5,000 – P10,000 transactions that I recorded between local residents.

the details and drawbacks of the Comprehensive Agrarian Reform Program (CARP), a land redistribution program which has been in effect since 1988.

A plethora of farmers organizations in the Philippines have been involved in land struggles against local elite landowners. Most of these struggles never leave the municipal, provincial, or regional levels. One exception, which sprang from the province of Bukidnon, was the Sumilao farmers, a group of 137 Higaonon (one of the indigenous peoples of Bukidnon) who had been awarded 144 hectares of prime agricultural land through a CARP redistribution in 1995 (ANGOC 2009). However, before the land was turned over to the beneficiaries, the owner tried to convert the land to an agro-industrial site, which is one of the exemptions that CARP allows. A 28-day hunger strike by the farmers in 1997 prompted President Fidel Ramos to intervene. The outcome was a compromise in which the farmers would receive 100 hectares and the landowner would keep 44 hectares.

The owner appealed to the Supreme Court, which overturned the presidential order on the basis of a technicality, terminating the farmers' award (ANGOC 2009; Sumilao Farmers 2010). The landowner was ordered to proceed with the agro-industrial conversion, but years passed without action and in 2002 the property was sold to the San Miguel Corporation, the largest food and beverage conglomerate in Southeast Asia. The chairman of San Miguel is Eduardo "Danding" Cojuangco, of one of the wealthiest people in the Philippines and once a principal crony of Ferdinand Marcos. San Miguel planned to use the land to raise hogs, which would be a violation of the conversion order, so the Sumilao farmers lodged a complaint with the Department of Agrarian Reform (DAR), who deferred to the office of President Gloria Macapagal Arroyo. In October 2007, the farmers undertook a 1,700-kilometer march (and sea voyage) from Bukidnon to Malacañang, the presidential

palace in Manila. The gamut of groups supporting the Sumilao farmers was impressive. Progressive peasant groups united with the Catholic Church hierarchy, including the Archbishop of Manila himself, in the effort to put pressure on the president.

Five months later, a compromise was reached in which San Miguel would grant 50 hectares to the farmers and purchase 94 hectares of land for them elsewhere in Bukidnon. Full implementation of the agreement was slow though, necessitating more pressure from the farmers. In 2010, two years after this agreement was struck, the 94 hectares of land had yet to be secured. The farmers protested again as DAR explained that the title to 79 of the 94 hectares had not yet been secured since some of the land was classified as timberland. This in itself was a violation of the agreement, since the 94 hectares was supposed to be equivalent to the prime agricultural land of the original 144 hectares. The title to 15 of the 94 hectares had been secured for the farmers by April 2010, but when the farmers arrived on the land for the first time, they discovered that the land had been leased to Del Monte Philippines, Inc. and was planted with pineapples. The land had only recently come into the possession of San Miguel and was previously owned by the family of the mayor of Sumilao, which raised suspicions that they were profiting from the ordeal of the Sumilao farmers. The farmers uprooted the pineapples and planted their own crops. Shortly thereafter, a threat of legal action against the farmers for destruction of property came from Del Monte (Sumilao Farmers 2010; *Manila Bulletin* 2010). It was not until late 2010 that San Miguel turned over the remainder of the land (San Miguel Corporation 2010). Over fifteen years had passed since the farmers were first told they would be agrarian reform beneficiaries.

The Sumilao farmers story presents a panoply of the disparate actors who might get involved in agrarian disputes—a group of indigenous farmers, progressive activist groups, human rights attorneys, officials in a local government unit, the Department of Agrarian Reform, a wealthy local landowner, the Church, the President of the Philippines, a powerful Philippine food conglomerate, and a formidable multinational agribusiness. The story is also notable because the actors jumped scale so frequently—a regional governmental agency deferred to the president, a wealthy local landowner sold the land to a national food conglomerate, a multinational corporation threatened a group of farmers with a suit in a local court, and an indigenous group marched to the national capital in their strategy to attain food security for their community. What is the lesson learned from this seemingly Sisyphean struggle? For the lawyer of the farmers, the importance of perseverance for legal justice was the take home message. Yet, the KMP (Peasant Movement of the Philippines) argued that fifteen years without justice for the farmers illustrated the utter failure of CARP as an agrarian reform policy. It was a provision in CARP that allowed the original landowner to use land use conversion as a strategy to avoid redistribution (Aning 2007). Furthermore, CARP policies required the Sumilao farmers to pay for the awarded land that was originally their Higaonon ancestral land in the first place.

The way that organizations have scaled their efforts has been the subject of study by Saturnino M. Borras, Jr. Transnational agrarian movements (TAMs) have arisen to contend with the “apparently contradictory political directions of globalization versus decentralization” (Borras 2010). The diversity of organizations involved in TAMs is influenced by the class affiliations and the political ideologies of the various members. La Via Campesina (LVC) has emerged as an important TAM, as both an actor and as an arena

of action for peasants and landless workers who were not previously represented in international forums. But these arenas of action are not conflict free.

Several organizations in the Philippines have had involvement with La Via Campesina (LVC). *Kilusang Magbubukid ng Pilipinas* (KMP or Peasant Movement of the Philippines) and Democratic Peasant Movement of the Philippines (DKMP) are the two main members of LVC.<sup>31</sup> KMP is a nationwide organization of poor peasants and farm workers that advocates for land reform following “a more or less orthodox Marxist position by prioritizing workers and campaigning for state farms and the nationalization of land, although allowing for a transitional individual ownership” (Borras 2010). In place of CARP, they back the Genuine Agrarian Reform Bill (GARB), which would put an end to the loopholes and special exemptions that many large landowners and agribusinesses enjoy under CARP. KMP is thus scaling their food sovereignty program partially on the national level by promoting federal legislation. KMP favors the confiscation of land (without compensation) from large landowners and then free distribution of land to landless peasants (Borras 2008). DKMP is a much smaller organization that differs ideologically in the sense that they promote family farming as an end in itself. Another more recently formed organization is the National Coordination of Autonomous Local Rural People’s Organizations (UNORKA), which like KMP is made up mostly of landless peasants and rural agricultural wage laborers, but unlike KMP, attempts to use CARP as a tool in its many agrarian disputes (Borras 2010; Franco 2008). In other words, UNORKA tries to work

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<sup>31</sup> There are other farming organizations in the Philippines that are involved with the more conservative international organizations, IFAP (International Federation of Agricultural Producers) and ILC (International Land Coalition), which collaborate with the World Bank and do not have strong critiques of standard development philosophies. See Borras (2010) for details.

within the system and get Department of Agrarian Reform personnel to follow the letter of the law, trusting that progress can be made using this strategy. Conversely, KMP sees CARP as a fundamentally flawed policy that should be replaced. LVC has an organizational rule that allows current members to block the entry of new members from their own country if the existing member does not think that the newly applying member has a philosophy that is in keeping with the objectives of LVC (Borras 2010). KMP used this rule to block UNORKA from becoming a member of LVC. This illustrates how member organizations can try to influence the political direction of the larger organization, promote their specific ideologies, and influence which of their national issues and strategies get scaled up to the international arena. LVC is a politically and socio-economically diverse organization, so the decision-making processes for organizational positions are frequently contested.

One of UNORKA's struggles involved opposition to land transfers that were benefiting a banana plantation on land owned by a well-known powerful family, the Floirendos (Borras, Carranza, and Franco 2007; Franco 2008). UNORKA's leader and principal organizer in this case, Eric Cabanit, was assassinated in 2006, in what was one of the higher profile killings of activists, especially land struggle activists, that have plagued the country, especially during the Gloria Macapagal Arroyo administration (2001-2010). The gravity of this situation was likely what influenced LVC's decision to admit UNORKA as a 'candidate member' in 2008 (Borras 2010). MASIPAG has also sent a delegation to some LVC events, but as an observing organization rather than as a member.

The UN Special Rapporteur on extrajudicial, summary or arbitrary executions, Philip Alston, visited the Philippines for a fact-finding mission in 2007. The human rights organization Karapatan estimated the number of killings of activists and members of the

media between 2001 and 2006 to be 703 (Franco 2007). Alston (2008) found the majority of these claims credible and stated that there exists a culture of impunity within the Armed Forces of the Philippines (AFP), which is suspected in many of the killings. A number of the killings may also be attributed to private security forces or contract killers hired by wealthy landowners who do not want to lose control of key parcels of land (Franco 2007).

The government considers itself at war with leftist insurgents, but there is widespread public sentiment that the AFP makes little effort to differentiate between NPA (New People's Army, the military wing of the Communist Party of the Philippines) combatants and legitimate, peaceful activists. Alston (2008) found no substance to the AFP's claim that the NPA was responsible for the majority of the killings because of internal purges, and argued that the AFP was attempting to displace responsibility. The NPA has likely been involved in some assassinations of peasant leaders, since some peasant leaders are perceived by the NPA as reformists who are collaborating with the state, whereas the NPA claims that they can bring a more truly revolutionary redistribution of land and wealth. However, Franco and Borrás (2007) and Alston (2008) agree that the number of NPA-perpetrated assassinations is quite small in comparison to the number of AFP-perpetrated assassinations. Opinions of Filipinos I interviewed differed on whether the situation is more that the military is simply running amok<sup>32</sup> or whether secret policies of targeting activists were coming from the President herself, in an effort to crush a resurgent left. Alston (2008) found that the AFP, in its counterinsurgency efforts, was increasingly turning its attention on civil society organizations that it ostensibly considered 'fronts' for

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<sup>32</sup> Gloria Macapagal Arroyo certainly owed part of her continued existence in office to the support of the military, so one theory is that she let them operate with impunity in exchange for protection from potential coup attempts.

the NPA. It is not an exaggeration to say that the country has been in a 'red scare' condition, where activists, particularly those who are involved in land struggles, are frequently discredited by government and military officials at various levels as sympathizers or collaborators with the NPA, despite a glaring lack of evidence in most cases.<sup>33</sup>

Although KMP, DKMP, UNORKA, and MASIPAG all operate on the national scale and have all also been part of the international food sovereignty movement through La Via Campesina, there are numerous farmers organizations in the Philippines that organize people at smaller scales for specific ends. Often there are connections (alternately strong or weak) between these small farmers organizations and the national organizations. It is the groups that are engaged in land struggles or workers' campaigns against plantation owners that are most likely to affiliate with KMP or UNORKA. The Sumilao farmers, for example, received support from both KMP and UNORKA. Sustainable agriculture farmers organizations that are not engaged in a land struggle are more likely to remain independent, like Makakabus, or to affiliate with MASIPAG with the objective of gaining technical expertise and marketing help. There are some people who participate in both KMP and MASIPAG activities, but most MASIPAG members are not as politically radical as the KMP leadership. DKMP has been active in Mindanao, but I did not find any evidence of activity in Bukidnon in my 2008-2009 time frame.

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<sup>33</sup> I personally knew one activist who had been falsely accused of murder by military officers who filed charges in court. This resulted in that activist going into long-term hiding since there was an assumption that a fair trial would not be conducted. I also witnessed an Orwellian sign in a bus terminal that asked readers to text a certain phone number if they had information about anyone being involved with NPA activities.

Often small farmers organizations do not fit neatly into the local scalar hierarchy of governmental units. Sometimes just a few families are banded together, yet in other cases farmers organizations may command a *purok* (a sub-unit of a *barangay*) or even vie with an official *barangay* government for influence in an area. In terms of land relations, some farmers organizations and collectives, like Makakabus, operate within the paradigm of privatized land, but they then manage the land in a fairly communal sense, where labor is at least to some degree group oriented rather than individualized. Chapter Seven will explore in detail Makakabus's approach to scaling food sovereignty, but first Chapter Five analyzes the top-down countermovements of international institutions.

## **Chapter Five: Neoliberal economic reforms' effects on the agricultural economy and governance in the Philippines**

The 1960s and 1970s were decades when significant development loans were granted to the Philippines with the intention of boosting agricultural production, integrating the country more fully into the international trading system, and encouraging an export oriented economy. At the same time, development assistance to the Philippines was seen as a way of thwarting communism (Bello, Kinley, and Elinson 1982; Putzel 1992; Borrás et al. 2009). By the early 1980s a decade of global recession had spurred a debt crisis among the Western powers. The response was to use the World Bank and the IMF to institutionalize market forces and manipulate policies in the economies of Southern nations so they could pay off their loan debts (Brenner and Theodore 2002; McMichael 2005). This repayment was to be achieved through neoliberal restructuring. Aggressive agendas of trade liberalization, privatization, deregulation, and budgetary austerity were the prescriptions for the economies of countries like the Philippines, administered through structural adjustment programs of international financial institutions (IFIs) and eventually through trade policies enforced by the WTO.

While the contemporary Philippine economy has already been modified greatly by these policies, there are still outside pressures for more change. These neoliberal reforms hinder the Philippine government in its attempts to move toward self-sufficiency in staple crop production. Even though Philippine government agencies have programs to promote

staple production, a variety of forces hamper the attainment of the goal. Among these are corporate expansion of export cropping, land privatization schemes, expanded trade liberalization, deregulation of agribusiness ventures and environmental standards, and fiscal austerity measures that restrict the implementation of government oversight. Every level of governance is affected by these trends and ultimately the impacts reach the individual farmers and agricultural wage laborers throughout the Philippine agricultural economy.

From my 2008-2009 field work in the Philippines, I was able to observe how a lack of public funding for government programs means that agencies like the Department of Agriculture (DA), Department of Agrarian Reform (DAR), and Department of Environment and Natural Resources (DENR) seek private (often foreign) investors to reduce the agencies' burdens of providing support services to the specific communities for which they are responsible.

The lack of resources for monitoring the investment projects that get approved and the lack of substantive penalties for their non-compliance to environmental regulations sometimes result in significant ecological impacts, such as erosion, siltation of waterways, soil acidification, and biocide contamination. Investor-led development often means land is shifted from forested land or staple cropping (like rice, corn, and vegetables) toward the growing of cash crops like bananas, pineapples, and sugarcane, eroding the possibilities for local and national food self-sufficiency.

Austerity measures within the federal government, due to international financial institutions' structural adjustment programs, have resulted in the devolution and fragmentation of government agencies, causing discontinuities in the communication and

implementation of programs across all scales of operation. At the same time, on a global scale, foreign production subsidies and international trade policies undermine the economic viability of Filipino farmers as they struggle to produce staples for their domestic market, with the result that the Philippines through the 2000s was one of the biggest rice importers in the world (Hui 2012).

## 5.1 Privatization

### 5.1.1 Incomplete, stalled, and privatized land reform

Land inequality was a legacy of the *encomienda* system of the Spanish colonial period from the sixteenth century to 1898 (ANGOC 2009). Various land reforms were attempted during the mid-20<sup>th</sup> century, but with limited effect. After Ferdinand Marcos was deposed in 1986, the new government headed by Corazon Aquino instituted the Comprehensive Agrarian Reform Program of 1988 (CARP), which aimed to redistribute millions of hectares of land in parcels no larger than five hectares.<sup>34</sup> The efforts have been a partial success, but loopholes for corporations, corruption<sup>35</sup>, and lack of support to agrarian reform beneficiaries have often meant that the direction of land conversion is

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<sup>34</sup> Five hectares is the limit for a CARP distribution, though citizens who acquired their land in a previous land reform program like the National Resettlement and Rehabilitation Administration (NARRA) may legally own 12 hectares. For details on the different types of land transfers included in CARP, such as compulsory acquisition (CA), Operation Land Transfer (OLT), voluntary offer to sell (VOS), and voluntary land transfer (VLT), see Borrás and Franco (2005).

<sup>35</sup> In practice, many elite landowners end up controlling far more than 12 hectares, sometimes through pawning arrangements, 'dummy landowners,' or other fraudulent activities. A dummy landowner is someone who has title to land, but does not actually control the land. They are often in an economically dependent relationship with the *de facto* owner. Relatives and dummy landowners are used to circumvent the hectareage limits on land ownership.

toward the plantations of agribusinesses concentrating on export crops, resulting in displacement and loss of land control for peasant farmers (Riedinger, 1995; Borras and Franco, 2005; Franco and Borras, 2007). Multinational corporations do not own their plantations, but often rent from large landowners in an area, who have likely used relatives and dummy landowners to buy land from small farmers (many of whom were agrarian reform beneficiaries).

The Department of Agrarian Reform (or DAR) has been the agency that has handled land redistribution in recent decades, yet its powers have been constrained by weak legislation and its efficacy has been enfeebled by challenges from elite Filipino landowners and multinational corporations (Riedinger 1995; Borras and Franco 2005; Franco and Borras 2007). DAR's redistribution program is based on individual titling, so local or regional elites have found it easy to pick off land holdings one by one as individual farmers have had difficulty staying out of debt. This is evidence of the social justice problems that sometimes result from privatized land reform (Nightingale 2006; Harris 2009).<sup>36</sup> Thus the land retention rate for farmer beneficiaries of redistributed land has been dismal. Spiraling input costs and a lack of strong price supports for farmers' products have resulted in large-scale debt and wave after wave of pawned or sold farmland. Agbalo Agricultural Collective exemplifies the advantage of community titling since communal control of their landholdings has prevented any instances of pawning or selling land in Agbalo.

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<sup>36</sup> From the World Bank's *World Development Report 2008: Agriculture for Development* (World Bank 2007: 139) there is some indication that the World Bank may be more supportive than it used to be of community titling in limited situations, as they admitted that individual titling may lead to "land-grabbing by local elites and bureaucrats."

DAR struggles to offer agricultural extension support services to the many agrarian reform communities that have received land. To reduce their budget for providing support services, DAR sometimes coordinates agreements between their agrarian reform communities and outside investors who want to develop land into export-cropping ventures that can create profit for the investors.

Privatized land reform, influenced by the global North, is nothing new to the Philippines. During the beginning of the American colonial period, the United States ignored Filipinos' desires to reclaim the lands that had been seized over a period of centuries by the Catholic Church. Resentment of what were considered 'land grabs' was one of the major causes of the Filipino rebellion against Spanish control in the late 1890s. Franco and Borrás (2007) explained how the American colonial rulers used a market-oriented approach:

In 1903, the colonial government purchased at market price 158,676 hectares of the "friar lands" for the amount of \$6,043,217 USD. It paid the Church cash from loans secured from commercial banks in the United States at commercial interest rates, and re-sold the lands at full acquisition cost, including the loan interest cost in the "open market." Only the rich, including American corporations, were able to buy the lands.

More peasant revolts occurred, especially in the 1930s and 1950s, but tenancy reform, market-based land transfer (Franco and Borrás 2007), and resettlement were deployed rather than land appropriation to quell the rebellions.

The Philippines, by the 1980s, had one of the world's most unequal divisions of land. According to Putzel (1992), 5% of the landowners in the country owned 83% of the agricultural land. The Ferdinand Marcos administration (1965-1986) attempted a land reform project, but it was only focused on redistributing rice and corn lands and thus all of the high value commercial crop (HVCC) plantations were untouched (Borrás et al. 2009).

In 1975, the World Bank Land Reform Sector Policy Paper advocated “formal land titling” and “abandonment of the communal tenure systems in favor of free-hold title and subdivision of the commons” (Borras et al. 2009). Putzel (1992) and Borras et al. (2009) argued that the World Bank pushed the Philippines to use land reform as a counterinsurgency strategy during the Marcos dictatorship as Communist rebels were increasing in power from the late 1960s to the mid 1980s.

In 1981 and 1983, the World Bank granted the Marcos administration the first two structural adjustment loans, which modified the Philippine economy through trade liberalization, tariff reduction<sup>37</sup>, financial sector reforms, and export promotion (Borras et al. 2009). When Marcos was deposed, the World Bank was initially reluctant to support the Corazon Aquino administration (1986-1992) because of fear that decision-making would be slowed in the more democratically-oriented and populist government (Borras et al. 2009). But eventually, as the US accepted Aquino, the World Bank established a mission in the Philippines in October 1986.<sup>38</sup>

In the late 1980s, the World Bank was actually promoting progressive land reform for the Philippines. When Aquino’s proposals for agrarian reform were issued, the Bank’s local mission was even critical that the proposals were not sufficient for creating equity in the rural areas, as the scope of the program was limited and the speed at which it would be implemented was too slow (Borras et al. 2009). Yet these criticisms were not made public. The lower house of the Philippine Congress had become captive of the country’s landed

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<sup>37</sup> From 1981 to 1985, the average nominal tariff rate was lowered from 42% to 28% (Glipe 2006).

<sup>38</sup> Although the Philippines is a member state of the World Bank, it only has 0.44% voting power determined through its economic weight in the world economy and its financial contributions to and client engagement with the World Bank Group Development Mission.

elite, and Aquino, perhaps to placate those who might organize against her, allowed the scope of the reforms to be determined by these legislators who had no interest in truly radical redistributive land reform (Putzel 1992). Congress passed the weak Comprehensive Agrarian Reform Law in 1988, which established the Comprehensive Agrarian Reform Program (CARP). As might be expected, CARP is not at all a revolutionary program because “it does not call for the expropriation of private lands without compensation to landlords and it does not distribute lands to peasants for free” (Borras and Franco 2005). Corporations operating plantations were given a ten-year grace period before their workers were allowed to file for any type of land reform claim or leaseback arrangement. Consequently, from 1988 to 1998, many corporations simply fired any employees who were perceived to be potential organizers (Borras and Franco 2005).<sup>39</sup>

CARP is still in effect, but the years 1992-2000 were the most successful for redistributing land (Borras, Carranza, and Franco 2007; Fuwa 2000), as leadership at the Department of Agrarian Reform was relatively progressive during these years (Franco 2008; Fuwa 2000). However, constant resistance to CARP by many landowners has held the program back from its potential throughout its duration. By 2001, most of CARP’s redistribution had occurred, but its accomplishments fell far short of its original goals. In Bukidnon for example, just 34% of the agricultural land had been processed by the government agencies, yet because of loopholes and corruption, the 34% figure gives an inflated view of how much land was really redistributed (Gutierrez and Borras 2004). In 2002, only 11.3% of the households in Region 10 (Northern Mindanao) that owned

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<sup>39</sup> See Borras and Franco (2005) for a detailed explanation of how elite players in the banana industry have used a variety of methods to retain their favorable arrangements in the Philippines.

agricultural land had received that land through CARP (Quitoriano 2009). Scandals, corruption, and poor administration of CARP made the World Bank lose faith in the program in the 1990s. Instead of backing land reform, they made a new push for expanding the structural adjustment programs that called for further liberalization of trade (Borras et al. 2009). The World Bank recommended a more export-oriented economy, yet even though this has been pursued, the Philippines has had increasingly negative balances of trade in agricultural products (Bureau of Agricultural Statistics 2011).

By the mid-1990s, the World Bank was urging the government to terminate CARP because they felt it was a burden to the budget and created an environment that was not secure for financial investment from abroad. In a statement from *A Strategy to Fight Poverty*, shocking for its lack of faith in democratic institutions, the World Bank (1996: 14) argued:

The administrative complexity of land reform (e.g., the time consuming disputes that arise over land valuation, or the granting of exemptions) probably cannot be resolved in the context of a government-administered program executed in a democratic society.

This anti-democratic attitude and the Bank's pressure to terminate CARP have disturbed many Filipinos, as they feel their sovereignty is not being respected. Yet, CARP is consistently attacked from the left as well for being too slow, not using compulsory acquisition frequently enough<sup>40</sup>, emphasizing individual titling<sup>41</sup>, and being filled with loopholes and provisions<sup>42</sup> that are exploited by wealthy landowners and corporations.

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<sup>40</sup> Compulsory acquisition (CA) and 'Operation Land Transfer' (OLT), which are similar, had accounted for only 45% of CARP redistributions of private lands (Borras, Carranza, and Franco 2007). Rather than supporting CARP, the KMP (Peasant Movement of the Philippines) backs HB 374, the Genuine Agrarian Reform Bill (GARF), which was introduced by Representative Rafael Mariano (et al.) and includes compulsory acquisition

To maximize efficiency and “reactivate the land market,” the World Bank wanted to replace CARP with a market-led agrarian reform program based on ‘willing seller, willing buyer’ (Borras et al. 2009) that would essentially undermine the truly redistributive aspects of the program. The World Bank has expressed the opinion that state-led agrarian reform using compulsory acquisition leads to violence, and thus voluntary and non-confrontational market-led programs are preferable, though the counter-argument is that if market-led programs end up being anti-poor (Franco and Borras 2007; Borras et al. 2009), then those programs may lead to even greater violence in the long term. The World Bank advised the Philippines that the compulsory acquisition function, which is usually the heart of a radical land reform program, should only be used as a last resort (World Bank 1996), and of the funds for land programs provided by the World Bank and Asian Development Bank, very little has been allowed to be used for land acquisition (ANGOC 2009). As an alternative to CARP, in 2003 the World Bank initiated a market-led agrarian reform experiment in the Philippines named the Community-Managed Agrarian Reform and Poverty Reduction Program (CMARPRP). The program had even deeper problems with corruption than CARP; for the most part, it benefited only the elites rather than the poor

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by the state and no payments required from the farmer beneficiaries. The DAR officials I spoke to were not antagonistic toward GARB, but they did not see it as politically feasible.

<sup>41</sup> There are some examples of communities that are collective CARP beneficiaries, but by and large community titling is the exception rather than the rule in CARP land reform.

<sup>42</sup> Some of the complaints about CARP concern the ‘leaseback’ arrangements, wherein beneficiaries must lease their lands to a corporation or the former landowner as a condition of getting their land certificate; or the ‘corporative scheme’ is a situation where the beneficiaries receive shares of stock in the landowner’s corporation rather than land itself (ANGOC 2009). A senior DAR official admitted to me that these types of exemptions were not really in the spirit of land redistribution.

(Borras, Carranza, and Franco 2007)<sup>43</sup>; and contrary to its intentions, it ended up being far more expensive in per-hectare costs for administrative and agricultural support than CARP. Ironically, this was true even though the government's cost of land acquisition was zero in CMARPRP because the land beneficiaries shouldered 100% of the land costs (Borras et al. 2009).

Agrarian reform during the 2000s slowed dramatically, as the Gloria Macapagal Arroyo administration (2001-2010) accepted the World Bank's philosophy of market-led approaches (Borras, Carranza, and Franco 2007). Akram-Lodhi (2007) pointed out that while market-led agrarian reform has been shown to be unsuccessful (Borras 2006), food sovereignty proponents and activists have not been in agreement or have often been unspecific in describing exactly what sort of state-led program might be best.

La Via Campesina (LVC) has targeted IFIs in general and the World Bank in particular for its stances on land issues. LVC works with the FAO, which recognizes them as important partners in agrarian reform. In recent years, the FAO has increasingly institutionalized its contact with civil society organizations and NGOs like La Via Campesina that are working for food sovereignty, and the concept of food sovereignty has become part of the discussion (though not part of policy) at FAO forums. Yet LVC's 'expose and oppose' strategy against the World Bank makes it difficult for the FAO to then work with the World Bank as well (Borras 2010), which is one of its biggest financial partners. It will be interesting to see if and how each of these three organizations bends in the coming years or whether the LVC-FAO or FAO-World Bank partnerships will disintegrate. A hint of

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<sup>43</sup> While the 'community-managed' part of CMARPRP sounds progressive, since localities usually have entrenched elites, this practice of decentralization led to even more land consolidation, conflict, and intimidation of peasants (Borras, Carranza, and Franco 2007).

the direction things may be heading came from a *Wall Street Journal* editorial by Suma Chakrabarti, president of the European Bank for Reconstruction and Development, and Jose Graziano da Silva, Director General of the FAO. Citing “the key role of the private sector in feeding the world” and critical of “small and uneconomically sized farms” (Chakrabarti and da Silva 2012), the arguments were diametrically opposed to the agenda of LVC. Chakrabarti and da Silva continued:

The debate on the private sector's role in global food security needs to be heard not only in emerging Europe, Asia and north Africa, but also in the West. It is responsible private investment from around the globe that can fertilize this land with money—once the local business environment is right.

LVC responded by calling the editorial “a clear call for a world wide increase in private sector investment and land grabbing” (Via Campesina 2012) and lamented that “the FAO's subservience to the demands and interests of greedy investors undermines all the work at conciliation that has taken place in recent years between farmers' organisations and the FAO.”

### **5.1.2 Privatization of rural development**

The World Bank's *World Development Report 2008: Agriculture for Development* (World Bank 2007: 138) acknowledged that structural adjustment did not go as planned:

Structural adjustment in the 1980s dismantled the elaborate system of public agencies that provided farmers with access to land, credit, insurance, inputs, and cooperative organizations. The expectation was that removing the state would free the market for private actors to take over these functions—reducing their costs, improving their quality, and eliminating their regressive bias. Too often, that didn't happen.

But rather than a *mea culpa* for destroying state institutions, the report goes on to explain that the failures occurred because privatization and marketization were just not done as thoroughly and efficiently as they could have been.

The World Bank saw the Philippine government's reduction of fiscal expenditures on agricultural programs as necessary to create the capacity to repay their debt obligations (Glipo 2006). As Philippine budgets have tightened through structural adjustment, government agencies do not have the money to provide sufficient agricultural extension support services to their rural constituents, so the agencies try to reduce their burdens by transferring parts of their responsibilities to NGOs and especially private investors, in many instances involving foreign capital. In this sense there is *de facto* privatization occurring. One vehicle to facilitate this privatization of rural development has been the Philippine Agricultural Development and Commercial Corporation (PADCC). PADCC serves two main purposes, the first of which is to reduce the amount of land and farmers to which the Department of Agriculture, the Department of Agrarian Reform, and the Department of Environment and Natural Resources need to offer support services. The second purpose is to create export-cropping projects that can bring the government tax revenues. PADCC does this by attracting investors, many of them foreign, to develop lands with highly capitalized projects. The impetus for investors to work through PADCC includes a variety of incentives such as special economic zones, federal tax deferrals, exemptions on local government taxes, and simplified export regulations.

A rationale for the existence of PADCC is that they can act as the official liaison between investors and rural communities so as to ensure that both parties secure mutually beneficial terms for their arrangements. Yet, Task Force Food Sovereignty (TFFS) criticized PADCC as "an intermediary for large-scale land consolidation" (Doyo 2009), since without them it would likely be too difficult for outside investors to broker deals with so many different landowners and indigenous communities in the rural areas of the Philippines.

When she was still a senator, President Gloria Macapagal Arroyo introduced Republic Act 7652, the Investors' Lease Act (1993), which allowed these projects of large-scale land consolidation to have leases that are up to 50 years, with potential 25-year renewals (Marasigan 2009). One 50-year land deal in Ilocos Norte province, involving 600,000 hectares to be devoted to coconut-diesel for export to Japan (Marasigan 2009; Arzadon 2009), exposes what Arze Glipo of TFFS calls, "the government's lack of sincerity in its food self-sufficiency aims" (Doyo 2009). On the island of Mindoro, 94,000 hectares of land have been leased to a South Korean company to grow feed corn for export (Marasigan 2009). PADCC also completed a large deal with Saudi investors for 50,000 hectares to grow pineapples, bananas, rice, and corn for export (Loyola 2010) and worked as well with investors from Bahrain to create an agribusiness venture, investors from Kuwait to establish banana plantations (Olchondra 2009), the government of Qatar on a deal to convert 100,000 hectares to agribusinesses in Mindanao (Pañares 2008), and investors from the United States for a biofuel cropping project (Cayon 2009). As a result of these deals and many more of a smaller scale, TFFS has called on the current President Benigno Aquino III to abolish PADCC (Basilio 2010).

PADCC works especially with land that has not seen intensive and highly capitalized development. Many government personnel I spoke to had a tendency to use the term 'idle lands' to describe lands that are not in highly capitalized production. When I spoke to one senior PADCC official in 2009, I said that some people would take exception to the term 'idle lands,' when in fact indigenous groups or people without land stewardship certificates are using these areas. The reply was:

By definition, these areas, though [they are] under their ancestral domain claim, are generally idle, because the nature of these indigenous peoples in our country is

actually extractive agriculture.... [T]heir harvest [depends] on what nature will provide them.... [In] that case, we define these areas as idle and therefore subject to development.

The government does not want to let lands stand 'idle,' because if they do, then no tax revenues are collected.

## 5.2 Deregulation

### 5.2.1 Devolution of government agencies

Local governments in the Philippines have suffered from lack of funding and revolving personnel. Thanks in part to IMF structural adjustment programs (Perez 2010; Lim and Montes 2002) the Local Government Code of 1991 was enacted, leading to the devolution of many central government functions to the local level as an austerity measure. Rescaling governance in this way has 'hollowed out' the state (McCarthy and Prudham 2004) and de-linked national and regional levels of government from both the provincial and municipal levels. As a result, funding of agricultural extension has suffered in the Philippines except in those places where the local mayor has a very proactive stance on agriculture. But what is especially frustrating to the people at the national and regional offices of the Department of Agriculture is the way that devolution has broken the chain of command between different departmental personnel. One might think that the municipal agriculture officers would report to the provincial agriculture officer, who in turn would report to the regional director, who in turn reports to the Secretary of Agriculture. Yet in reality the municipal agriculture officers *only* report to their municipal mayors, and the provincial agriculture officers *only* report to their provincial governors. Therefore there is no chain of accountability that leads up to the regional directors as there was before the

devolution of the Department of Agriculture (DA). Thus many DA projects go unimplemented at local levels because of lack of budgetary allocations or the passivity or distraction of mayors who are on a three-year election cycle (Dy et al. 2008).

The devolution of the DA has made land use policies difficult to execute. In 1997, the AFMA, or Agriculture and Fisheries Modernization Act (RA 8435), called for rural municipalities to create Strategic Agriculture and Fisheries Development Zones, or SAFDZs, in order to protect rice and corn lands from conversion and reclassification. Yet the penalty for converting irrigated rice lands into other uses is so slight as to have virtually no effect. In the meantime, the SAFDZs have fallen by the wayside because of lack of funding and changing personnel at the municipal levels of the DA. There is sentiment in the DA, especially at the national and regional levels, that the department should be reintegrated. Holding municipalities accountable for their SAFDZs is just one of the potential benefits of this proposed reintegration.

Devolution of the DA rescaled agricultural development in the sense that more of the burden for the funding of development was shifted to the municipalities. Yet this is not where the taxable wealth of the country is. The wealth is more concentrated in a few urban centers where middle and upper class people live. So rural municipalities, in their efforts to come up with funds for agricultural development, prioritize high value commercial crops (HVCCs) over staple crops, since there is a perception that the staple crops are unlikely to generate as much tax revenue.<sup>44</sup>

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<sup>44</sup> It is also likely that many people in local politics prioritize HVCC plantations because they can accept bribes from corporations, developers, or landowners that are involved in the projects.

The World Bank is currently involved in another devolution effort, this time of the National Irrigation Authority (NIA) in the Philippines (*Interaksyon* 2011). The Bank's Participatory Irrigation Development Program is ostensibly an effort to turn control of irrigation to local stakeholders rather than the NIA, a central government agency. However, most local irrigation associations and local government units will almost certainly not have the money to maintain systems and collect payments for use. This situation will open the door to sales of irrigation systems to private entities; thus local farmers who want to use the irrigation waters could be at the mercy of profit-driven corporations under new regulations that allow volumetric and market pricing of water. Many fear that this could lead to more consolidation of land control for larger agribusinesses that can afford the irrigation fees. In some locations, privatization of irrigation systems might be immediate where the NIA sells off infrastructure to corporations. The Bank's program may cause unemployment to rise in rural areas as well, since the Bank's loan condition demanded that before program loans would be released, the NIA needed to execute a 'rationalization plan' that would eliminate 51% of NIA personnel and close numerous provincial offices. President Arroyo signed Executive Order 718 in April 2008 to allow this transition (*Interaksyon* 2011).

### **5.2.2 Lack of monitoring and oversight**

Although some changes in the Philippine rural landscape happen under the auspices of government agencies, often large multinational corporations act independently, especially if they are already active in the Philippines, which makes it very difficult to track their economic and ecological impacts. If a plantation is over 100 hectares, then the corporation is supposed to apply to the Department of Environment and Natural Resources

(DENR) for an Environmental Compliance Certificate, which is a detailed agreement on the human and terrestrial impacts of their agricultural practices, as well as a guideline for environmental remediation if necessary. One method around this regulation, which I saw being practiced by Chiquita for instance, is to establish contract-growing arrangements with banana plantations that are under 100 hectares and then simply buy from these contract growers and ship to various international markets, such as Japan and the Middle East. This way Chiquita or other similar operators do not have any responsibility for the environmental impacts from the growing practices. Labor is also unregulated in these instances and production risks are borne by the local growers.

Figure 5.1: Workers hired by a contract grower prepare bananas for export (photo by author).



Figure 5.2: “Naturally Sweeter Mountain Bananas” packed by a contract grower for Chiquita (photo by author).



However, even for the larger plantations that do apply for Environmental Compliance Certificates from the DENR, the record of their compliance has often been poor. For example, Dole banana plantations in Bukidnon were inspected fourteen times from 2007 to 2009. Erosion regulations were being violated in *each* of the fourteen inspections and there were numerous reports of siltation of rivers. Additionally, there were other infractions for things like spraying pesticides during afternoon hours when adults and children were outdoors, spraying near residential areas, and even spraying near a school. There was also one confirmed death of an employee from pesticide exposure. Yet the penalties for such violations of an Environmental Compliance Certificate were minor, the equivalent of US\$1000, just a cost of doing business for a company the size of Dole.

Controversy erupted in 2008 over the pesticide endosulfan (generic name), a highly toxic substance banned by most governments, but given approval in the Philippines only to Dole and Del Monte. During a typhoon in June 2008, a Philippine passenger ferry capsized, causing the deaths of over 800 passengers and crew members. Information came to light that an illegal shipment of endosulfan was on board bound for Del Monte plantations. (It is illegal to have hazardous cargo on a passenger vessel.) Recovery of the bodies had to be halted for four months as special teams of divers had to remove the barrels of endosulfan before the body recovery efforts could resume. Even though 135 Filipino citizen and environmental groups have urged their government to permanently ban endosulfan (Villanueva 2011), the DENR has only enacted a temporary ban.

In my conversations with DENR personnel, a common complaint was that the agency does not have the budget for its employees to travel into the rural areas that they are supposed to be monitoring. Lack of oversight has also allowed deforestation in some of the development projects that have been established on DENR lands and the formerly 'idle' indigenous ancestral domain lands. Philippine government agencies have generally been unable to effectively penalize those in the agricultural system who are causing such environmental harms. Another example of the failure of monitoring can be seen in how Republic Act 9003, the Ecological Solid Waste Management Act of 2000, prohibits the burning of crop wastes, but it is almost completely ineffective as the federal agencies do not have enough staff to monitor activities and the burden of enforcement is on the local government unit. Moreover, government entities on a variety of scales in the Philippines have failed to enact legislation that would reward those agriculturalists that provide positive ecosystem services.

Weak and misguided governance is also an element in the story of the ongoing crop conversions from corn to sugarcane. The Philippine government has tried to safeguard against the reduction of the consumable corn crop by making a rule against using corn in the new national biofuels program. Consequently, sugarcane is by far the main crop used in biofuel production and the law mandates that a certain amount of biofuels must be produced.<sup>45</sup> Since the biofuels program increases demand for and pushes up the price of sugarcane, it encourages the planting of this more highly capitalized crop. This situation has caused an epidemic of land consolidation as wealthy local landowners buy or receive pawned land from corn farmers who have gone into debt because of the high cost of inputs and the low selling price for corn. The land is then subsequently converted to sugarcane production.<sup>46</sup> Thus the indirect effect of the boom in sugarcane cultivation is to cause a decrease in the amount of corn available for human consumption. Even though it is against the law, local elite *hacenderos* end up accumulating large landholdings since there is lack of governmental oversight in the rural areas that would prevent them from this activity. Some of the sugarcane boom has also been occurring illegally on DENR forest lands that until recently were wooded, since those territories go unmonitored as well.

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<sup>45</sup> Despite evidence that many biofuels are not as environmentally benign as originally believed, many countries, including the Philippines, have been reluctant to abandon their policies promoting conversion to biofuels (Kanter 2008; Wald 2008; *The Economist* 2013).

<sup>46</sup> The Philippines Biofuel Act was authored by Senator Juan Miguel “Migz” Zubiri of Bukidnon and this was seen by many as pork-barrel legislation, because it would stimulate the production of sugarcane and benefit sugar millers in Bukidnon.

### 5.3 Trade liberalization

Has liberalization worked for the Philippines? Has there been a net economic gain or a net economic loss in agricultural trade? Free trade advocates argue that Philippine agriculture needs to be liberalized even more, but there has already been substantial liberalization, so it is prudent to analyze what have been the results so far. From Table 5.1 below, we can see that the growth of Philippine exports has not kept pace with the growth of imports and thus they have moved toward deep agricultural trade deficits in the WTO era. Glipo (2006) noted that this trend is typical for most developing countries.

Table 5.1: Five-year snapshots of Philippine total agricultural exports (free on board value) and imports (cost, insurance, and freight value) in nominal US dollars (Bureau of Agricultural Statistics 2011).

	F.O.B. Value			
	1995	2000	2005	2010
<b>TOTAL AGRICULTURAL EXPORTS</b>	2,499,098,294	1,982,724,750	2,691,192,260	4,101,085,273

	C.I.F. Value			
	1995	2000	2005	2010
<b>TOTAL AGRICULTURAL IMPORTS</b>	2,619,800,786	3,106,373,067	3,986,957,773	7,399,794,782

The World Bank's *World Development Report 2008* explored the effects of trade liberalization and who stands to gain and lose from it. Overall, the picture is quite complex since trade liberalization may mean that consumer prices come down on certain items when tariffs are reduced, while other items that have subsidization terminated may rise in price. At the same time, liberalization may influence farmgate prices in either direction, wherein producers will be positively affected by price increases and negatively affected by decreases (World Bank 2007). Thus, a country may have either a net increase or decrease in poverty according to the structure of their workforce—how many of the poor are net

sellers of staple foods and how many are net buyers. It is encouraging that the World Bank is looking at the effects of trade liberalization at this level of detail. However, what seems absent from the analysis is the need for land reform to reduce the number of rural landless who are most at the mercy of price fluctuations.

The World Bank (2007) has shown sensitivity to alleviating the negative impacts of liberalization on those who stand to lose, but their suggestions focus on things like giving support in transitioning farmers to new crops. In the case of the Philippines, if this means giving support for transitioning rice growers to other crops, then this would take the country even further away from food sovereignty. Essentially, the World Bank focuses on moving toward economic efficiency without regard to whether local, regional, or national self-determination is being achieved. They generally advise countries to pursue food security through international trade rather than food self-sufficiency (World Bank 2007: 94).

### **5.3.1 Japan-Philippines Economic Partnership Agreement**

Given a regional context of increasing Chinese influence in Southeast Asia, Japan has acted to guard its economic position in the region with a strategy of negotiating free trade agreements (FTAs) with Southeast Asian nations. The Japanese Ministry of Foreign Affairs stated, “FTAs offer a means of strengthening partnerships in areas not covered by the WTO and achieving liberalization beyond levels attainable under the WTO” (Yu-Jose 2004). Free trade agreements like the Japan-Philippines Economic Partnership Agreement (JPEPA) have been criticized in the Philippines for potentially reversing the gains made by agrarian reform programs (Glipo 2007), as the treaty is designed to facilitate export cropping for which small farmers do not have the capital to participate. JPEPA’s investment rules

encourage existing laws in the Philippines to be harmonized with the aims of the treaty, which critics say could lead to land consolidation for corporate leases and displacement of agrarian reform beneficiaries and indigenous people. Japanese investment in the agriculture of the Philippines has been overwhelmingly in the realm of production for export, particularly bananas, pineapples, other fruits, and cut flowers (Glipo 2007), so there is concern that JPEPA will erode food sovereignty even further. In fact, sovereignty in general is at risk, since future restrictions to the treaty are only allowable with the consent of both countries (Glipo 2007).

### **5.3.2 WTO Agreement on Agriculture; Quantitative Restrictions**

The structural adjustment programs of the 1980s and 1990s liberalized the economy of the Philippines a great deal, but the country's accession to the WTO in 1995 meant a further consolidation of the project of free trade and liberalization. The WTO Agreement on Agriculture requires countries to move away from non-tariff barriers and move to tariffs instead (Glipo 2006). However, the WTO also requires the tariffs to be phased out over time. In order to comply with these WTO rules, Republic Act 8178 was passed in March 1996 (Republic of the Philippines 1996).

What does free trade have to do with the rice farmers of the Philippines? First we have to back up a little and see that conditions of production in other places might not be the same as in the Philippines, resulting in cheaper products. Rice productivity levels in the Philippines are slightly lower than the world average, but this is not the main explanation; consider that yields per hectare are better in the Philippines than in Thailand, which is the number one exporter in the world (Ignacio 2005). In some places, such as Thailand, better infrastructure and marketing might keep prices down (Dy et al. 2008), but other

governments directly subsidize the production of rice, despite WTO policies to ostensibly discourage subsidies. Rice subsidies in the United States, for example, have been nearly \$1 billion per year between 1995 and 2011 (Environmental Working Group 2011), and that is quite modest compared to the subsidies for corn, which have been approximately \$5 billion per year during that time frame. The WTO claimed it would be requiring countries to reduce subsidies because they are trade distorting. The developing countries have only been permitted to have modest production subsidies, yet the developed nations have been able to maneuver subsidies through a complex system of categorization, which has certain 'blue box' and 'green box' subsidies (such as direct payments to farmers and food aid) allowable because they are considered non-trade distorting. The 'amber box' subsidies such as price supports (which are used by countries like the Philippines) are considered trade distorting however, and are thus subject to reduction (Glipo 2003). Developing nations have criticized these rules as a shell game, as it allows the developed nations to continue business as usual while extracting concessions from the poorer nations. In fact, after the Agreement on Agriculture was instituted, Northern agricultural subsidies actually increased, despite the WTO rhetoric that the Agreement on Agriculture would mean a reduction in subsidies (Glipo 2003).

If the Philippines were to have a completely liberalized rice market, then cheap rice would flood into the country, and that would depress the farmgate prices that Filipino farmers would be able to get for the rice they harvest. Many rice farmers would be unable to compete and rural regions would have an epidemic of unemployment and increased poverty. In the mean time, the country would slide even further from self-sufficiency in the production of its main staple food. This scenario is exactly what went on in Mexico, except

with corn rather than rice. NAFTA's (North American Free Trade Agreement) liberalization of the corn trade has meant a flood of highly subsidized, artificially cheap corn being sent from the United States to Mexico (Patel 2008). Mexican farmers are not able to compete and are forced off their land. The problem is not as severe in the Philippines because less corn is imported, but nonetheless liberalization has already caused a depression of corn prices in the Philippines as well (Dy et al. 2008). In Bukidnon, I spoke to numerous former corn farmers who, because of fertilizer debts and low farmgate prices, lost their land or converted to other crops.

The WTO recognizes desires for protectionist measures, though only to a very limited extent. In Section B of Annex 5 (known as the special treatment provision) of the WTO Agreement on Agriculture, there are allowances for Quantitative Restrictions (or QRs) and some tariffs as well. A QR gives a country the right to restrict the amount of a certain import and in the case of the Philippines, the government does currently utilize these protectionist measures over the importation of rice. The Secretary of the Department of Agriculture (DA), in coordination with the National Food Authority (NFA), reserves the right to import rice only during times of need and not during harvest time, when farmers in the Philippines are selling, because otherwise those farmers would be undercut in price and not be able to sell their crop. But QRs and tariffs are only allowed by the WTO as *temporary* exceptions and are only granted on condition of the eventual removal of all trade barriers. Indeed, the WTO may eventually have the power to command member nations to remove all trade barriers, even when those trade barriers serve the purpose of promoting social stability.

In 2009, I spoke to one of the Philippine officials on the team that handles WTO negotiations. She explained that the Philippines has negotiated for QRs on rice since joining the WTO in 1995, but the terms needed to be renegotiated periodically. The concession that the Philippines gave in the negotiations was agreeing to a Minimum Access Volume, which is an agreement that the Philippines *must* import a certain amount of rice per year. In the first negotiation, the amount was 119,460 metric tons (MT), followed by 238,940 MT in the second negotiation (Silverio 2012b). In exchange for the extension of the QR through 2012, Manila agreed to increase the Minimum Access Volume on rice to 350,000 metric tons as a concession and to reduce the tariffs they have on rice (Republic of the Philippines Tariff Commission 2007; Galvez 2011). This is a curious situation because if the Philippines were to become self-sufficient in its production of rice, they would still be required to import 350,000 metric tons of rice per year. This arguably reveals that the WTO, rather than being a true free trade organization, is a tool of countries like the US that want to force agricultural trade. Food sovereignty advocates like Lita Mariano of the NGO *Bantay Bigas* (Rice Guard) argue that the US wants to both ensure markets for American exports and keep Philippine agriculture oriented toward exports so the US will have a cheap supply of tropical fruits (Silverio 2012b).

Before the QR expired on June 30, 2012, the Philippines applied for an extension on November 18, 2011 (Silverio 2012b). A number of WTO member countries initially objected, but during 2012 all of these countries eventually agreed to an extension except for the United States, which by 2012 had become the world's fourth leading rice exporter (Benaning 2012). Besides the QR being a limit on how much American rice could be exported to the Philippines, the US obstruction was being driven by the American meat

industry. In January 2012, the US Meat Export Federation, the National Meat Association, the National Pork Producers' Council, and the American Meat Institute urged US Agriculture Secretary Tom Vilsack to pressure the Philippines to amend their new policies on imported meat (Michel 2012). The US then threatened to block the Philippine request for the QR on rice as a "retaliation over the issuance of [Philippine] Department of Agriculture (DA) [Administrative Order] 22, which provides technical requirements, such as proper labeling, in the packaging of frozen meat" (Silverio 2012a, 2012b). In other words, the US may allow the extension of the QR on rice if the Philippines rescinds Administrative Order 22 and allows looser regulations on the importation and refrigeration of meat. Besides being a health protection, Administrative Order 22 protects the backyard hog producers of the Philippines because the entry of highly subsidized American and Canadian pork into the market would put many of these local producers out of business. Philippine Secretary of Agriculture Proceso Alcala's response to the American demands was, "I will not beg to them. We are talking about the Filipino consumers' health and the livelihood of rice farmers in the country" (Benaning 2012). By December 2012, the QR was still in place, but hanging in limbo as the countries could not reach an agreement at the WTO Council for Trade in Goods (Despuez 2012).

While the QR negotiations were occurring, the Asian Development Bank advised the Philippines to abandon its goal for rice self-sufficiency, arguing that they should instead try to get rice exporters to make agreements to not impose export restrictions (Hui 2012). This drew criticism in the Philippines from the National Rice Farmers Council as well as the Rice Watch and Action Network (an amalgamation of food sovereignty, sustainable

agriculture, and anti-poverty NGOs), whose leader said that self-sufficiency is important since food “can be used as a weapon” (Panella 2012).

McMichael (2005) argued that the “site” of food security was rescaled from the state to the world market through the negotiations of the Uruguay Round (1986-1994) that led to the WTO’s Agreement on Agriculture in 1995.<sup>47</sup> WTO requirements on Minimum Access Volumes and tariff reductions are arguably rules to facilitate the practice of ‘dumping,’ especially by the United States, which is the world’s largest agricultural exporter. Dumping is the practice of selling unwanted surplus commodities below the cost of production. This is dangerous to the recipient country since the price of that commodity may drop so low that domestic producers can no longer sell their crop. Agricultural trade is quite vulnerable to the practice of dumping, since the products are perishable and countries want to unload old stocks, since new crops will be harvested. Analyzing import surges, which are defined as a “20 percent (positive) deviation from a 5-year moving average for each commodity/country” (FAO 2003), is a way of determining when dumping may be occurring. Using FAO data, the Philippines had 72 cases of import surges in the period from 1984-2000, including nine occurrences in rice and seven in maize (Khor 2006) and import surges have been especially pronounced in the years during which the Philippines has been a member of the WTO (FAO 2003; Glipo 2006).

The US has used food aid as an instrument of foreign and economic policy under the 1954 Public Law 480 (PL-480). The US has used Titles II and III of PL-480 to send agricultural exports as food aid in some situations in anticipation that the recipient would

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<sup>47</sup> See “The Implications of the Uruguay Round Agreement on Agriculture for developing countries” (FAO 2013) for details on the rules for minimum access.

transition into a trading partner (McMichael 2005). Yet, the way PL-480 has been used recently in the Philippines is to use Title I, in which the food is a loan, the value of which must be repaid within 30 years. In 2006, after many countries temporarily banned the importation of US rice because of the presence of Bayer's genetically modified LL62 rice in export stocks, the US made a Title I PL-480 agreement with the Philippine government to ship 69,000 metric tons of LL62 rice to the Philippines, even though GMO rice was yet to be approved for sale in the Philippines. In this context, Filipino activist organizations and politicians on the left have accused the US of dumping their unwanted surpluses in the Philippines (Beleo 2010).

Given these circumstances of dumping, Minimum Access Volumes, and pressure to reduce tariffs, one might wonder why developing nations decided to join the WTO in the first place. McMichael (2005) argued, "Southern states signed on in the hopes of improving their foreign currency income from expanded agro-exports (under the imperative of servicing foreign debt). But the effect was to open markets for northern products." From this viewpoint, the WTO is a state-led endeavor that is arguably about preserving the hegemony of Northern states that are self-sufficient in their staples (McMichael 2005).

Tariffs are one strategy to prevent the dumping of agricultural goods. Because of the need to protect small producers, the stance of the Philippine government in WTO agriculture negotiations has been to favor "calibrated" liberalization rather than "unbridled" liberalization (IATP 2010). Countries like the Philippines fight to keep their QRs and their tariffs, but it is an uphill battle in WTO trade negotiations. A metaphor the Philippine WTO negotiation team uses is 'the iceberg and the styrofoam cup.' This is a contrast between the gigantic agricultural production subsidies of the developed countries

that, in the context of free trade negotiations, like an iceberg, hide mostly beneath the surface, and, on the other hand, the protectionist import tariffs employed by developing nations like the Philippines, that, though they are very light, are completely visible and above the surface, much like a styrofoam cup floating on water.

### **5.3.3 The National Food Authority and price supports**

State trading enterprises (STEs) are government entities that are intended to achieve certain policy objectives, such as “maintaining domestic price support...and making affordable food supplies available to low-income populations” (Glipo 2006). The National Food Authority (NFA) is an STE of the Philippine government that has held several purposes: importing rice (the NFA traditionally was the sole importer of rice in the country); holding a buffer stock of rice; selling rice at reduced prices to hungry families; and offering price supports for farmers by buying a certain percentage of harvests of rice and corn from domestic producers at a price higher than what private traders are paying.

The budget for the Department of Agriculture in 2012 was 2.9% of the national budget (Avendaño 2011), and the amount spent on procuring rice from Filipino farmers was 0.3% of the national budget, most of which can be recouped when the rice is sold to consumers.<sup>48</sup> The NFA rice procurement budget varies considerably from year to year because of the differences in internal production, importation, and the willingness of the government to intervene in the market by giving price supports to farmers. Sometimes the NFA does not purchase enough rice from domestic farmers to alter the overall market price. The NFA’s procurement in 2012 was less than 2% of Philippine internal production,

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<sup>48</sup> In 2012, the NFA bought 353,619 metric tons of *palay* (unhusked rice) from Filipino farmers at approximately P17/kilo, which means approximately P6 billion (\$143 million, using a 2012 conversion rate of P42/\$1) was spent on procurement.

far less than the 5%-10% that is believed to be necessary to incentivize rice-growing by putting upward pressure on the price that private buyers pay farmers.

Supporters of the NFA say that the budgetary burdens of the NFA's various functions are outweighed by the social and economic benefits, such as increasing farmer incomes, increasing levels of self-sufficiency in the production of staples, ensuring food security with the grain reserve, and reducing hunger by selling subsidized rice to consumers.

Still, critics like the Asian Development Bank (ADB) and International Monetary Fund (IMF) have called for a reduction or even a complete elimination of the NFA's importation responsibilities. Also, NFA manipulation of the purchasing price of internally produced *palay* (unhusked rice) has been criticized as price distortion by free trade advocates. The IMF has put pressure on the Secretary of Agriculture to remove the market operations functions of the NFA (Remo 2008) and a source inside the government informed me that it is possible that the WTO will pressure the Philippines to eliminate the market functions of the NFA in future WTO negotiations, since the WTO has often focused on STEs as prime targets for removal or reform.

The NFA has also come under repeated pressure from the Asian Development Bank (ADB) to privatize and end the price supports (Ignacio 2005; GMA News 2008; Glipo 2011; Mayuga 2011). This has been attempted through loan-condition demands that are akin to the structural adjustment programs of the IMF. The ADB crafted a development loan package called the Grains Sector Development Program (GSDP) in 2000. The intent of the program was to "create a business environment that would attract private sector investments at all levels of the grain production and marketing chain, and thus contribute

to food security” (Asian Development Bank 2007). Most of the loan disbursements were structured to be conditional upon the Philippine government making specific reforms to the grains sector. The reforms were to focus on:

- (i) liberalized, more cost-effective grains pricing and import policies;
- (ii) improved administration of grain buffer stocks;
- (iii) restructuring of NFA from a grains marketing monopoly into a public regulatory agency and separate private sector marketing corporations; and
- (iv) a more targeted and effective food subsidy program for the poor (Asian Development Bank 2007)

The restructuring of the NFA though would require legislative action. Despite pleas for urgent passage from the President, House Bill 3898, which sought to transfer the NFA’s regulatory functions to a different government agency and to privatize the NFA’s grain trading functions, did not pass through the legislature (Asian Development Bank 2007).

Thus, at that time, the NFA did not get restructured and most of the loan never got disbursed. In addition to the call for privatization, another condition of ADB loans was that the Philippine government would give up its Quantitative Restriction on rice imports (Ignacio 2005; Asian Development Bank 2007; Uy 2008), but the QR remained even under the usually pro-liberalization government of President Arroyo because protecting the food sovereignty of the Philippines was politically important.

Since 2007, the government, in order to reduce its budget, started to hand over some of the importation of rice to private entities. From 2011 to 2012, the Philippines saw allowable private sector importation rise from 230,000 metric tons to 660,000 metric tons in just one year (Lopez 2011). Turning things over to the private sector makes collection of

tariffs more uncertain and makes the policing of smuggling<sup>49</sup> more difficult. Yet, the government is moving toward complete privatization by pushing for legislation that would phase out all of the importation responsibilities of the NFA (Flores 2011; Mayuga 2011).

Finally, the World Bank has pushed the Philippine government to remove the NFA's functions on hunger reduction (World Bank 2011a; 2011b). Whereas NFA-subsidized rice had been selling to consumers at 18.25 pesos/kilo in late 2010, the government raised the price to 27 pesos/kilo (Maceda 2011) in order to reduce their budget.<sup>50</sup> This of course is a burden to the poor who rely on NFA rice, so the alternative source of aid has been the Conditional Cash Transfer (CCT) program, which gives money directly to the poor. The CCT is administered through the Department of Social Welfare and Development and in 2012 the program targeted 3 million of the nation's poorest households to receive P500 (\$11.90) per month per household, plus P300 (\$7.14) for each child up to a maximum of three (Avendaño 2011). The World Bank argued for this move because they said that approximately 50% of NFA rice was purchased by consumers who did not need the subsidy, yet one must not overlook the fact that the increase in the price of NFA rice does squeeze the lower/middle-income consumers who previously availed of the subsidized rice, but whose incomes are too high to receive CCTs.

Food sovereignty movements may ultimately want to see very localized self-determination of food systems, but protection of the NFA is seen as vitally important; therefore much of the strategizing for food sovereignty is scaled at this national level. The

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<sup>49</sup> In 2003 alone, it was estimated that 300,000 metric tons of rice was smuggled into the Philippines (Ignacio 2005).

<sup>50</sup> In 2011, non-subsidized rice was selling for approximately P33/kilo (Maceda 2011). By early 2013, NFA-subsidized rice was still selling at roughly P27/kilo and non-subsidized rice was selling at roughly P34/kilo.

fight continues for the NFA to retain its role in centralized importation, to continue meaningful price supports, and to preserve the QR on rice imports. These are seen by food sovereignty advocates as crucial measures to prevent reliance on imports in the future. For now, the future of the NFA seems uncertain, much like the future of many policies that influence the type of food security strategies that the Philippines will ultimately follow.

#### **5.4 Conclusion**

Neoliberal policies have affected the food system in the Philippines in many ways, mainly to encourage export cropping and reliance on an international trading system for food security. In order to be integrated into the international economy, the Philippines has submitted to trade liberalization to a large extent, but still is involved in struggles to retain some level of protectionism. Likewise, there are ongoing battles whether deregulation, privatization, and budgetary austerity measures help or hinder the agricultural economy. Food sovereignty advocates argue that the logic of free trade should not be foisted on staple foods because they are vital to human existence. In 2003, Task Force Food Sovereignty (TFFS) scaled their struggle on the national level by lobbying Congress to reject legislation that would have removed QRs on rice imports and privatized the rice trading functions of the National Food Authority (Glipo 2006). From 2008 to 2013, numerous peasant organizations, food sovereignty advocates, and consumer groups have urged the government to prioritize rice self-sufficiency and retain control of trade policies. Retention of all of the major functions of the NFA (handling importation of rice, offering price supports for farmers on rice and corn, maintaining a buffer stock of rice, and offering low cost rice for consumers) is a prime concern of most of these groups. The KMP and

*Bantay Bigas* have called for the Philippines to withdraw from the WTO (Silverio 2012a, 2012b; Campos 2012) and KMP, *Bantay Bigas*, TFFS, Rice Watch and Action Network, and even many officials I interviewed in the Philippine government have argued that if the Quantitative Restriction is lifted before self-sufficiency is reached, it could be disastrous for the rice farmers of the Philippines (Silverio 2012b, Campos 2012). If the WTO retains its involvement in agriculture, then Philippine food sovereignty advocates will fight for the continuation of tools of protectionism such as Quantitative Restrictions and import tariffs.

Part Two has investigated the national and international issues that surround the food security debates in the Philippines and pointed out the conflicts that have arisen between the food sovereignty and neoliberal positions on agriculture. Next, in Part Three, we will see these matters contested on a finer scale as the everyday realities of rural communities in Bukidnon will be explored.

## **Part Three: Political ecology of agriculture in Bukidnon, Philippines**

Described as the food basket of Mindanao, the province of Bukidnon is one of the agricultural heartlands of the Philippines. Originally known for growing the staple crops rice and corn, the province is increasingly known for its large plantations of the cash crops sugarcane, bananas, and pineapples. Chapters Six and Seven will deal with the class and gender dynamics, respectively, of the agricultural transitions that have taken place in recent years. These issues will be addressed in various contexts, but especially in terms of consolidation of land control and the struggles against that trend. Additionally, these chapters will look at how constructions of class and gender are connected with different modes of the reproduction of environmental conditions. First, I will provide a sketch of the areas I studied. In Bukidnon, I selected three different villages on which to focus. Two of the villages were in one municipality and one village was in another municipality. (Municipalities are sub-units of provinces, analogous to how counties are sub-units of states in an American context.)

### **The province of Bukidnon**

Bukidnon is on the large southern island of Mindanao, approximately 870 kilometers south-southeast of Manila. The coordinates are approximately 8° North and 125° East. Bukidnon is ranked fourth out of the eighty provinces of the Philippines in land area, though only 21<sup>st</sup> in population. A number of significant mountain ranges cross the province, and thus only 38% of its land is classified as alienable and disposable (suitable

for agricultural, residential, industrial, or commercial use).<sup>51</sup> The remaining 62% is classified as forested land. Bukidnon's elevation ranges from 2,938 meters, at the peak of Mount Dulang-Dulang in the Kitanglad Range in the northwestern quadrant of the province, down to 80 meters, where the Rio Grande de Mindanao river system leaves the province in the south. Rainfall is heavy in all parts of the province, though there are considerable microclimatic variations and temperature depends largely on elevation.

Bukidnon does not have a long history of sedentary agriculture. The province was inhabited mostly by indigenous groups, such as the Manobo, the main group in the vicinity of the villages I visited.<sup>52</sup> They traditionally practiced hunting, gathering, and *kaingin* (swidden agriculture). Large-scale permanent settlement by Christianized migrants from the Visayas area (the central islands of the Philippines) did not occur until after World War II. Visayan<sup>53</sup> has become both the most common first language in the province, as well as the leading *lingua franca*, though English is used in secondary and tertiary education and government and Tagalog is used in much of the national media.

Throughout Bukidnon I heard numerous stories of an earlier era when the region's soils were productive and the settlers' corn and rice fields did not need fertilizer, but as crop waste was burned rather than composted, the soils started to lose their fertility. By the 1980s the government had encouraged most farmers to use chemical fertilizers to

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<sup>51</sup> Of the A&D (alienable and disposable) lands, 92% are used for agriculture.

<sup>52</sup> There are many different indigenous groups in Mindanao. Collectively they are referred to as Lumad. These groups are traditionally animist. The Muslim presence in western Mindanao dating from the 15<sup>th</sup> century did not generally penetrate eastward into the area that became Bukidnon.

<sup>53</sup> Visayan is also colloquially known as Bisaya. Visayan/Bisaya is a confusing term since it can refer to an umbrella of different languages of the Visayas region, yet it can be used for dialects of Cebuano, especially those that are spoken outside of Cebu, such as in Bukidnon and other parts of northern and central Mindanao.

boost yields. Yet by the 1990s and 2000s, the chemical fertilizer approach was giving diminishing returns. As the effectiveness of the fertilizers waned, their prices increased steadily, sending many farmers into unsustainable borrowing patterns that many times led to the loss of their land. Changes in land control, improvements in the transportation infrastructure, and governmental promotion of an export-oriented economic strategy all fueled Bukidnon's transition from corn and rice toward sugarcane, bananas, and pineapples. Illustrating the decline of the importance of rice, Bukidnon is fourth in land area, yet it is only the 14<sup>th</sup> biggest producer of irrigated rice and the 50<sup>th</sup> biggest producer of rainfed rice (Republic of the Philippines Department of Agriculture 2009).

### **The municipalities of Pangantucan and Valencia**

Two of my study sites, Agbalo and Butong, are in the municipality of Pangantucan, which has rolling terrain throughout, while the third site, Cabangkalan, is in a flat river plain in the municipality of Valencia. Agbalo and Butong, though not contiguous, are both at an elevation of 720 meters above sea level and both have some agricultural lands at somewhat higher elevations. Nearby Mount Kalatungan, the sixth highest mountain in the Philippines at 2,824 meters, dominates the skyline on clear days. High temperatures in the two villages typically range from 21° to 30° C, while low temperatures typically range from 16° to 21° C. Rainfall is heavy throughout most of the year, with a slightly drier period from February to March. Average annual precipitation is 2,800 mm. Relative humidity is roughly 80%. The elevation of Cabangkalan is 310 meters, just slightly above the Pulangi River, which is one of the principal tributaries of the Rio Grande de Mindanao, the longest river system and largest watershed in Mindanao. High temperatures here typically range from 25° to 34° C, while low temperatures typically range from 19° to 24° C. The rainfall

here totals 2,300 mm/year, with a notably drier season from February to April. Relative humidity is roughly 65%. Farmers throughout the province have complained about increasing climatic unpredictability and general warming. Rain events are getting more intense and this is creating problems with erosion in the hilly areas.

Pangantucan had a total population of 43,689 in 2007, 84% of which was in the rural *barangays*. The average number of persons per household was 4.59. From 1995 to 2007, the municipality was averaging 1.64% growth, slightly lower than the national average. Only 43% of the municipality was electrified and 2% of the 951 kilometers of roads were paved. 53% of the land is forested and 37% is classified as agricultural, much of which is land that is sloped between 18% and 50%.

Valencia had a total population of 181,902 in 2007. The average number of persons per household was 5.20. From 1995 to 2007, the average growth in the municipality was 2.93%, while the national average over this same period was 2.07%. In the 2000 census, 43.5% of the population was under the age of 15. Valencia is a more urbanized municipality than Pangantucan, however, infrastructure in the rural *barangays* is similarly lacking.

### The village of Agbalo



Figure P3.1: White corn growing in the village of Agbalo (photo by author).

A treacherous dirt path through sugarcane fields, leading into hilly land, reaches the tiny village of Agbalo. This is the simplest of the villages I visited, unelectrified and for many years without any local source of water. In 2009, none of the structures in the village were constructed of concrete blocks (known as hollow blocks in the Philippines or cinder blocks in the United States). Instead the dwellings were simple wood construction or traditional *nipa* huts (thatched palm dwellings using *nypa fruticans*). There were no commercial, educational, or religious structures. Agbalo's residents, who are all organized into the Agbalo Agricultural Collective (AAC), trace their heritage to migrations from Cebu

and other islands in the Visayas region in the 1960s. With an original impetus of searching for land, people came to this area because it had been under-utilized and not titled to anyone, yet this did not prevent friction from developing between the newcomers and those who had been in the general area a longer time. Eventually harassment, intimidation, and violence were used to drive the new settlers out.

Many of the future members of AAC worked as farm laborers in the area up until the late 1980s, when organized under an earlier name, they (among three other groups) petitioned the Department of Agrarian Reform (DAR) and the Department of Environment and Natural Resources (DENR) for land redistribution. Although the requests were not granted, 500 families tried to settle the land anyway. Not long afterward wealthier and more influential people of the area started to use military personnel and security companies to intimidate and harass the squatting farmers. From the end of the 1980s and all through the 1990s families were driven out of the area, until at one point only 10 families were left. But in 1999, AAC was created, a new rally for settlement was mobilized, and by the end of 2000, 126 families were living in Agbalo.

The community faced a series of problems. Access to water was only possible by a 5-kilometer round-trip walk, the amount of land per household was not enough to support the families, and AAC members had trouble supplementing their income by working in the nearby sugarcane plantations because they were blacklisted for their labor organizing activities. In 2002, harassment from competing interests started again. At a direct action staged by AAC to prevent wealthy *hacenderos* from planting on disputed land, one of the AAC leaders was shot and wounded and 22 AAC members were arrested and eventually

convicted for 'malicious mischief and grave threat.'<sup>54</sup> Agbalo's population dwindled to 34 families, but a 2004 dialogue facilitated by the provincial governor that included AAC, the wealthy planters, DAR, DENR, and local government units resulted in AAC securing 28 hectares of DENR land with a promise of 72 additional hectares at a later date. AAC has been waiting for all 100 hectares to be allocated to them before they attempt to officially gain land title.

In my conversations with residents and officials in the area, I received the impression that the municipal government still sees the members of AAC as squatters and as potentially politically radical. There are also familial connections between the municipal leadership and one of the landowners with which AAC has been in dispute. It is perhaps for these reasons, among others, that the municipal agriculture office has been reluctant to legitimize the families' presence with agricultural training seminars and the like. In turn, the residents of Agbalo indicated that they have felt somewhat neglected by the government since they had to lean on an NGO to finally get limited water service (via a pipe from the nearby mountains) in 2009, and there still did not seem to be any plans for electrification of the village. There was also some bitterness expressed over the municipal government's decision to allow a very large Dole operation on lands that are adjacent to theirs, which they perceive as a direct health threat. A committee of local governmental officials was convened to make a decision on Dole's entry into Pangantucan, but some residents of Butong and especially Agbalo felt that their input was not included in this process. By 2009 Dole seemed poised to increase their presence in the area even further.

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<sup>54</sup> Even though a local journalist videotaped the shooting of the AAC leader, an unidentified man who also had a gun took the videotape. The case against the perpetrator was ultimately dismissed because of lack of evidence.

AAC leaders told me they are not connected to rebel movements, but they know they are suspected to have these connections by other people in Pangantucan. As a result, they are cautious about traveling outside of their village. (They were also of the opinion that I was being monitored by the local police because I was interviewing them.) They were concerned that the rumors of their connections to rebel groups were purposeful tactics of the landowners with whom they have had disputes. In other words, if the landowners can convince people in Pangantucan that AAC has connections to rebels, then this will discredit their legitimacy in land negotiations.

Agbalo Agricultural Collective leadership advocates sustainable farming practices for its members, but lack of training hinders some members' efforts and lack of land makes profitability difficult. The community shrank to 24 households by 2008. Employment opportunities on other farms or plantations are fairly limited, so there is some frustration with the status quo.

A large number of interviewees expressed that they do not want to see their children continue in agriculture. Getting professional jobs or going abroad is seen as preferable, yet there was a high level of anxiety that they would not be able to pay for their children's education. Gaining access to more land will be a key to making farming viable for the next generation.

### **The village of Butong**

Butong had a considerably more developed infrastructure than Agbalo. In 2009, its housing consisted of roughly half concrete block construction and half *nipa* huts. Most homes were electrified and roughly half had either Level III water sources (in-house piped running water) or Level II (external communal piped water). The village proper had an

elementary school, a *barangay* hall, a small health center, and a cockfighting arena. The community did not have any religious structures or commercial establishments aside from a handful of *sari-sari* stores (dry goods stores) operated out of caged windows in people's homes.

Butong traces its history back to government settlement programs during the 1950s and 1960s. In 1950, Philippine President Elpidio Quirino established the Land Settlement Development Corporation (LASEDECO), which encouraged settlement of some of the less developed areas of Mindanao. By 1954 though, President Ramon Magsaysay abolished LASEDECO and instituted the National Resettlement and Rehabilitation Administration (NARRA), which was intended to quell agrarian revolts that were occurring in the Visayas region and Luzon by resettling combatants in rural Mindanao. This was a government strategy to give land to the landless, but was also a tactic to decentralize resistance by dispersing people to new areas. NARRA had a much bigger impact than LASEDECO in populating certain parts of Bukidnon. Although LASEDECO had brought eight families to Butong by 1952, NARRA brought many more during the 1950s and 1960s, to the point that most of the prime farmland surrounding Butong was inhabited by NARRA settlers. NARRA gave 12-hectare parcels of land to families who worked hard to turn an untamed landscape where wild boars ran rampant into a densely settled agricultural community. Interviewees reported that it was a difficult life in these early years, but these settlers saw Mindanao as the promised land.

White corn (corn for human consumption) and rice were the principal crops for the settlers. The community was largely self-sufficient in feeding itself with locally grown staples. At first the soil was fertile and farmers felt no need to use fertilizers. Farmers

were not using chemical fertilizers, but neither were they using sustainable farming techniques such as composting and erosion control that could have preserved soil fertility, so yields started to decline. By the 1970s and 1980s, a Green Revolution government program called *Masagana 99*, backed by the World Bank, was encouraging farmers to use chemical fertilizers, arguing that they could increase their yields. Many people tried the chemical fertilizers and yields often improved in the short term, but the fertilizers proved to be a budgetary burden for the farmers, and many relied on high interest loans to purchase them. Another drawback of the chemical fertilizers was that they acidified the soils. The severity of the debt problems increased because acidification of soils makes the need for inputs increase over time. As the need for chemical fertilizer increased, so did the indebtedness of many of the smallholders in the community. A positive feedback loop of fertilizer use, acidification of soils, and debt was spiraling out of control.



Figure P3.2: A mix of sugarcane and banana plantations in Butong (photo by author).

In the mean time, land passed to a second, and sometimes third generation, and the original 12-hectare parcels were subdivided among heirs, making it more difficult to stay profitable. Smaller parcels often mean less crop diversification and more susceptibility to financial problems stemming from crop failure. Members of the community worry about the dwindling ratio of land to people. At the same time another development was taking place as well. By the 1990s, competition between BUSCO (The Bukidnon Sugar Milling Company) and Crystal Sugar Company made transport and processing of harvested sugarcane cost-effective for those few who had the capital to grow sugarcane. As a result, sugarcane expanded through the 1990s and 2000s.

A sort of perfect storm was taking shape. Land parcel sizes had shrunk, making profitability difficult; farmers' debts were mounting from loans for fertilizers (and often pesticides and seeds as well); and the sugarcane economy became viable for a local elite. The result: many farmers found that in order to pay their debts they had to offer up their main resource, their land itself. Large-scale transfers of land control occurred through pawning, selling, and renting land. The class dynamics of the area changed dramatically as this wave of land consolidation by the wealthy took place. The middle class of the community was hollowed out, forced to work as agricultural wage laborers, often on the land that used to be theirs. A rural proletariat has grown and this threatens to feed the Maoist insurgency that sporadically clashes with the Armed Forces of the Philippines.

The movement from small farmers to wage laborers meant a sharp decrease through the 1990s and 2000s in the amount of white corn grown in the area. Previously, people saved corn and other staples for personal consumption. But without control of land, their food security strategies shifted away from subsistence farming toward a more wage-oriented economy and reliance on purchased food. This situation was worsened in 2005 when Dole arrived to rent land for banana plantations, which resulted in further reductions in the amount of land that small farmers still control. While some see Dole as a job provider or a welcome tenant, many see the company's presence as a critical threat to health, environment, and the integrity of the smallholder class.

Farmworker wage growth has been slow, especially for sugarcane workers, while inflation has been high, so agricultural wage laborers have suffered through declining real wages, and as a result a growing number of families rely on the labor of their children for additional income. Hunger is a persistent concern and there was near unanimous

agreement that the level of food security for the community was getting worse. One resident said to me, "Mindanao used to be the land of promise. Now Mindanao is the land of sadness."

### **The village of Cabangkalan**

Cabangkalan, a rural *barangay* of the municipality of Valencia, received its first significant influx of population in the 1960s when people fled the Visayas region, especially the Ilonggo-speaking<sup>55</sup> areas of Panay and Negros, because of land scarcity. Many current residents of Cabangkalan started off as maintainers (sharecroppers or tenant farmers) on land owned by absentee landowners. For some though, President Marcos's 'land for the tiller' reforms gave them titles called Emancipation Patents in the 1970s and they became landowners.

From the late 1960s to the 1980s, new settlers turned a great deal of forested land into *basakan* (rice paddy) in anticipation that irrigation would eventually come to the area. In the meantime, rainfed rice and corn were the principal crops grown. Another wave of migrants came in the prelude to the opening of the government-provided irrigation works in 1984. Residents concurred that irrigation had made life easier in Cabangkalan and given them greater income opportunities. Rainfed rice only produces one harvest per year, while irrigated cropping can produce at least two.

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<sup>55</sup> Ilonggo (alternately spelled Ilongo) is formally called Hiligaynon. The language is in the Visayan sub-family, but is distinct from Visayan (Bisaya), which is the most common first language in Bukidnon. Ilonggo is still the most common first language in Cabangkalan, though residents also generally speak Bisaya.



Figure P3.3: Rice on the left and land that has been prepared for planting on the right in Cabangkalan (photo by author).

From 1970 to 2000, the population of Cabangkalan *barangay* (the village and rural environs combined) grew from 859 to 6,020, partially through high rates of natural increase, but more so through migration from the Visayas region and other parts of Mindanao. In 2007, the average household held 5.0 residents. By 2008, 23.9% of the *barangay* had access to Level III water sources (in-house piped running water), while 21.5% had Level II (external communal piped water). The *barangay* has 22 kilometers of roads, but none are paved, so transportation is slow and bumpy to the center of the municipality 11 kilometers away. In 2009, Cabangkalan had an elementary school, one *carinderia* (extremely simple and small cafeteria), a fertilizer store, a general store, and a

Catholic church. Some of the *puroks* in the *barangay* have only recently become electrified. All of the *barangay* is classified as alienable and disposable, and over 95% of the *barangay's* agricultural land is now devoted to irrigated rice farming.

Due to the uniformity of agricultural land use in Cabangkalan, the issue of land consolidation by the wealthy was not quite as severe as in Butong, but it is still a significant trend that has affected many of the original smallholders in Cabangkalan. The historical trajectories of the two communities were similar in that Green Revolution techniques were advocated by the local government, yet these resulted in large-scale debt for those who relied on loans for fertilizer and other inputs. Farmers complained of a cycle of acidification, the need to increase applications of fertilizers, and increased debt. Consequently many farmers have lost their land and struggled with wage labor and maintainer jobs. The class structure has bifurcated compared to what it had been and poverty and unemployment are serious concerns. The health worker in Cabangkalan said that most malnourished children are the children of wage laborers and maintainers rather than the children of smallholders and large landowners. The combination of low income and large family size is the usual profile of a family with malnourished children.

Chemical farming methods are still dominant in Cabangkalan, but the successes of the women-led organic rice farming collective Makakabus have been noticed by most people in the community.<sup>56</sup> The organization even received an award from the municipality for its farming achievements. Among the members of Makakabus there was widespread enthusiasm for spreading organic farming to the rest of the *barangay*, because

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<sup>56</sup> With only 24 families, the organization makes up a fairly small portion of the total population of Cabangkalan. Chapter Seven gives the organizational history of Makakabus.

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of the ecological benefits, the income-producing advantages, and the health effects on the farmers. They would like to see people be “free from the bondage of the traders and financiers.”

## **Chapter Six: Class and the reproduction of environmental conditions**

In the villages I visited, class dynamics and the reproduction of environmental conditions affected each other, not in deterministic ways, but with significant connections nonetheless. My argument is that where there was less polarization of the class structure, there were improving human and environmental conditions, and the scale of the reproduction of these human and environmental conditions was more localized than in places with more polarization of the class structure. In other words, these improving conditions were associated with tight-knit labor arrangements and the use of farming inputs that were produced on site.

Specifically, the Makakabus membership was enjoying increasing food security, less class stratification, increasing quality of environmental conditions, and a more locally oriented reproduction of environmental conditions, while the rest of Cabangkalan and Butong had declining food security, more class stratification, decreasing quality of environmental conditions, and a less locally oriented reproduction of environmental conditions. In other words, these declining conditions were associated with a more uprooted and transient labor force and farming inputs that were distantly sourced. Agbalo occupied a middle ground between Makakabus and Butong in all of these respects.

Sections below will deal with food security, issues surrounding landless wage laboring classes, the challenges facing the smallholder farmer class, how farming choices and methods affect and are affected by social and environmental conditions, and the influences of corporations on the agricultural economy of Bukidnon. First though I want to

provide some income data and note the lack of simple correlation between income and quality of life. Table 6.1 below shows income brackets for the three villages I studied. The three income categories might be described as middle income (virtually no one in these villages could really be described as upper income), poor, and extremely poor.

Table 6.1: Income structure

	Agbalo	Butong	Cabangkalan (Makakabus members only)
“Middle income”: households earning more than P100,000/year (\$2,128/year)	12.5%	42.2%	33.3%
“Poor”: households earning more than P94/day or P34,310/year (\$2/day or \$730/year) and less than P100,000/year (\$2,128/year)	8.3%	42.2%	37.5%
“Extremely poor”: households earning less than P94/day or P34,310/year (\$2/day or \$730/year)	79.2%	15.6%	29.2%
Ratio of top earning household income to average of all other household incomes in village	8:1	35:1	5:1

One might assume from the numbers that Butong has the least serious problems with food security, yet actually the opposite is true. Many of the people in the extremely poor category for Agbalo and Makakabus are able to grow much of their own food, which raises their level of food security. In Butong, many people in the (next higher) poor category are wage laborers who are actually more at risk of food insecurity because they cannot rely on their own food. This illustrates the importance of class in a Marxian sense. More than differences in income, it is the lack of access to productive resources that creates the problem.

Another matter addressed in Table 6.1 is the ratio of the highest earning household in a community to the average incomes of all other households in the community. Here, especially for Makakabus, we see a relatively small disparity (5:1) where the community has a collective orientation. Butong, on the other hand, has a disparity of 35:1, which is indicative of more class stratification where many of the original smallholders have lost their land and a large percentage of local land is controlled by a very small *hacendero* class.

### **6.1 Food security**

Definitely one of the most striking findings of this research was the disparity between communities in their perceptions of their own improving or declining levels of food security. (See Table 6.2 below.) Residents in Agbalo had a high level of agreement and residents in Butong had nearly unanimous agreement that their communities' situations were getting worse. For those residents interviewed in Cabangkalan who were *not* affiliated with Makakabus, there was also unanimous agreement that their community's members were facing declining food security. Also, when I asked the members of Makakabus what they thought of the food security of the non-Makakabus members in Cabangkalan, they agreed that the situation was getting worse for the non-members. The contrast to all of this came when I asked Makakabus members what they thought about the levels of food security for the Makakabus group as a whole. 96% of the interviewees said that the situation for Makakabus members was improving, while just one respondent said that things were staying the same. No Makakabus members spoke of problems of malnutrition within their group, whereas malnutrition was evident in the other groups and spoken of directly as a community problem (and sometimes even a personal familial

problem) by interviewees in the other communities. In December 2007 local government findings indicated that 20.2% of Butong's children under 12 were below normal weight and a separate assessment including children under 15 concluded 24.9% were below normal weight. The *barangay* that contains Agbalo had 21.1% of its children below normal weight. The Cabangkalan local government found 20.1% of its children below normal weight in 2008. These numbers would be even higher if the well-nourished Makakabus families were excluded from the data.

In comparing the estimates that interviewees made of the percentage of people who were experiencing malnutrition, there was unanimous agreement among the members of Makakabus that 0% of the group was malnourished. However, the interviewees of both Makakabus and non-Makakabus members estimated that 30% of the rest of the general population of Cabangkalan were malnourished. The interviewees of Butong estimated that 29% of their community was malnourished, while the interviewees of Agbalo estimated that 16% of their community was malnourished.

Interviews went into great detail on questions of food and food security. Topics included what foods people ate, what foods were grown, what foods people saved for their own consumption, what foods people purchased, how much was spent on purchased food, and what percentage of foods consumed were grown by themselves.<sup>57</sup> Detailed

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<sup>57</sup> There was no clear correlation between specific food choices and different food security outcomes. For the most part, diets were similar from village to village, so quantity of food was probably more important than type. One exception to this is that higher income families were eating more diverse sources of protein. In terms of staples, in Agbalo, corn was the most important staple, though most families ate rice as well. In Butong, rice was eaten more than corn, which is interesting since Butong had been such a large producer of corn in its earlier years. In Cabangkalan, rice was always the staple. None of the interviewees there mentioned eating corn. A wide array of vegetables and tropical fruits

information was collected on household income as well, so comparisons can be made between community food security and income. The interview protocol can be found in Appendix A.

Table 6.2: Food security indicators

	Agbalo	Butong	Cabangkalan (Makakabus members only)
Median household income (in PhP)	17,915	72,200	55,660
Average household income (in PhP) of bottom quartile of community	5,464	25,955	18,096
% of food consumed grown by themselves	61.8%	33.8%	69.7%
% of interviewees who said community food security improving	4%	0%	96%
% of interviewees who said community food security declining	88%	96%	0%
Average of internal estimates of % of community experiencing malnutrition	16%	29%	0%
Average monthly food expenditures (in PhP) per household	788	2,090	2,327
Average yearly food expenditures (in PhP) per household	9,456	25,080	27,924
% of total income spent on food (avg. food expenditures/median income)	53%	35%	50%

Between the three villages, perceptions of improving food security were *not* closely correlated with household income. Butong, which had the highest median household income, actually had zero interviewees who thought that their community's level of food security was improving.

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was consumed in each village. Fish, especially dried, was the main protein, though meats, especially those raised in the villages, were part of most people's diets.

There are some different explanations that we can consider for this situation. One is to look at the sharp difference between Butong and the other communities in the percentage of food consumed grown by themselves (only 33.8% for Butong), which is an indicator of two different things. One is that many people are wage laborers who have no crops to save for their personal consumption. The other is that farmers have been growing fewer staple crops like corn and rice in recent years. Another thing to consider is that there are more low-income wage laborers in Butong and these people are not protected from hunger by a strong social safety net. Aside from government-subsidized rice sold in nearby towns, there was little in the way of government safety nets in any of these communities, and as the previous chapter suggested, these safety nets were being shredded. The members of Makakabus, however, felt a very strong social safety net within their own organization. This increased communitarianism combined with the fact that 69.7% of their food was grown by themselves meant that food security was quite high for the members of Makakabus.

Another thing to consider when analyzing the statistics is that household income may be higher in Butong than for Makakabus, but so is the number of people in each household (5.0 for Butong and 4.1 for Makakabus). If we look at median household income divided by number of people per household, then both of these communities would be roughly P14,000 per year per person. Thus the food expenditures per person for Makakabus are definitely higher than for Butong, but this could be explained by Makakabus members being closer to a city with supermarkets and higher priced goods.<sup>58</sup> One might

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<sup>58</sup> Supermarkets sell refrigerated items and more distantly sourced products, so this could drive up the level of expenditures. People in Agbalo and Butong did utilize dry goods

argue that higher per capita food expenditures were a deciding factor in the higher levels of food security achieved by Makakabus, however, I believe the more important factor is that their food self-sufficiency level was notably higher than the residents of Butong. In Butong, I observed more hunger among agricultural wage laborers than smallholders, even though agricultural wage laborers had food expenditures that were roughly average for the community, while most smallholders had below average food expenditures.

If, instead of median income, we analyze the relationships between *average* income for Butong interviewees and Makakabus members, we can still see a similar situation. The average income for all Makakabus households was P104,813/year (\$2,230/year). One might imagine that the average income for Makakabus, where 96% of the members said their group's food security was improving, would be noticeably higher than in Butong, where 96% of interviewees said their group's food security was declining. Yet, even when removing the income of the main *haciendero* in Butong from the income total, the average income among the remaining Butong interviewees (P105,552/year or \$2,246/year) was actually slightly *higher* than the income for Makakabus members.<sup>59</sup> Thus we can see that income was *not* the only determinant in food security.

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markets in a nearby town, but these stores have modest product selections. All three communities made steady use of outdoor vegetable, fish, and meat markets in nearby towns, as well as *sari-sari* stores that are very informal neighborhood caged stores where one can ask the proprietor for basic items.

<sup>59</sup> If the income of the main *haciendero* in Butong were kept in the equation, then we would see an average income from the interviewees of P186,318/year (\$3,964/year). If the entire community were interviewed, then we would probably see a number that is closer to, but slightly above the P105,552 level. This is far less of a subsistence economy than for Makakabus, so we would expect to see higher incomes in Butong, yet at the same time there is strong evidence of lower achievements in human development in Butong.

Another way of analyzing food security and income is to look at the average income in the bottom quartile of each community (see Table 6.2 above), since these are the people most likely to be dealing with hunger. Butong's bottom-quartile average income was 43% higher than Makakabus and nearly five times higher than Agbalo. Since Butong actually had the most serious problems with food insecurity, again, it is apparent that income was not the only factor.

People in Agbalo had a slightly better perception of food security than Butong, although the situation there was still fairly grave. For one thing, the social safety net was not strong, as AAC was not as organizationally robust as Makakabus, but perhaps more important though in explaining the food insecurity in Agbalo is simply its extreme poverty (median income of P17,915 or \$381 per year). Even though residents grew for themselves a relatively high 61.8% of the food they ate, there was just not enough money to buy sufficient amounts of other foods, as can be seen by the very low amount spent on food (P9,456 or \$201 per year per household).

In conversations, residents of Butong gave a variety of explanations for what they thought influenced their food insecurity. Numerous people said that the community had become too reliant on wage labor and regretted how so many of them did not grow most of their own food anymore. Many of them said specifically that the lack of staple production was affecting their food security negatively. Furthermore, they said people losing control of their land (through sales and pawning) has negatively affected the community's level of food security. Farmers complained about low yields due to climatic unpredictability, erosion, and acidification. Some farmers were not saving any of their harvested corn because they felt too many of their neighbors would borrow this food and never repay. For

wage laborers, declining real wages and lack of employment opportunities were an obvious factor in the food insecurity of the wage laborers.

The chemical farmers that I interviewed in Cabangkalan all said that the wealthier people in town do not have a problem with food security, but that those farmers who have small landholdings and those who work as wage laborers were experiencing decreasing food security.<sup>60</sup> The non-Makakabus members in Cabangkalan all spoke of the problem of malnutrition in certain segments of the community, with some respondents even mentioning that their own children are malnourished and below normal weight. This reveals that the success of Makakabus vis-à-vis Butong is not simply due to their more advantageous location in a rice farming area in an irrigated flat plain.

The members of Makakabus gave a number of reasons for their increasing food security: increases in soil fertility; the spirit of cooperation, or *bayanihan*, where members help each other out and provide a group-wide social safety net; the practice of reciprocal labor, where members trade work on each other's farms; the practice of saving food for personal consumption rather than selling the entire harvest<sup>61</sup>; and the health benefits of eating organic foods. It was not just the farm owners in the organization who reported improvement, but the laborers as well. Whereas a lack of work was the common complaint throughout other groups, Makakabus workers said they had plenty of work.

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<sup>60</sup> Though the sample size was small (eight households), it was interesting that non-Makakabus members in Cabangkalan (who were all involved in chemical rice production) produced only 25% of the food they ate, which was even lower than in Butong.

<sup>61</sup> Harvests are in February/March and then again in September/October, so planning is necessary to ensure that enough food is on hand in the final weeks before the new harvest. It is rare for people in Agbalo and Butong to get paid for a job with food, but for the members of Makakabus, getting paid in rice is routine.

## 6.2 Landlessness and the development of a rural proletariat

The people I interviewed overwhelmingly concurred that the raw number and percentage of the agricultural work force that was landless in Bukidnon had increased from the 1980s through the 2000s. This is due partially to natural increase of the rural population bolstering the ranks of wage laborers, but also reflects former smallholders losing control of their land and moving into wage labor. The surplus of wage laborers that has been created by this situation has kept wages low, and of course these landless laborers cannot rely on their own food production to protect their food security. Thus they are more reliant on purchased food and more susceptible to price shocks.

Although subsistence farming is the main activity in Agbalo, for those who are smallholders (the majority of the households), 19% of their income came from agricultural 'sidelining' jobs (casual wage labor), mostly in nearby sugarcane fields operated by local *hacenderos*. The wages at these jobs averaged P14.33 (\$0.30) per hour, which is typical for the area and which provides only a modest income for one person, let alone a family. Most of the employment is only seasonal (work as a *tapasero* (sugarcane cutter) only runs from November to May), so there are times of the year when things get extremely difficult, all the more so for landless households.

Wages for non-Makakabus laborers in Cabangkalan were generally quite low, P100 – P150/day, with women's wages usually at the lower end of the scale. Some jobs paid better, such as working in a threshing gang (~ P166/day) or planting rice (~ P250/day), but these tasks are extra strenuous and are only available sporadically five months out of the year, so there are long periods of unemployment for many of those workers who do not

have a regular boss.<sup>62</sup> Most wage work is only set up 1-3 days in advance, so long-term wage security is precarious. Many people said that it is those laborers without a boss that suffer the most, since they have trouble finding steady work and also have no one from whom to borrow money in an emergency. This situation is increasingly typical in the Philippines and more broadly. The World Bank (2007) noted that most developing countries have an increasing percentage of the agricultural workforce employed as casual laborers rather than people with a steady job.

Wage laborers, especially in Agbalo and Butong, repeatedly told me that the cost of living had been increasing much faster than wages in recent years. This situation is reflected in national and regional data on farmworker wages and the consumer price index. Using the data from the tables below, between 2000 and 2010, nominal wages for all Filipino agricultural laborers were going up at a rate of 4.4% per year while the consumer price index was going up 5.2% per year, which means that real wages fell 7.8% over that ten year time period. The situation for sugarcane workers was even more dire since their wages were going up an average of only 2.4% per year, meaning that their real wages fell 23.5% over that ten year time period.

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<sup>62</sup> Having a 'regular boss' usually means that one is employed as the maintainer of a certain number of hectares of land. If there is local work available, this may be supplemented by outside planting, harvesting, and threshing jobs. If one's 'regular boss' owns/operates a large amount of land, then the routine may be to rotate through that boss's planting, harvesting, and threshing needs.

Table 6.3: Nominal farmworker wage rates in Philippine pesos (\$1 = PhP 47 in 2009) for 2000, 2005, and 2010 (Bureau of Agricultural Statistics 2011). Data is shown for both genders and then men and women separately. The Philippine Bureau of Agricultural Statistics chose to use the biological terms 'sex', 'male', and 'female'.

**Agricultural Wage Rates of Farm Workers by Type of Wages, Type of Farm Workers, Year and Sex**

	2000			2005			2010		
	BOTH SEXES	..Male	..Female	BOTH SEXES	..Male	..Female	BOTH SEXES	..Male	..Female
<b>Nominal Wage Rate</b>									
ALL FARM WORKERS	129.58	134.32	113.73	158.62	161.70	142.21	198.37	200.66	188.86
..Palay Workers	137.06	144.55	125.10	162.51	167.75	147.99	223.52	227.93	207.84
..Corn Workers	120.97	128.26	108.33	142.98	147.03	134.38	176.07	178.44	170.87
..Coconut Workers	125.34	126.05	99.05	161.69	162.08	139.17	184.97	185.03	176.35
..Sugarcane Workers	154.69	161.44	132.27	175.56	180.87	148.49	196.50	201.59	161.66

Table 6.4: Consumer Price Index in constant 2000-level baseline of 100 Philippine pesos (Bureau of Agricultural Statistics 2011).

**Consumer Price Index for All Income Households by Commodity Group, Period and Year**

	Annual		
	2000	2005	2010
<b>ALL ITEMS</b>	100.00	129.80	166.04

Table 6.5: Real farmworker wage rates in constant 2000-level pesos per day (Bureau of Agricultural Statistics 2011).

	2000			2005			2010		
	BOTH SEXES	..Male	..Female	BOTH SEXES	..Male	..Female	BOTH SEXES	..Male	..Female
<b>Real Wage Rate</b>									
ALL FARM WORKERS	129.58	134.32	113.73	122.20	124.58	109.56	119.50	120.88	113.77
..Palay Workers	137.06	144.55	125.10	125.20	129.24	114.01	134.65	137.31	125.20
..Corn Workers	120.97	128.26	108.33	110.15	113.28	103.53	106.07	107.49	102.93
..Coconut Workers	125.34	126.05	99.05	124.57	124.87	107.22	111.43	111.46	106.23
..Sugarcane Workers	154.69	161.44	132.27	135.25	139.34	114.40	118.37	121.44	97.39

The data for the Northern Mindanao Region, which contains Bukidnon, indicate similar drops in real wages. The raw wage data for sugarcane workers in Northern Mindanao was roughly P30/day lower than the national average though, which suggests a high level of surplus labor and a lack of political organization among the workers.

Many families in the villages I visited asked their children to skip secondary school in order to do wage work in the fields to bring more income to the family. Residents in

Butong reported a sharp increase in child labor in the years since the ascendancy of sugarcane in the local economy. They said it had recently become the norm in households where parents are wage laborers for their 10-12 year old girls and boys to work in wage labor as sugarcane weeders and their 13-15 year olds (mostly boys) to work in wage labor as *tapaseros* (sugarcane cutters). Child labor has also been on the rise among non-Makakabus members in Cabangkalan, with many people mentioning that 12 year olds worked regularly in the rice fields as wage laborers.

Table 6.6: Commuting distance

	Agbalo	Butong	Cabangkalan (Makakabus members only)
Average distance traveled to work site	3.37 km	4.79 km	1.98 km

There were notable differences in the distances traveled for work in the three villages. Makakabus members in Cabangkalan generally lived adjacent to or very close to the fields where they worked. Even when other jobs were included, their average commute was merely 1.98 km. The residents of Agbalo did slightly more ‘sidelining’ where they worked for outside bosses. Their average commute was 3.37 km. As the economy surrounding Butong had undergone the biggest transition, the interviewees there had the longest commutes, averaging 4.79 km.<sup>63</sup> Indeed, laborers from Butong often had to leave the community to reach their work sites and described how their commutes had increased in recent years as their work had transitioned from farming their own plots to working in

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<sup>63</sup> Long distances were also traveled by those Cabangkalan residents who were not members of Makakabus, some of whom told of traveling as much as four hours away to find simple seasonal harvesting work.

the sugarcane and banana plantations that were characteristic of the more liberalized economy. The necessity of these longer commutes illustrates Cindi Katz's (2004) concept of time-space expansion, wherein rural residents adjusting to the spatiality of a new economic reality experience the "exploded geography of everyday life." This was reflected in the maps that Butong residents drew for me of what was important to their work. In 34 of the 42 maps drawn by Butong residents, fields and plantations more than 3 kilometers away from home were depicted and there was a strong emphasis on roads and places outside of the village. Land controlled by Dole was also a prominent feature in the Butong maps. See Figures 6.1, 6.2, and 6.3 below for examples of maps drawn by interviewees in Butong. (In all of the maps, any identifying information, such as personal names of interviewees, neighbors, or employers has been removed. Also local village names have been changed or removed.)



Figure 6.1: Map drawn by Butong resident and Dole employee showing Butong on the right and Dole plantation and palletizing (packing) operation approximately 7 kilometers away where this resident works.

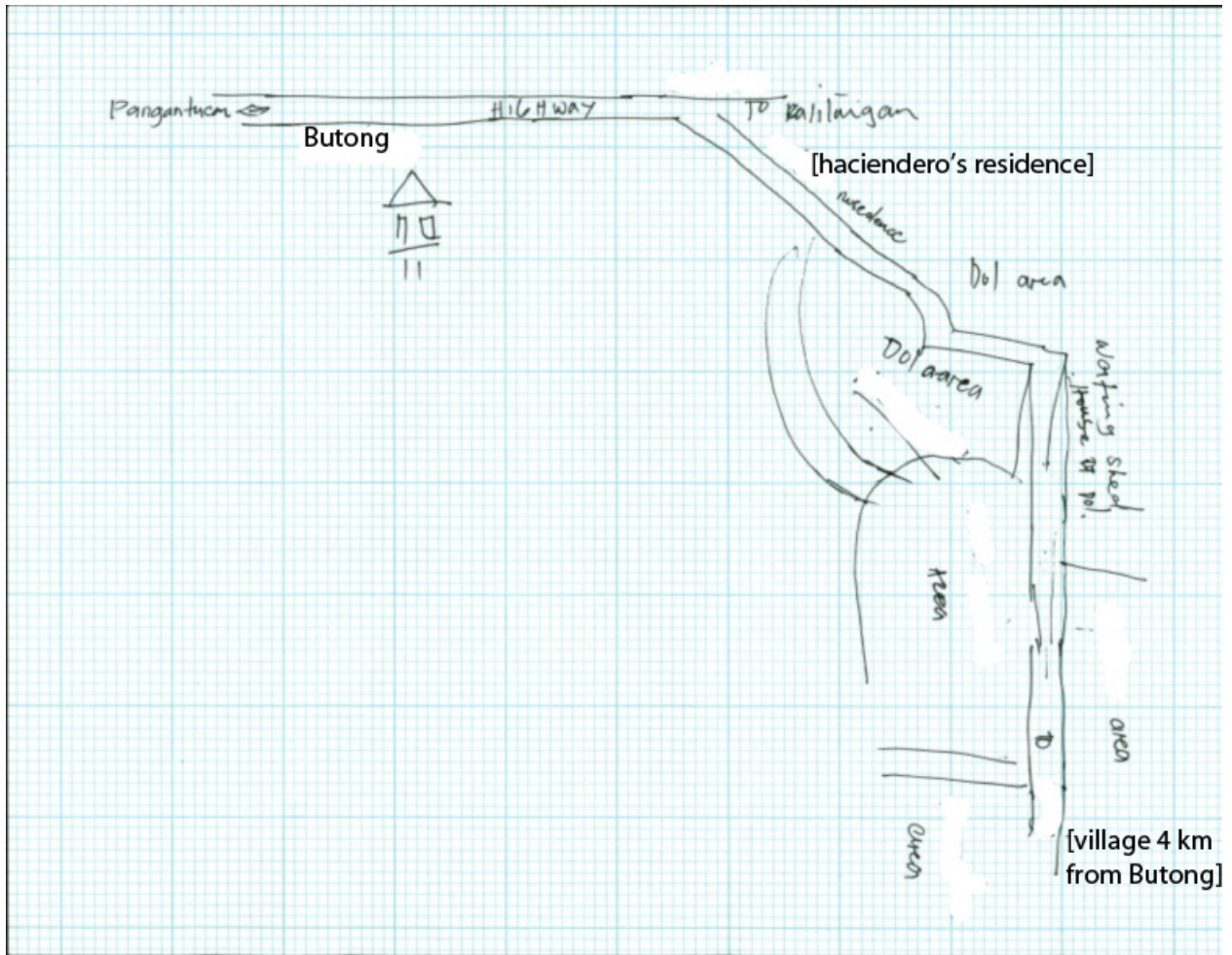


Figure 6.2: Map drawn by Butong agricultural wage laborer showing various sugarcane plantations and Dole (marked as “Dol”) plantations in the area. The ‘waiting shed’ is a spot where wage laborers might be picked up by a supervisor in a truck when work locations are especially distant.

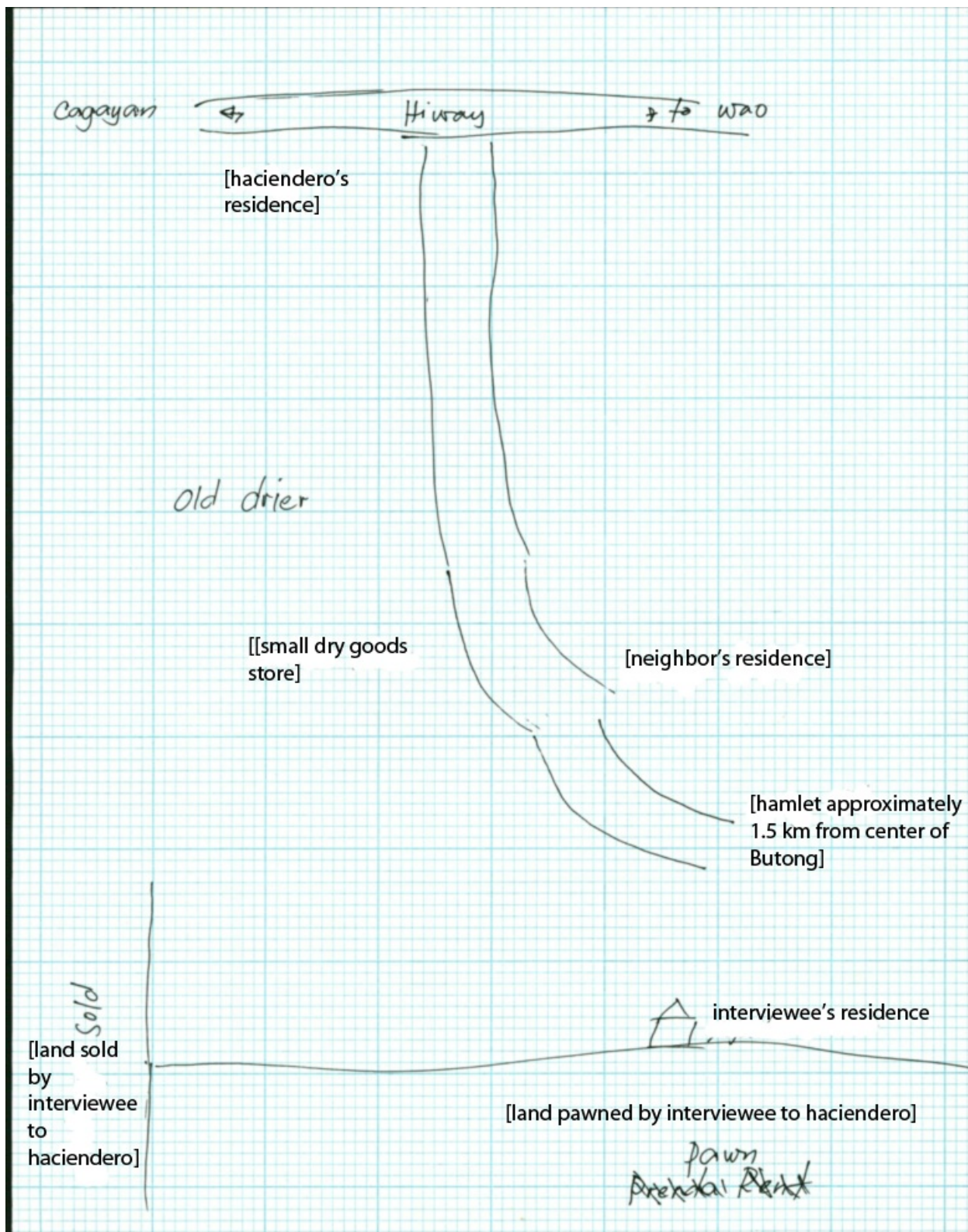


Figure 6.3: Map drawn by Butong smallholder who sold and pawned their land parcels to a local sugarcane *haciendero*.

In comparison, the maps drawn by residents of Agbalo were quite different, nearly devoid of roads and generally focused on the interviewee's own field and home lot. Not one map showed land beyond Agbalo. The maps from Agbalo also gave great detail in terms of which crops they were growing, which I think reflected the higher degree of attention to cropping choices as food self-sufficiency strategies in Agbalo than Butong. See Figures 6.4 and 6.5 for maps drawn by Agbalo residents.

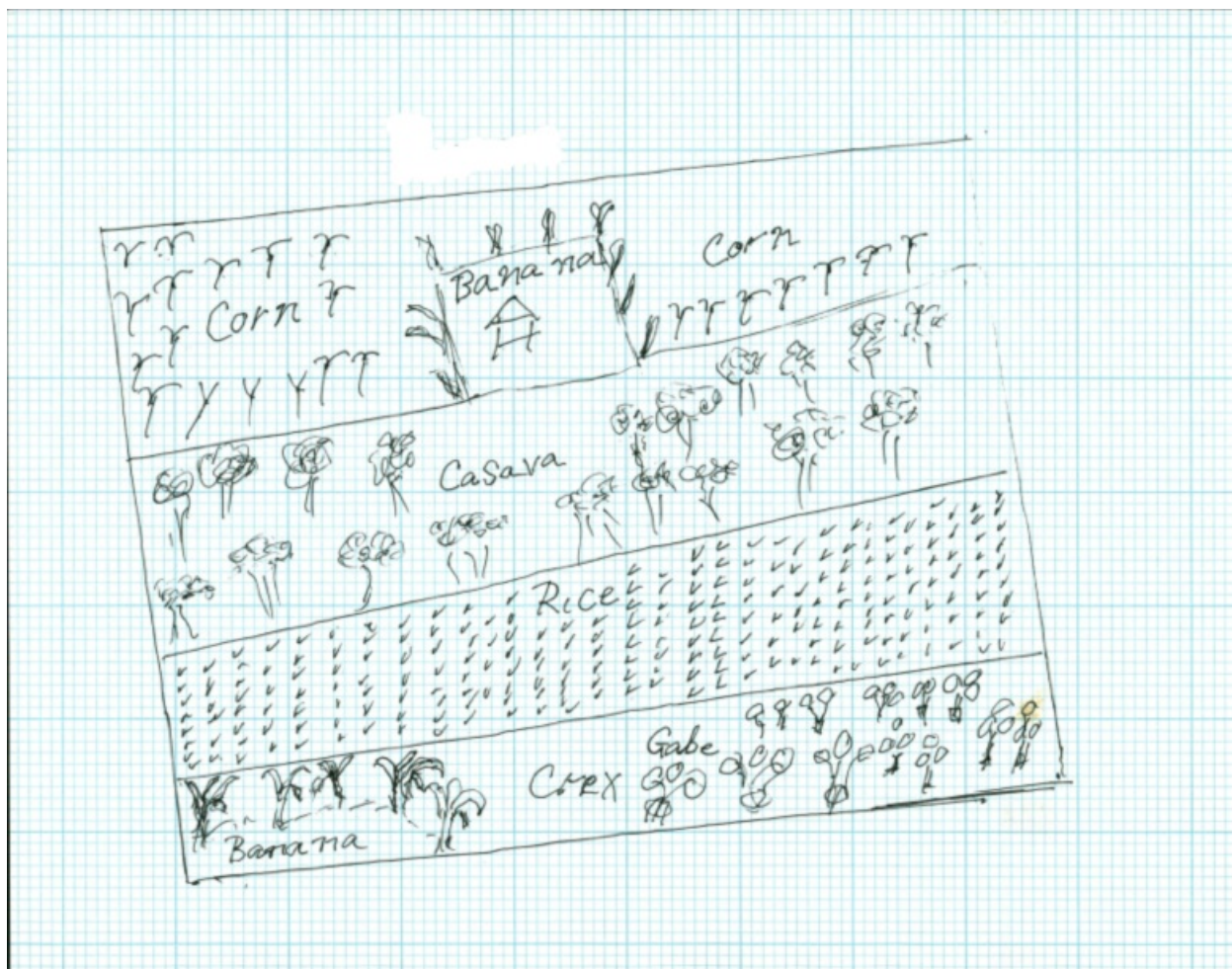


Figure 6.4: Map drawn by an Agbalo smallholder showing diversity of crops such as corn, cassava, rice, gabi (root vegetable), and native bananas.

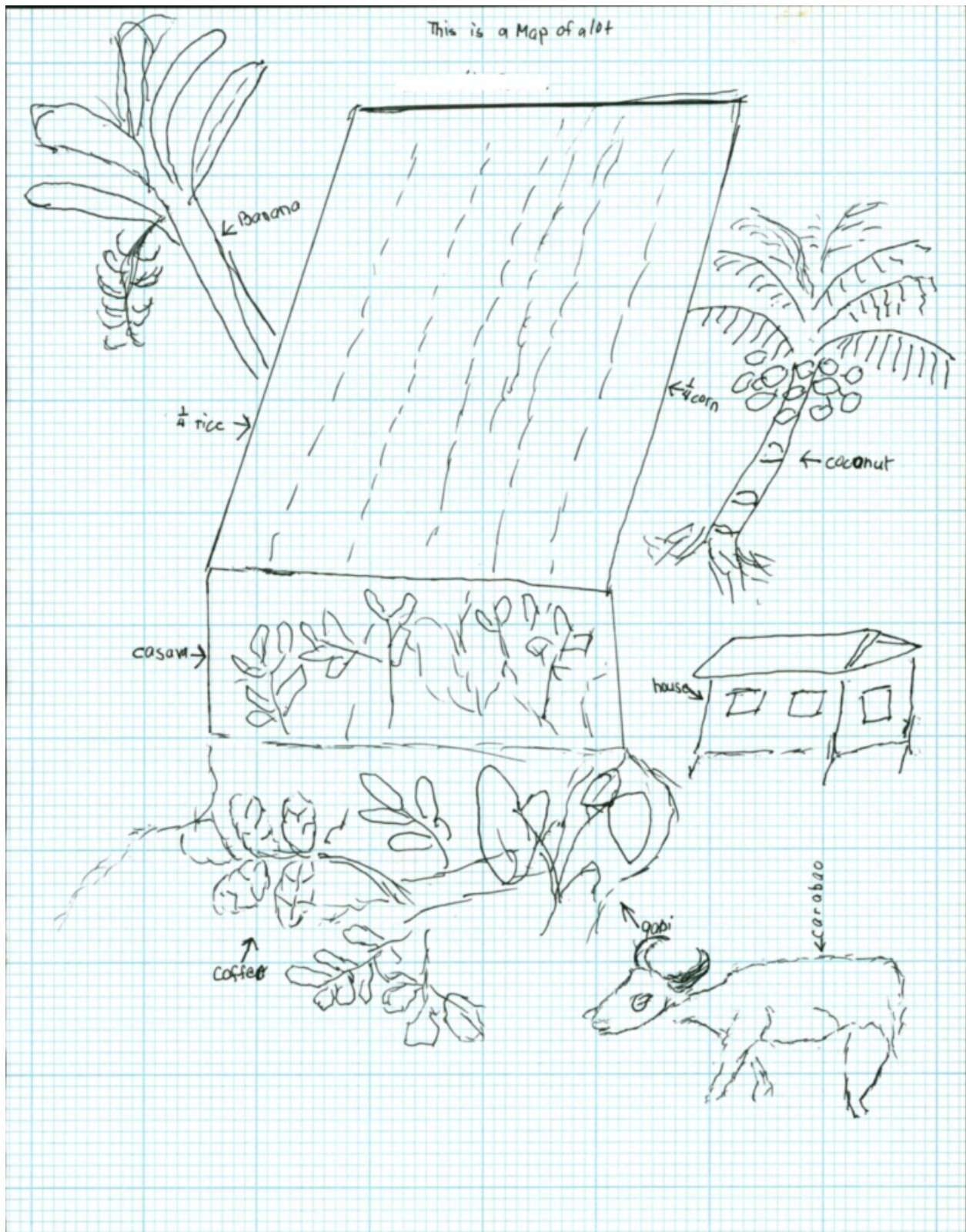


Figure 6.5: Map drawn by another Agbalo smallholder showing a diversity of crops, including  $\frac{1}{4}$  hectare of corn,  $\frac{1}{4}$  hectare of rice, cassava, coffee, native bananas, and coconuts, as well as the carabao used for plowing.

The maps of the members of Makakabus were more expansive than those from Agbalo, but still focused largely on the community itself, its rice fields, and its irrigation infrastructure. Also, what was notable was the inclusion of things like schools, the Makakabus warehouse, the church, the *barangay* hall, and other indicators of community, features much less apparent in the maps produced by residents of Agbalo and Butong. See Figures 6.6 and 6.7 for examples of maps drawn by members of Makakabus.

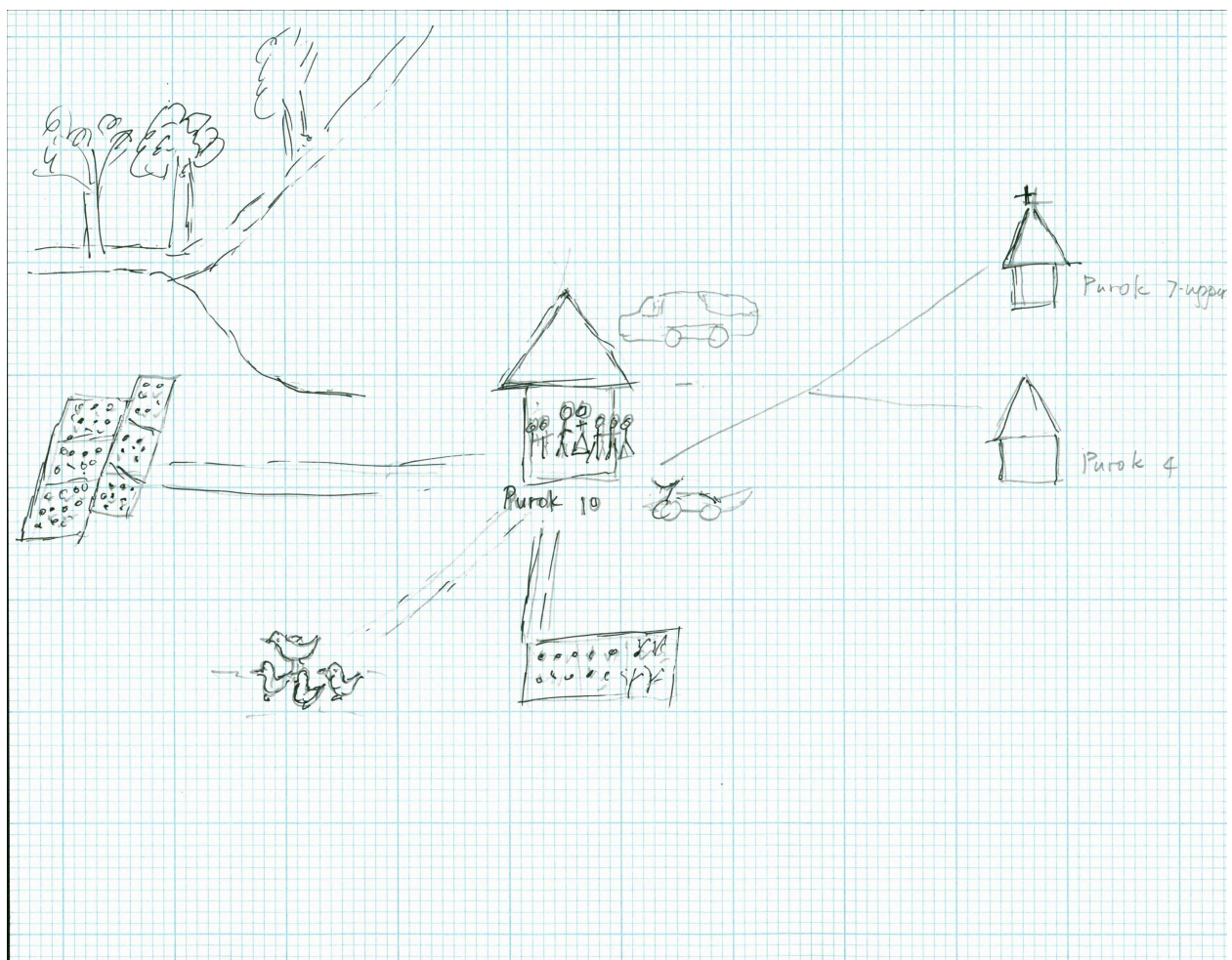


Figure 6.6: Map drawn by Makakabus smallholder family showing their house, rice fields, duck raising area, the local church, and the Makakabus warehouse.

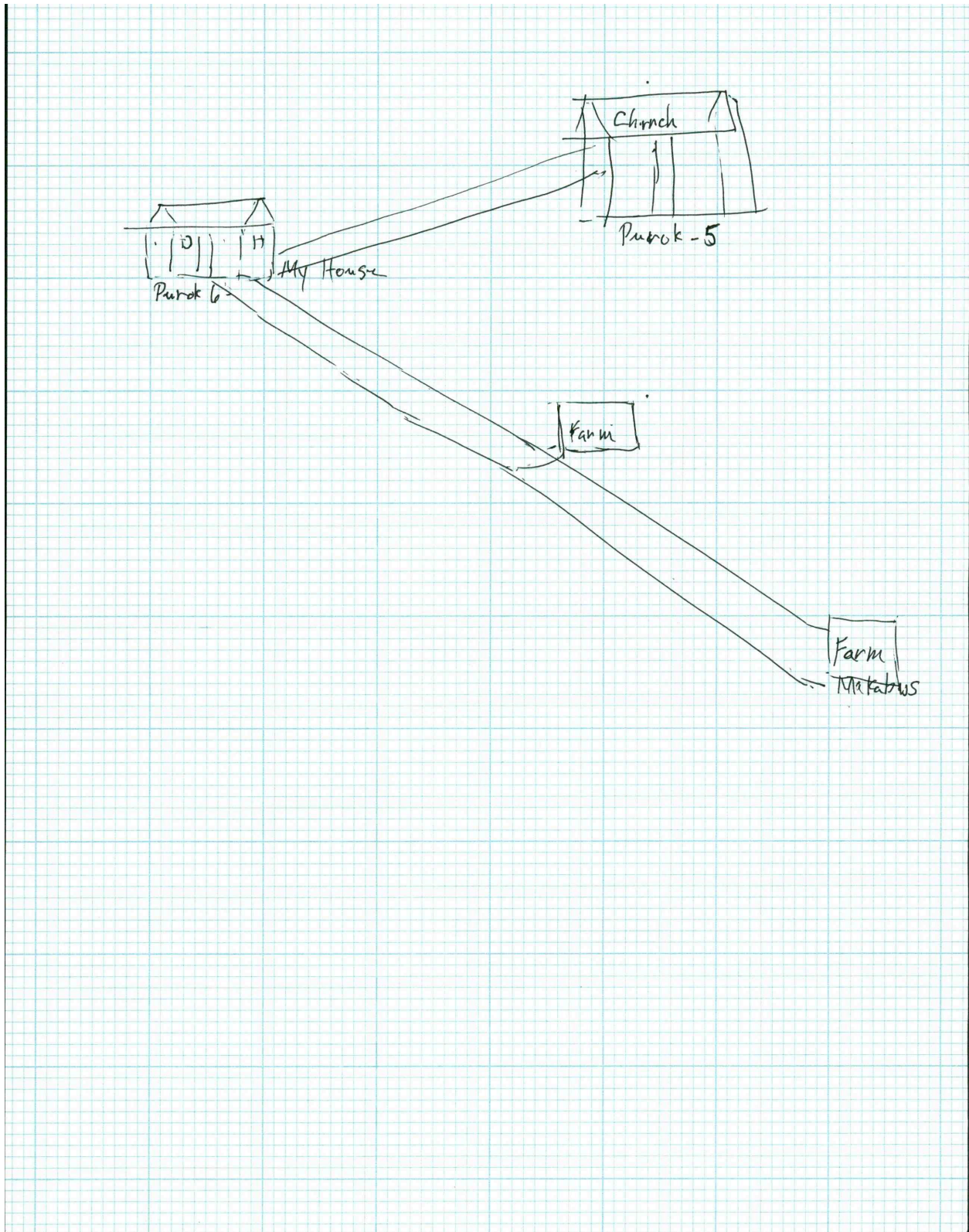


Figure 6.7: Map drawn by Makakabus field worker showing the field for which she was responsible, the Makakabus warehouse, and the local church at which she had a paying maintenance job.

When I asked wage laborers about labor organization in Butong, I felt the issue was usually sidestepped. Because of the ‘red scare’ climate in Bukidnon, it seemed that moderate reformers were reluctant to be open about their ideas on labor topics lest they be branded as sympathizers to the communist New People’s Army (NPA). Thus, I was unable to engage in any open discussions about labor organizing or see any sort of movement on the ground, despite the fact that there was wide agreement among wage laborers and small farmers that low wages were a key problem in the economy. Using striking as a tactic would probably be difficult; since there is so much unemployment, strikebreaking would presumably be accomplished easily. Several different employers I interviewed acknowledged that one of the main problems in the economy was low wages, yet they themselves paid their workers P100-P120/day, which is near the bottom of the range, revealing the disconnect between what they say is good for the economy and what they are willing to do themselves.<sup>64</sup>

In an environment characterized by surplus labor, low wages, low job security, and seasonal work, there is a real danger of political instability. The NPA is a Maoist rural insurgency that for several decades has drawn power from the disaffection of underemployed rural wage laborers and farmers who have lost their land. NPA activity in Bukidnon was especially strong from the mid-1970s to the mid-1980s, and people responded variously. Many residents of both Butong and Cabangkalan, for instance, used

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<sup>64</sup> To give an idea of the low wages and underemployment that some families encounter, one family I interviewed had five members—a wife, a husband, and three working teenage sons (15, 17, and 19)—who all worked in agricultural wage labor. Their combined net annual income was only P60,800 (\$1,294) and their combined employment only averaged 104 hours per week. Broken down into an hourly wage, that was only P11.2 (\$0.24) per hour.

to live further away from their village centers, but fled their isolated homes during eruptions of NPA activity in 1982 and 1983 because they feared NPA intimidation. Some reported that the NPA extorted 'revolutionary taxes' from the farmers. There were, however, a fair number of NPA sympathizers in the area, as the popularity of the Marcos dictatorship had plummeted by that point and people were considering alternatives. The Marcos regime had some success in fighting the NPA militarily, but the insurgency was dampened more by the removal of Marcos in 1986 and the beginning of the Corazon Aquino government. Through the late 1980s and 1990s, the drive toward land reform tended to minimize support for the NPA among farmers in the area. However, by the 2000s, the limitations of CARP (the 1988 agrarian reform program) were clear and the administration of Gloria Macapagal Arroyo was antagonistic to land reform advocates, so NPA activity and support were on the rise again.

In most of Bukidnon, the middle class is losing ground (literally and figuratively) as a vast underclass grows. The stability of the smallholder middle class will be very important to the future of a municipality like Pangantucan. If the transition from family farms to sugarcane and banana plantations continues, then the municipality is likely to be further divided into a tiny elite and a large poverty-stricken working class. If population and underemployment continue to increase and real wages continue to fall, sympathy may eventually build for rebel movements like the NPA. Bukidnon and especially Pangantucan still have a reputation for peace and order, and are thus attractive to investors. But if that reputation is lost, then it will be more difficult to attract outside investment. There is a paradox here—the best way to attract investment in the area is *not* to cater all policies and planning to the elites and the big corporations, but instead to maintain the social fabric of

the small farming communities. Without that, in the long run, a disgruntled rural proletariat may bring instability to the agricultural economy. Promoting stability in land tenure for small farmers will be one of the most important challenges for the municipality.

### **6.3 Smallholders and the battle with debt**

Both Butong and Cabangkalan have been the sites of considerable land consolidation by the wealthy. Pawning (*prenda*), selling, and renting are all methods by which original landowners have lost control over their land. By now, only a fraction of the land in Butong is still in the hands of the original settlers or their descendants. One long-time resident of Butong estimated that for the community as a whole, in the late 1980s, 70% of local residents' income was derived from their own land and 30% from working for others. By the late 1990s this had changed to 50%/50%. By the late 2000s, in his estimate, income was only 30% derived from their own land and 70% from working for others.

I spoke to one of the main corn and cassava traders in a town near Agbalo and Butong. He claimed that he actually barely breaks even with those endeavors. The way he makes money is through being a sugarcane *haciendero*, controlling 80 hectares of land. He was reluctant to describe how much he owned, how much was pawned land, and how much was rented, likely because he used dummy landowners for part of the owned land and/or because he did not want to reveal how much land had been pawned to him.

Even though I did not solicit for opinions on population issues, many interviewees throughout Bukidnon contended that problems for smallholders and wage laborers were linked to rising population. Many spoke of the need for smaller family sizes because of the shrinking land to population ratio, and in Butong about 30% of the people I interviewed

blamed large family sizes for the lack of jobs. Regardless of gender, age, class, educational level, or occupation, roughly half of all groups I spoke to in Bukidnon volunteered the opinion that their area needed more family planning measures such as access to contraception. This was unexpected considering the area is strongly Catholic, and the Church's position has been adamantly against artificial birth control. In fact, in 2010 the Church made a veiled threat to excommunicate President Benigno Aquino III because of his advocacy for family planning (Tubeza 2010).<sup>65</sup>

People also talked about the poor choices that are available to struggling smallholders. Sometimes when small farmers lose their land, they try to relocate to marginal lands in mountainous areas, but these locations usually have severe problems with erosion, as well as potential social friction with indigenous peoples when the lands are actually their territories. It is more common though for farmers who lose their land to stay put and work as laborers on the land that used to be in their control. Others become more transient laborers who follow seasonal demands at harvest and planting times.

The story of one of the long time residents of Butong was representative of the community's history. Her parents were settlers who settled the land in 1955 when she was around 8 years old. Her parents grew primarily corn, with some cassava as well. In 1983 the land was subdivided into six different two-hectare plots for her and each of her siblings. She continued to intercrop corn and cassava. 1994 was the first time she had to pawn land:

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<sup>65</sup> In December 2012, after years of debate, controversy, and strong opposition from the Catholic Church, the Philippine legislature passed the Responsible Parenthood and Reproductive Health Act (Republic Act 10354), which increases Filipinos' access to contraception, fertility control, family planning information, and maternal care, and mandates reproductive health and sexuality education from grade five through high school (Roopnarine 2012).

1 hectare for 3 years for P13,000. Then in 2005 she started selling off home lots, either for money or for a cow (twice). The prices she got for the home lots were only around P15,000 each time. Altogether she sold off 5 home lots, so at the time we spoke their remaining plot was only 0.5 hectares, half of which was pawned to a neighbor. She was not very hopeful about being able to pay off the pawning debt when the term was over. The reason she sold a lot in 2005 was to send her son to Manila to find work. She also simply needed food at the time as well.

### **6.3.1 *Prenda***

Pawning land is a common occurrence in Butong. People pawn land for a variety of reasons including paying their debts from input loans, medical emergencies, illnesses, price spikes for essential goods, and to pay for burials. *Prenda* is an agreement between a landowner (who is in immediate need of money) and a lender of money. The landowner agrees to pay back the amount of the loan (usually with no interest) at the end of the term, and in the mean time, relinquishes the usufruct rights to a parcel of land. If the end of the term is reached and the landowner cannot repay the loan, the lender is entitled to continue using the land until the debt is repaid. Even if the loan is repaid on time, the agreement works to the favor of the lender since they have been able to use the land while forfeiting capital only temporarily. The key incentive for the landowner to enter into *prenda* is that the amount of the loan will be higher than the potential rent that they would receive for the land parcel.<sup>66</sup> Moreover, they receive the cash quickly. The key for the lender is that the amount of the loan is far less than the value of the land. Therefore, if the loan is never

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<sup>66</sup> The highest rental rate among locals I recorded in Butong was P10,000/hectare/year, but much more typical were rates in the range of P5,000. The rental rate to Dole was typically P12,000.

repaid, as often happens, they have received the land at a bargain price. Compared to purchasing land, *prenda* may also be preferable for a lender who already owns land, since in Butong the law does not permit official ownership of more than 12 hectares of land.<sup>67</sup> Obviously *prenda* is preferable to renting the land from the landowner because rent is simply money lost, while with *prenda*, the lender will get the money back *and* have use of the land. In my interviews, a number of landowners told me there were times when they needed money and they wanted to rent their land to someone, but the local *haciendero* only wanted to enter into a *prenda* agreement, and would even wait for the landowner to become increasingly desperate until they were virtually forced to opt for *prenda*.

One farmer I interviewed had been in Butong since he was four years old. At the age of 20, in 1986, he bought 8 hectares of land. His farm was profitable in the early years because the land did not need fertilizer. Around 2000, things started getting more difficult because the land started needing fertilizer, and he needed to take out loans to pay for it. At one point, he borrowed P20,000, but the debt grew to P90,000 because of the interest rate of 10%/month. He and his wife tried renting some of their land to the biggest local *haciendero* in 2008, but the *haciendero* preferred to get pawned land rather than pay a rental fee, so by the time of our conversation they were in a four-year P40,000 *prenda* arrangement for 2 hectares of land. If land might normally rent for 5,000/hectare/year, then P40,000 is exactly what they should be getting in rent, yet with the *prenda* arrangement, they will receive nothing. They were only 42 years old at the time I interviewed them, but they said that they were just waiting for their children to get jobs

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<sup>67</sup> In a NARRA resettlement area like Butong, the limit on land ownership is 12 hectares, but in most other parts of the country, 5 hectares of agricultural land is the limit.

and send money home. They said, “Farming can be like gambling—you win, you lose. You need faith and hope. Try not to get discouraged and try not to lose hope.”

In some *prenda* agreements, the landowner finds that at the end of the term, not only do they not have enough money to repay the loan, but they actually need to be loaned even more money. Numerous times I saw situations where the lender agreed to increase the *prenda* amount. In some instances, this may be done out of a sense of decency (especially when parties are related) that they should not occupy another’s land rent-free indefinitely. Since lenders know that many landowners will never be able to repay the debt, then this could be seen as a form of rent. However, in some cases, another motive for the lender to agree to escalate the *prenda* amount is to purposely drive the amount of the debt higher so that it becomes impossible for someone with limited means to ever pay it off, enabling them to acquire more land without official title.

A study done in the provinces of Laguna and Nueva Ecija (both on the island of Luzon) showed that agrarian reform beneficiaries were more likely to sell or pawn their lands than non-agrarian reform beneficiaries (Dy et al. 2008). This situation reflects poorly on the level of support services offered by DAR and the DA to agrarian reform beneficiaries.

### **6.3.2 Lending**

The typical rate for input loans in Bukidnon is between 5% and 10%/month, though for some loans, people were paying as high as 20%/month. Especially in emergencies, people are forced to take out ‘5/6’ loans, where for every P500 they borrow, they will owe P600 at the end of the month. When I interviewed a long-time resident of Butong who was one of the main informal lenders in the community, he volunteered, with a certain amount of reluctance, information about his lending activities, but he also went into long

philosophical digressions about his moral place in the universe. I wondered if these digressions were subconscious rationalizations that revealed an unease he felt about his class position in the community. One chemical farmer I interviewed said that he loses 12% of his income every year just from the amount of interest that he pays on his input loans. The perceived need for fertilizer has been the biggest impetus for borrowing in many communities, and this was the case in Butong and for the chemical farmers in Cabangalan.

Large commercial banks generally do not lend to small farmers, but prefer doing business with large agribusinesses. The Land Bank of the Philippines, which is the government's official agricultural development bank, also offers less support to small farmers than to agribusinesses. Lending records for 2001-2005 showed average annual increases of loan amounts for rice and corn at 6.6% and 4.2% respectively (similar to the inflation rate), while the increase for HVCC (High Value Commercial Crops) was 10.2% (Dy et al. 2008: 141). Small rice and corn farmers may secure loans from rural banks, cooperatives, and NGO micro-finance institutions when they are available, but often these farmers have no choice but to turn to informal lenders, who generally have usurious rates. As a result, wealth is increasingly transferred from the poor to the wealthy in the form of loan interest or as transfers of land in those cases when the farmer defaults on the loan and must sell or relinquish the land. Some studies have shown more than 50% of Philippine small farmers rely on informal loans (Dy et al. 2008). Some community leaders in Bukidnon said formal lending, which usually offers lower interest rates than other lenders in the area, was declining because few of the potential borrowers were considered good loan risks. This may also be a sad indicator that there is not much land left anymore in the hands of small farmers that can serve as collateral for the loans.

Community oriented micro-financing was being practiced on a small scale by Makakabus. By offering micro-financing, money stayed within the organization and accountability was on a more personal basis. If there was a transfer of wealth from farmers in the form of loan interest, then at least that wealth remained an asset for the members of the cooperative. Offering a fair interest rate to those in desperation can be vital in letting them hold onto their land rather than pawning or selling.

#### **6.4 Farming choices and methods**

There was considerable variation between the three villages in the agricultural techniques and approaches they were using. If broad categorizations are made, Agbalo is a center of rudimentary subsistence staple farming; Butong has a mix of plantation agriculture and smallholder farming, both generally in the chemical paradigm; and the members of Makakabus in Cabangkalan are purely organic rice farmers. This section shows some of the connections between specific farming practices and varied modes of the reproduction of environmental conditions.

The effects of government agriculture extension varied over the different communities. Provincial and municipal programs from the Department of Agriculture had a significantly higher impact on Butong than in the politically isolated community of Agbalo. Livelihood programs from the provincial government that involved getting animals, such as pigs, goats, cows, and carabaos (water buffalos), were generally regarded as positive in Butong, but there were complaints that the programs were not targeting the poorer households and many of the recipients were those who were least in need of assistance. Other programs involved loans, which many people perceived as unhelpful

since they did not want the burden of a government loan. Both Butong and Cabangkalan were influenced over the years by government programs that featured chemical fertilizer subsidies. The ecological and economic effects of the fertilizers and pesticides that were being used in the area caused some groups like Makakabus to break with the chemical paradigm and try farming organically. By 2009, Butong had yet to see a similar large-scale movement, but a number of farmers there had expressed a desire for more seminars in organic farming techniques. For a village where almost no one was doing organic farming, there was a high degree of interest in converting to organic agriculture.

Table 6.7: Farming practices

	Agbalo	Butong	Cabangkalan (Makakabus members only)
Percent of corn or rice farmers saving seeds	100%	71%	100%
Percent of farmers who expressed any interest in using GMO seeds	6%	45%	0%
Percent of farmers using crop rotation or variety rotation	55%	54%	100%

100% of the farmers from Makakabus and Agbalo saved seeds from one cropping to the next. This was a decision that was borne of a sustainable staple crop farming philosophy among Makakabus and some of the Agbalo farmers, but for many farmers in Agbalo, it was simply a result of their poverty and their need to save money. Of the corn farmers in Butong, 71% saved seeds. These were generally the farmers who were growing Señorita white corn for consumption, while those who were not saving seeds were growing mostly hybrid feed corn. Hybrid corn seeds in Bukidnon in 2009 were priced in the range

of P1,850 (\$39)/hectare for GSI 40 (produced in Bukidnon) to P4,200 (\$89)/hectare for Pioneer 30B80 (produced in the US).

I asked interviewees their opinions about GMOs, and Butong was the only place where a significant number (45%) of those with an opinion on GMOs expressed an interest in using them. Only four interviewees were actively using GMO seeds, and these farmers were all in Butong. These were mostly larger landowners with more capital to invest, interested in the potential for higher income, especially with Monsanto's genetically engineered RR (Roundup Ready) corn<sup>68</sup>, since using the herbicide trademarked Roundup could be cheaper than paying laborers to weed the field.

A majority of farmers in Butong and nearly all farmers in Agbalo were not interested in using GMOs and their reasons varied considerably. Some were concerned about issues of genetic contamination, while most were critical of the high expense of seeds such as RR corn (P6,900 or \$147/hectare). This issue was compounded by the need to match the seeds with expensive fertilizers and the herbicide Roundup (P575 or \$12/liter). Some mentioned that Roundup was not good for the soil, but their most common criticism was that these varieties of corn were not edible for humans, so they had no interest in planting them, since they could not directly improve their food security.

In April 2005, Agbalo Agricultural Collective conducted a campaign against local use of GMOs. Advertisements promoting Monsanto's Bt corn had appeared in Pangantucan, but AAC's efforts may have proven effective, since I could find no evidence of Bt corn being grown in the Pangantucan/Agbalo/Butong area. The organization was considering

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<sup>68</sup> RR corn is engineered to resist the herbicide glyphosate (which goes by the trademark Roundup). So when a farmer sprays Roundup on the crops, the intended effect is to kill the weeds in the field, but the RR crop will remain intact.

pressing the local government to consider an ordinance against the planting of GMOs in Pangantucan.

The members of Makakabus are dedicated to organic farming and thus had no interest in GMOs. The issue of genetically engineered crops was virtually a non-issue in Cabangalan since commercialized GMO rice seeds were not yet sold in the Philippines.

Crop rotation was practiced by a little over half of farmers in Agbalo (55%) and Butong (54%). 24% of Agbalo farmers and 6% of Butong farmers were rotating in leguminous crops like peanuts, soybeans, or long beans in order to replenish nitrogen in the soil, but also corn was rotated with cassava, sugarcane, or upland rice in order to reduce erosion. Makakabus farmers did not rotate crops, but did rotate what varieties of rice they grew in order to deter pests. Instead of maintaining soil fertility through crop rotation, Makakabus farmers composted crop wastes and used the compost as fertilizer.

#### **6.4.1 Crop choices**

The national rates of return for white corn were dismally low during the 2000s. While in the best year a 17% profit was earned per hectare, the worst year actually saw an average 11% loss (Bureau of Agricultural Statistics 2011). This situation can be tied to the low farmgate prices for white corn that have resulted from the liberalization of the international corn trade.<sup>69</sup> Table 6.8 shows white corn hectareage in Bukidnon shrinking drastically since 1995, even though it remains the staple crop of choice for many poor

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<sup>69</sup> Liberalization has kept farmgate prices low in the Philippines for both rice and white corn. While the farmgate price for rice in 2010 was 3.00 times the price in 1990 and the farmgate price for white corn in 2010 was 2.59 times the 1990 price, the consumer price index in 2010 was 3.70 times as high as it was in 1990 (Bureau of Agricultural Statistics 2011). In effect, the prices that staple crop farmers have been getting for their crops have not kept up with inflation.

farmers. In Agbalo and to a lesser extent Butong, many people still rely on it for their personal food security. With two harvests per year, there is less time between harvests compared to other crops, so families appreciate the increased food security this provides. There is also a cultural connection to corn for many of the people in the area who are Cebuanos. But yet another reason for continuing to grow corn is that farmers are able to save seeds and thus have seed corn on hand from the previous crop when they do not have the funds to buy seeds. In my interviews many farmers in Butong said that the government needs to provide better price supports, since the price of corn has remained low for a very long time. The average farmgate price that corn farmers received in Agbalo and Butong was only P9.6 (\$0.20)/kilo.

Table 6.8: Five-year snapshots of the number of hectares planted to various crops in Bukidnon (Bureau of Agricultural Statistics 2011).

	Annual			
	1995	2000	2005	2010
<b>White Corn</b>				
...Bukidnon	91,226.00	53,975.00	46,571.00	27,973.00

	1990	1995	2000	2005	2010
<b>...Bukidnon</b>					
Sugarcane	14,990.00	23,126.00	33,082.00	52,461.39	55,297.00
Banana	2,881.00	3,749.00	4,651.00	6,960.00	20,502.00
Pineapple	13,859.00	15,400.00	15,815.00	18,260.00	20,000.00
Cassava	3,589.00	6,980.00	4,300.00	5,880.00	11,510.00

Besides white corn, cassava (known locally as *balanghoy*), rainfed upland rice, and various backyard fruits and vegetables<sup>70</sup> are grown in Agbalo and Butong as well. Peanuts and to a lesser extent cowpeas (black eyed peas) and mung beans are also intercropped in order to provide protein as well as replenish nitrogen in the soil.

In Butong, from the 1950s to the 1970s the staple crops of white corn<sup>71</sup> and rice (mostly upland/rainfed rice, but some *basakan*/paddy rice as well) were dominant. Corn was even used like a currency in barter arrangements. However, sugarcane cultivation accelerated in Butong through the 1990s and the 2000s (see Table 6.8 above), and it became the dominant crop in the area by the turn of the century. Most of the land planted to sugarcane was formerly in corn and rice production.

Some small farmers who cannot afford to take out loans for fertilizers plant cassava, since that will grow without fertilizer and is better for erosion control than corn. Yet cassava is not a very profitable crop (only fetching around P6 (\$0.13) per kilo) and is not one of the staples of the local diet, as it is comparably lacking in nutrition. Furthermore,

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<sup>70</sup> Fruits included *saging* (various native bananas such as *lacatan* (*Musa acuminata*) and *saba* (*Musa acuminata* hybridized with *Musa balbisiana*), coconuts, guava (*Psidium guajava*), durian, *rambutan* (*Nephelium lappaceum*), *lanzones* (*Lansium domesticum*), *marang* (*Artocarpus odoratissimus*), *nangka* (jackfruit or *Artocarpus Heterophyllus*), and mango. Vegetables included *gabi* (taro), *sayote* (chayote or *Sechium edule*), *lutya* (*Xanthosoma sagittifolium*), *malunggay* (*Moringa oleifera*), *camote* (sweet potato), *ampalaya* (bitter melon or *Momordica charantia*), *alugbati* (*Basella alba*), *pechay* (bok choy or *Brassica rapa* subspecies *chinensis*), okra, *tangkong* (water spinach or *Ipomoea aquatica*), *batong* (long beans or *Vigna unguiculata* subspecies *sesquipedalis*), *kalabasa* (kabocha squash or *Cucurbita maxima*), *talong* (eggplant), and *sili* (peppers). All three of the villages had this same assortment, though Cabangkalan, because of its higher population density and less expansive home lots, tended to produce fewer tree fruits.

<sup>71</sup> *Tinigib* white corn was planted in the 1970s, while *Señorita* white corn became dominant in the 1980s. At the time of my research *Señorita* was still the main white corn grown for subsistence by many small farmers, although some hybrids, introduced since the 1990s, were grown for human consumption. The hybrids require fertilizer, whereas *Señorita* can grow without it.

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cassava does not benefit soil fertility, so if farmers rely on it for very long, it could jeopardize their prospects in the future. Cassava's low input costs explain why farmers choose it, but the movement from corn to cassava is also driven by corporations that purchase cassava for the production of animal feed and alcohol.

According to the 2008 agricultural census, in the *barangay* of Butong, 235 hectares are planted in sugarcane, 130 hectares in white corn, 101 hectares in bananas, 51 hectares in cassava, and 31 hectares in rice. Rubber and coffee were other notable crops. Neighboring *barangays* are slanted even more toward sugarcane and away from white corn, so this affects the overall orientation and employment opportunities of Butong.

Cabangkalan does not see the same variety in cropping choices since residents nearly unanimously take advantage of the irrigation system to grow rice. Choice of rice variety was very important to Makakabus members though for a number of reasons. Rotating varieties is firstly a method to deter pests because a pest that attacks one variety may not fare as well with the succeeding variety. There are also considerations of how varieties perform in terms of general pest resistance (ilon-ilon, M1, RB8, and CC20 are good for pest resistance for example), pest recovery (M9 will recover well after an insect infestation), disease recovery (CC20 recovers easily), yield (M9 is high yielding for example, but it takes longer to mature), eating quality (B21 has a 'smooth' quality and pulang humot is a red fragrant rice), nutrition (M9 has been bred to be flavorful even without getting polished in the milling process, so it retains more nutrients), and speed of maturity (3.5 months for M9 compared to 3 months for CC20, RB8, and 128 for example). The timing of crops needs to be coordinated with both weather patterns and regional irrigation schedules (a farmer may choose B1 for a certain season for example because its

maturity process synchronizes with the weather and the irrigation schedule). Using faster maturing varieties will allow more fallow time before the next planting, which can result in better fertility. Makakabus operates a seed bank for its members and the quality control manager communicates information on the pros and cons of different varieties to the members. The average farmgate price received by members of Makakabus for their rice was P15.0 (\$0.32) per kilo. The average price received in Cabangkalan for chemically grown rice was P14.2 (\$0.30) per kilo. This difference was an incentive for farmers to grow organic rice, but farmers were more motivated by the lower input costs and reduced health risks in organic farming.

#### 6.4.2 Soil erosion

Table 6.9: Erosion

	Agbalo	Butong	Cabangkalan (Makakabus members only)
Percent of farmers experiencing significant erosion	86%	85%	0%

Soil erosion was one of the top concerns for farmers in Agbalo and Butong. A strong majority of the farmers there mentioned it as a significant problem, while in the flat lands of Cabangkalan, erosion was not an issue. Soil erosion was one of the main disadvantages of farming in hilly areas, especially where rains are heavy and frequent and topsoil loss makes yields decline. In addition, Butong residents noted that the 1990s saw a spate of illegal logging that caused additional problems of erosion and flooding that still continue today.

Canalization (diverting uphill rain runoff into ditches that avoid the main crop area) and erecting stone borders around fields was used to prevent some of the erosion in these areas. Contour planting was done as well, but during the time I was there, there was no evidence of terracing by any of the farmers. The planting and harvesting processes disrupt the soil and lead to erosion in hilly areas, so some farmers tried to control the problem by planting sugarcane or cassava, which only need to be planted every 1-4 years compared to corn, which is planted twice a year. Coffee plants are perennials, so planting them is another strategy to reduce the amount of tillage. Planting *gmelina arborea* (a tree grown for lumber) or fruit trees at the borders of fields can also secure the soil and act as a windbreak.

#### **6.4.3 Fertilizers**

Fertilization strategies are one of the key areas where there is differentiation between communities in the scales of their reproduction of environmental conditions. The method of crop fertilization for all Makakabus members was scaled simply at the level of the farm. Rice straw that is post-harvest crop waste is gathered into a pile and composted with the help of worms to create vermicast fertilizer and spread over fields when ready six to twelve months later. The richness of the compost is noteworthy and sufficient to provide yields that often exceed the chemically grown rice in the area.

The chemical farmers in Cabangkalan typically use urea (45-0-0), complete (14-14-14), ammonium phosphate (16-20-0), and ammonium sulfate (21-0-0), which they must purchase in the urbanized part of the municipality 11 kilometers away. A number of chemical farmers complained that their yields are actually declining because the chemical fertilizers are acidifying their soils, while Makakabus members spoke of consistently

improving yields. This is in keeping with the findings of Bachmann, Cruzada, and Wright (2009), where organic yields were improving and chemical yields declining.

Fertilizer use in Agbalo is inconsistent. A few farmers used manure or other organic fertilizers and a few used chemical fertilizers, but there were a number of farmers who were what is facetiously called 'organic by default.' They do not have the money to buy the chemical fertilizers, so they just make do without. Unfortunately many of these farmers have not been trained in composting and other organic fertilizer production techniques, so their yields are comparatively low and in some cases yields are falling.

There were quite a few farmers in Butong who lost their land because of fertilizer debts. Agronomists from nearby Central Mindanao University and Xavier University explained that chemical fertilizers can kill earthworms and some of the microorganisms in soil that can give it its fertility. Farmers and extension agents described how the area's black, moist, thick soils with abundant organic matter had turned into red, dry, crumbly, acidified soils that eroded easily. Thus, if they continued in the chemical paradigm, farmers routinely complained that they needed to use more and more chemical fertilizers over time just to achieve the same yields, even as the price of inputs went up.

In Butong, for those who were planting sugarcane and corn, the use of urea (45-0-0), complete (14-14-14), and ammonium phosphate (16-20-0) was most common. However, there was also significant use of potash (0-0-60), ammonium sulfate (21-0-0), and other chemical fertilizers. The prices<sup>72</sup> of these fertilizers were definitely causing many farmers

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<sup>72</sup> In mid-2009, prices had come down from their 2008 peaks, but were still out of the reach of many small farmers. Some of the local prices (for 50 kilo sacks) I recorded at dealers were: P980 (\$21) for urea, P1,230 (\$26) for complete, P1,020 (\$22) for ammonium

to reduce their applications of them and increase their interest in organic fertilizers.<sup>73</sup> One farmer in Butong asserted that hard work is more important than fertilizer. He quipped, "The footprint of the farmer is the best fertilizer."

Some farmers in Butong spoke of the extra labor needed to produce organic fertilizer, however, the responses given for where chemical fertilizers were purchased showed that time spent and costs for transportation of chemical fertilizers were high. Corn farmers in Butong frequently spent between 39% and 54% of their gross income on the costs of chemical fertilizers. For sugarcane, spending between 17% and 22% of gross income on fertilizers was common. One farmer who was renting land and using chemical fertilizers frankly admitted that the time would come when the land he was renting would be acidified at which point he will have to leave and rent somewhere else. This situation reveals how the chemical paradigm was not simply a farming strategy, but an approach that represents a fundamentally different outlook on the reproduction of environmental conditions than that associated with the organic fertilization techniques of agroecological farming.

#### **6.4.4 Pests and pesticides**

For Makakabus, pest control was based on traditional approaches. The pests that the rice farmers were concerned about in Cabangkalan were *tayangaw* (rice bugs or

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phosphate, and P1,880 (\$40) for potash. The majority of these fertilizers were imported, with Japan and China being the most common sources.

<sup>73</sup> The use of organic fertilizers in Butong was less prevalent than in the other settlements. Of those who were using organic fertilizers, roughly half were farming purely organically and half were mixing organic and chemical fertilizers. Durabloom was a common commercial organic fertilizer, while many people were using things like goat, pig, chicken, cow, or carabao manure, or vermicast fertilizers that were produced on their own farm or at least locally produced.

*Leptocorisa acuta*), rice yellow stem borers (*Scirpophaga incertulas*), black bugs (*Scotinophara coarctata*), and rats. To combat *tayangaw*, the Makakabus farmers hung dead snails at the periphery of the field to attract the bugs away from the rice. Stem borers were controlled through the use of water management, raising and lowering the level of water in the *basakan* (rice paddy) at strategic times to deter the stem borers. Weeding at strategic times was also important in deterring pests, such as rats.

The chemical farmers in the area sometimes used water management against stem borers, but otherwise used a wide variety of chemical pesticides for the various insects that attack the crops. Most of these pesticides were sprayed by hand using canisters that are strapped to the back. Some of the chemical farmers said that pests and weeds were becoming resistant to the pesticides and herbicides they were using and consequently their yields were declining.

Health problems associated with pesticides were a major reason why many of the members of Makakabus decided to switch to organic farming. Some of the problems and ailments reported by chemical farmers included reduced immune resistance<sup>74</sup>, headaches, weight loss, stomach aches, coughing, shortness of breath, fainting, dizziness, itchiness, fever, eye irritation, blurred vision, and visual hallucinations. One person in the village who was working on a chemical rice farm died after direct exposure to pesticides that had leaked out of the tank he was carrying on his back. Another person told of leakage that caused his back to become so hot that he immediately jumped into the nearby river. One person with tuberculosis said the only times he vomits blood is after spraying pesticides. A

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<sup>74</sup> Susceptibility to tuberculosis and other respiratory ailments was one of the main problems in the area. Exacerbation of asthma was another problem.

study by Pingali, Marquez, and Palis (1994) showed that for Filipino farmers who used pesticides, yield benefits from the pesticide use were exceeded by the amount of increased money spent on healthcare costs.

The pests that were a problem in the fields of Agbalo and Butong were rats, spotted stem borers (*Chilo partellus*), pink stem borers (*Sesamia inferens*), Asian corn borers (*Ostrinia furnacalis*), *bunlod* (various soil-dwelling white grubs that are the larvae of scarab beetles in the family *Scarabaeidae*), and *ulod* (various army worms of the genus *Spodoptera*). In Agbalo, chemical approaches were generally avoided, but this was as often as not because of lack of funds. Indigenous and natural pest deterrents were not employed as much here as among the members of Makakabus. Butong farmers were more likely to use chemical methods than anything else. Herbicides included Monsanto's Roundup and POWER, as well as 2,4-D (a principal ingredient of Agent Orange). Syngenta's Cymbus 5 and Racumin were used to kill rats. Karate (P950 or \$20/liter from Syngenta), Parapest, and malathion were the main insecticides used. Furadan is a granulated pesticide used to kill *bunlod* (*Scarabaeidae*). Health problems reported by interviewees that they associated with pesticide and fertilizer exposure in sugarcane and corn farming were significant, including itchininess and skin and eye irritations. However, the bulk of the complaints from Agbalo and Butong concerned the practices at the Dole banana plantations in the area. (See section 6.5 below for more details.)

#### **6.4.5 Landcare and MASIPAG**

Landcare and MASIPAG are both Philippine NGOs that facilitate farmer empowerment by emphasizing low-input diversified farming and providing environmental benefits for local ecosystems. Both organizations have the goal of preserving the economic

viability of the class of smallholder farmers. Furthermore, both organizations encourage ground-up, non-hierarchical, communitarian approaches that value the farmers as potential educators and small-scale experimenters for their peers in their communities. Instead of donor-dependence, farmer independence is stressed.

MASIPAG is especially adept at helping rice farmers gain independence from the chemical paradigm by teaching them how to do their own breeding of varieties, how to compost to create their own fertilizer, and how to create natural pesticides. (See Chapter Four, Section 4.2 for more details on MASIPAG.) They are strict in their adherence to organic farming practices. MASIPAG farmers enjoy higher profitability because they have reduced their input costs and do not need input loans. MASIPAG instruction was the original basis for the farmers' organization that eventually led to Makakabus. The national leaders of MASIPAG told me that organic corn farming is more challenging than organic rice farming, especially when corn is planted in highly sloped areas. Also, the nature of the corn plant makes it difficult for farmers to do their own breeding, whereas new varieties of rice can be bred relatively easily. Thus they focus largely on rice in their work in Bukidnon.

Landcare, which is affiliated with ICRAF (World Agroforestry Centre), advocates specific approaches to erosion control and diversified farming that offer hope for upland farmers, as more than half of the land in the Philippines is sloped greater than 18%. Although contouring, Natural Vegetative Strips (NVS)<sup>75</sup>, and terracing are the usual strategies suggested for preventing erosion, the Landcare approach is flexible and emphasizes group problem solving to address the specific challenges and needs of a given

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<sup>75</sup> NVS are strips of unplowed grass (often forage grasses) that can act as a border at the edge of a terrace. The perennial grasses hold the soil, prevent erosion, and may serve as forage for farm animals. Leguminous hedgerows are used as borders in some locations.

community. Also Landcare's emphasis on diversified agro-forestry means that farmers can still protect personal food security by growing corn or rice, but they can also have steady sources of income from fruit trees, timber trees, and vegetables. Although organic modes of production are usually a goal, Landcare's emphasis is more on a mix of sustainability and profitability rather than strict adherence to organic standards. Technologies are only used if they fit the local social, economic, and physical conditions (Metcalf 2004).

Landcare was not active in Pangantucan when I was there, so I initiated a field trip for eight farmers from Agbalo and Butong and an agricultural technician from the Municipal Agriculture Office to visit the Landcare headquarters in Misamis Oriental province to visit a number of their working farms that demonstrate Landcare techniques in practice. I was curious to see if the Pangantucan farmers would be interested in alternative approaches for farming. Of the things seen and discussed there was a shared enthusiasm for using Landcare's techniques to combat erosion, which plagues the majority of farmers in Pangantucan. New Landcare farmers are often skeptical at first because the NVS takes up important production space, but when they try terracing, they find that there are long-term increases in yields (Metcalf 2004). I met with Pangantucan's mayor and the leadership of the Municipal Agriculture Office about the potential benefits of these approaches. If the Pangantucan farmers wanted to launch a Landcare group, I wanted the local government to be exposed to the Landcare philosophy and to be able to offer support to those who were interested in pursuing its strategies.

Scaling up the Landcare project (Cresencio-Catacutan 2007) can be facilitated by more coordination with other NGOs and governmental agencies, especially the Department of Agriculture and the Department of Environment and Natural Resources, at municipal,

provincial, regional, and national levels. Currently though Landcare's successes in integrating with governments are mostly at the municipal levels. Although government involvement is important, Landcare emphasizes that the programs are best when instigated by farmers groups, since they are founded on the idea that local solutions are appropriate for local problems. "Landcare is about community mobilisation that builds the two important issues of social and resource capital" (Metcalf 2004).

### **6.5 Agribusinesses' influences on class and environment**

A number of foreign agribusiness corporations operate in and exert influence on the class structures of the villages I visited in Bukidnon. One corporation, BUSCO (Bukidnon Sugar Milling Company), which sounds like a home-grown operation, was actually started by the Marubeni Corporation of Japan in 1976. The plant can process 18,000 metric tons of sugarcane per day, making it the mill with the largest capacity in the country.<sup>76</sup> The sugarcane economy relies on accumulation by dispossession (Harvey 2003) in the case of land control, and it simultaneously creates and relies on the dispossessed class for low wage labor. The American corporations Monsanto and Pioneer are among the most dominant seed companies in Bukidnon. They deal exclusively in hybrid and GMO seeds that are not effective if saved for subsequent croppings. These companies cater to those farmers who have the capital required to purchase their seeds and other corresponding inputs. This has contributed to increased class stratification as these products are most

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<sup>76</sup> Negros, the island that is the historic center of the sugarcane crop in the Philippines, has a mill that has a higher net yearly production. In 2011, 55% of sugar production in the Philippines was on Negros, while 17% was in Bukidnon (Bureau of Agricultural Statistics 2013).

viable in large-scale production scenarios. The company currently causing the biggest changes in the rural economy of Pangantucan, however, is the American fruit corporation, Dole.

#### **6.5.1 Dole's increasing presence in the hilly agricultural lands**

Dole started operating banana plantations and packing facilities in the vicinity of Agbalo and Butong in 2005. By the time of the 2008 local agricultural census, Dole was operating on 407 hectares in the municipality, 148 of which were very close to Agbalo, and 101 of which were in the vicinity of Butong. Residents of the area, including Dole employees themselves, expressed their concerns to me that Dole will continue to expand, crowding out small farmers who grow white corn and rice, further eroding the area's self-sufficiency in staples. Furthermore, residents expressed grave concerns about the effects Dole was having on human and environmental health.

Residents of Agbalo and Butong have complained about Dole's pesticides in the air and water since 2005. Adults and especially children reported getting stomach aches, nausea, faintness, diarrhea, colds, coughs, fevers, shortness of breath, rashes, and other skin irritations when spraying occurs. Some people mentioned that in order to keep from getting sick they had to boil their water after Dole sprayed. Roughly a dozen interviewees claimed that the pesticides have sickened their livestock and killed numerous chickens in the vicinity.

In 2001, out of concern for the health of residents and workers, the Bukidnon provincial government banned aerial spraying because of the dangers of pesticide drift. This ban could be overturned though because of a legal battle that has erupted in Davao, another banana-growing region in Mindanao. A 2007 Philippine Department of Health

study documented the adverse health effects of aerial spraying. This led to a Davao City Council ban on aerial spraying. The Philippine Banana Growers and Exporters Association challenged that legislation, resulting in the Philippine Court of Appeals declaring the ban unconstitutional. That ruling was appealed to the Supreme Court, but the Court has so far failed to rule on the matter. Aerial spraying is again being practiced in Davao and activists continue to press the Supreme Court, the President, the Department of Agriculture, and the Department of Environment and Natural Resources for a nationwide ban on aerial spraying (Tejano 2012; Lacorte 2012).<sup>77</sup> If the Supreme Court agrees with the Court of Appeals decision that the Davao City Council ban is unconstitutional, then Bukidnon's ban would presumably be overturned as well. Regardless of whether the Bukidnon aerial spraying ban remains in effect, many Pangantucan residents are not happy with Dole's presence since using trucks and spraying by boom (a metal rod) is still resulting in significant drift.

Bananas are subject to many pests and diseases. Residents expressed concern about alcohervis, a disease that attacks bananas, spreading from Dole's Cavendish banana plantations to the native bananas (*saging*) that are a staple grown by residents in Agbalo and Butong. Dole workers regularly dealt with scarring bugs, *bunlod*, bats that scratch the bananas, bunchy top virus, and *moko* virus. Bananas with bunchy top virus were burned and quarantined. A variety of biocides are used in the Dole plantations.<sup>78</sup> Preferred fertilizers were potash (0-0-60), urea (45-0-0), complete (14-14-14), and solophos (0-60-

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<sup>77</sup> Fuertes et al. (2012) documented higher rates of allergies, tuberculosis, and autoimmune diseases in Davao-area communities where aerial spraying was occurring.

<sup>78</sup> According to employees I interviewed, Monsanto's POWER was the leading herbicide used. In addition, Syngenta's Daconil (chemical name Chlorothalonil) and Bayer's Antracol (chemical name Propineb) and Baycor fungicides were used in the plantations. In addition to the contact biocides, systemic pesticides from European-based multinationals Bayer and Syngenta were used in the soil.

0). One resident of Butong I interviewed had worked for three months as a fertilizer applicator for Dole, and reported that he developed rashes on his arms from contact with the fertilizer. He was not provided with a mask or goggles and he complained about nausea caused by foul odors from the chemical sprays that were being used in the area. The liquid sprays on the leaves would make his pants wet and then irritate his skin. His worst skin irritations were in his arm and leg joints and neck. Bumps referred to as '*butoy-butoy*' (little mountains) formed on his skin, causing itchiness. He said his wife experienced itchiness just from washing his clothes.

Another resident of Butong I interviewed said that in 2007, while working as a sprayer for Dole, he collapsed from exposure to pesticides. Residents said that several other pesticide workers in a neighboring village collapsed as well. Dole employees from Butong and their coworkers complained about respiratory problems, blurred vision, fainting, sleepiness, weight loss, loss of appetite, inflammation of the liver, rashes, bumps, itchiness, and other skin irritations. A number of them said that they or their coworkers had been hospitalized because of reactions to the pesticides. Those whose job required them to carry a canister of pesticides on their back, reported they had problems with pesticides leaking onto their necks.

According to Dole, workers did spraying for 6 months before they got rotated to another task for one year. Dole management in another part of Mindanao originally refused to check their pesticide sprayer employees for blood toxicity (Teruel 2005), but because of pressure from labor organizers, now the company's policy throughout Mindanao is to administer a cholinesterase test after six months of work as a sprayer to check the level of toxicity in the employee's blood. All of the sprayers that I was able to

speak to worked at Dole for less than six months because they were temporary workers (with a contract of six months or less) or they had left their positions because of health concerns they felt were associated with their exposure to Dole's pesticides. Other Dole employees I spoke to confirmed that sprayers were often the new employees who are on their initial 3-month probationary period or they are temporary employees. I was thus unable to get firsthand confirmation of whether or not cholinesterase tests were administered or what the course of action would be if toxicity levels were elevated.

Dole stipulates that workers wear long pants, long sleeves, and boots. When workers are doing weed spraying, they are supposed to wear protective gear: gloves, masks, goggles, and head coverings. Everybody is issued a mask, but some do not wear it. One Dole employee said the masks that are provided to sprayers prevent proper breathing, so some employees don't use their protective gear because of the heat and discomfort. He estimated that about 10% of the workers do not follow the guidelines. Another Dole employee said after only one week of working as a sprayer for Dole, he had coughing fits and needed to see a doctor, even though he wore his protective gear religiously. A third employee, who was a temporary worker, said that he was not issued the full range of safety equipment that was offered to permanent employees. A fourth employee said some of the more stubborn employees do not follow the dress code and end up having problems with the sprays, such as difficulty breathing or skin problems. If the supervisor is watching, they will wear their protective gear, but then when the supervisor is not looking, they will take it off since they complain that they are too hot to wear all of the gear. If supervisors enforce the rules, three infractions lead to a one-day suspension. If the employee has another infraction, he or she is terminated. One supervisor I talked to said that in the 3.5 years he

had worked there, nobody had been terminated by him, but he did say that others had been fired for safety violations. When I interviewed personnel at the main facility near Agbalo, one of the managers said that in their four years of existence, five temporary employees had been terminated for violations of safety regulations, but that no full-time permanent employees had yet been terminated.

Some pesticides are injected or sprayed manually, but when spraying is done by boom, it is supposed to be done only late at night so that worker exposure is minimized. However, the Bukidnon Department of Environment and Natural Resources (DENR) has cited Dole for a number of instances where they sprayed during daytime hours, even in some cases where the fields were adjacent to residential areas or elementary schools.

Roughly a dozen interviewees, both residents of the area and people who were current or former employees of Dole, said people they knew working for Dole in Bukidnon had died through their work activities. One interviewee reported that two Dole workers in a neighboring municipality to the southwest had died in 2006 as a result of pesticide exposure. In a separate incident from a municipality to the north, one resident of Agbalo said his cousin, who was working as a sprayman for Dole, had died from lung and intestinal disorders that doctors said were tied to the fertilizers being used on the plantation. A resident of Butong told me of a Dole worker in a municipality to the east who had died of work related causes. Records at the provincial office of the Department of Environment and Natural Resources confirmed this death as a result of pesticide exposure.

Many residents in Agbalo and Butong complained about the lack of public inclusion in the decision process that allowed Dole to establish plantations there. Dole's rented parcels were scattered in many places throughout the municipality, but there is a large

plantation and processing facility adjacent to the community of Agbalo. Opened in May 2005, the Dole facility employed 245 men and 92 women during the time of my stay, including office employees as well as field workers. All but 43 of these employees were regular permanent workers. People in Pangantucan complained of nepotism and cronyism in Dole's hiring decisions, with many of the jobs going to people outside of the community. Many of those workers faced lengthy commutes. Temporary employees were hired through an employment agency called Asia Pro.<sup>79</sup> The numbers of temporary workers would climb during certain times of the year, such as harvest time.

From 2005 to 2010, Dole's wages in the area were increasing by approximately 2.6% per year, while the consumer price index for the Philippines increased by 5.2% per year for the period from 2000 to 2010 (Bureau of Agricultural Statistics 2011). While the gross pay for an employee in 2008 of P233/day sounds impressive compared to the P100/day that might be typical for a sugarcane weeder, the P100-125/day for a *tapasero*, or the P200/day for someone plowing a corn field, the take home pay (after deductions) of the Dole employee would be approximately P180 (\$3.83)/day, which needs to be evaluated in the light of the increased health risks that are posed to many Dole employees. Increased transportation costs and extra money spent on meals away from home also diminished the wage advantages for Dole employees. As of 2009, Dole was not offering higher wages to those who had seniority in Bukidnon. All non-supervisory workers received the same pay

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<sup>79</sup> Asia Pro is a Manila-based company that employs 26,000 workers, primarily in temporary agricultural wage labor. The two Bukidnon offices have a combined total of approximately 2,000 workers on their rosters. Dole and Del Monte are the two top contractors with which they work, with about 83% of the workers in Dole bananas and 17% in Del Monte pineapples. Asia Pro's gender balance is more equal than Dole's Bukidnon operations, but still weighted toward males at 60%.

rate regardless of how long they had worked with the company. The Asia Pro temporary workers who were employed by Dole received take home pay of approximately P150/day.<sup>80</sup>

Although I was able to interview a number of employees (both permanent and temporary) and former employees of Dole, I was ultimately unable to reach higher levels of management, even though I submitted several requests with all of the expected protocols. The security division delayed action on my interview requests and over a period of weeks seemed to be conducting an investigation of me. Dole security personnel interrogated the police of the town in which I lived. They interrogated my landlady. Then they sent two men to my house for an unannounced visit to see my living space and ask questions about my project. I was exceedingly cordial in all interactions, upfront about what I wanted to ask in my interview(s) of Dole management in the Philippines, and I even released my interview questions to them, upon their request. Still, they refused the interview request. Official word eventually came from the Vice President of Corporate Social Responsibility in Paris, France that they did not have time to fulfill my request. It was interesting that this was their response to a request for a one hour interview, since they had obviously spent many person-hours conducting their investigation and preparing their response.

Dole is obviously a powerful player in the municipality and more broadly. The corporation pays property taxes and employs a large number of people, but the sorts of

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<sup>80</sup> At Dole plantations, bananas get harvested once a year and the life span of each tree is five years, at which point replanting takes place. One employee I interviewed described that where he works, there are ten 'regular' (full time permanent) workers in 20 hectares, plus three three-month contract workers, with five additional contract workers during harvest times. Those who are on three-month contracts sometimes get transferred to regular status depending on their performance.

long term health and environmental impacts of Dole's presence that I documented pose an enormous cost that should be factored into the equation. Municipalities, for instance, might consider piggybacking on the DENR fines on plantations that violate their Environmental Compliance Certificates (ECCs). It is the local area that suffers when there are environmental problems, and heavier and more targeted fines to the offending firm may be more of a deterrent in preventing poor environmental practices. This suggestion notwithstanding, I did not see any instances where violation of an ECC resulted in nullification of a lease, which would give much more clout to the provincial and municipal governments' concerns around environmental and health violations.

## **6.6 Conclusion**

At the outset of this chapter, I argued there were connections between land tenure continuity, class equity, food security, and a more localized reproduction of environmental conditions characterized by tight-knit labor arrangements and on-site production of farming inputs. Loss of land control by selling or pawning was an epidemic that was largely tied to the debts associated with the chemical farming paradigm. Makakabus was successfully fighting the trend of land consolidation, but there were deep changes observable among the chemical farmers of both Cabangkalan and Butong. Makakabus members and other sustainable farmers in Agbalo and Butong were reaping health benefits from organic farming as well as getting better per hectare incomes than the chemical farmers in the area. Makakabus's successes were promoting stability for the smallholder class. This, combined with strong group cohesion and self-sufficiency in staple food production, resulted in the elimination of hunger for all of the members of Makakabus. In

the meantime in Butong, many from the agricultural wage laboring class, as well as some smallholders who were in debt because of input loans, were struggling with hunger as their incomes were often insufficient to purchase enough food and many were not in a position where they were producing the staple foods they consumed. Even though incomes for the lowest quartile of Makakabus were lower than incomes for the lowest quartile of Butong, this did not mean that Makakabus had the same difficulties with hunger because they were aided by the group's informal but effective social safety net, as well as by the fact that they themselves produced most of the food they consumed.

The presence of multinationals like Dole in Bukidnon was seen by residents in mixed terms economically. While some people were enthused by the slightly higher wages available in the Dole plantations as compared to the sugarcane plantations, the interviews showed that many Dole employees still struggled financially. As for Dole's greater impact on the area, most people agreed that the corporation was not economically benefiting the community as a whole and they worried about Dole's effects in decreasing the amount of food produced that would be consumed locally. Dole's presence was accelerating the transition away from smallholder agriculture toward wage labor and Dole's dependence on foreign markets and distantly sourced agricultural inputs made the community more vulnerable to the vicissitudes of the world economy. Furthermore, Dole's impact on human and environmental health was widely condemned by the local population.

Class relations were changing in Bukidnon, but the construction of gender was changing as well. The next chapter analyzes how this too was related to the control of land and shifts in the scaling of the reproduction of environmental conditions.

## Chapter Seven: Gender and the reproduction of environmental conditions

This chapter explores the ways that gender and the scales of the reproduction of environmental conditions<sup>81</sup> are articulated vis-à-vis labor, land tenure, ecological change, and development strategies. One of the principal arguments in Chapter Six was that food insecurity in rural Bukidnon has more to do with class stratification, land tenure instability, environmental degradation, lack of communitarianism, and lack of staple cropping than it has to do with income, even among the bottom quartile of the communities. This chapter re-examines the causes of food insecurity and looks at how the construction of gender is tied in with active, tentative, and potential solutions to food insecurity that are allied with central tenets of the food sovereignty paradigm. In much the same way that class equity is an important corrective for problems of food insecurity, gender equity is important for establishing new relations of production, social reproduction, and environmental reproduction that will result in greater food security and food sovereignty.

Although female labor on family farms has long been the norm in Bukidnon, women's large-scale entry into agricultural *wage* labor has been only in recent decades. In the hilly region around Agbalo and Butong, this shift was associated with the growth of the

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<sup>81</sup> As described in Chapter Two, some agriculturalists, largely responding to the marketing pressure of international agribusinesses, scale their environmental reproduction globally as they source inputs from multinational seed companies, purchase chemical fertilizers formed from imported petroleum, and use pesticides developed and produced in other countries. Thus their major inputs all come from outside national borders. In contrast, many organic farmers scale their processes locally as they use traditional open-pollinated seeds, save selected seeds for future planting, compost crop residues, create their own fertilizer using vermicast techniques, and use only traditional local pest control.

sugarcane plantation economy, which hired women for certain key jobs such as weeding. At the time of my study approximately 80% of the sugarcane weeders and nearly all of the stalk gleaners were women. Inflation of food prices caused more women to seek out wage work, as there was a greater need for cash among the expanding landless class. Women working in the fields and plantations generally earned less than men. In 2009 I found that women sugarcane workers generally made P80 (\$1.70) – P100 (\$2.13)/day, while the typical wage for men was P100 (\$2.13) – P120 (\$2.55)/day.

Another factor driving the need to take on wage labor however was the fact that the conversion from corn and rice to sugarcane limited the amount of staple foods that were produced in the area, which necessitated the purchase of foods produced elsewhere. In other words, sugarcane cultivation directly caused a decline in the subsistence farming economy. Loss of land among smallholders had already curtailed women's agricultural output from former family farms, but the increase in female wage labor also meant less time for women to work their backyard plots, further eroding the food self-sufficiency of many families.

Changes in the gendered division of labor were subtler among the chemical farmers in Cabangkalan compared to Butong. This is because in Cabangkalan there have been no major changes in the cropping patterns. Rice has been dominant for many years and women's and men's roles and tasks in working in the *basakan* (rice paddy) have not changed dramatically. However, there are similarities in the communities in the sense that land consolidation has caused more class stratification and more reliance on wage labor among both men and women who worked in the chemical rice farming areas. Increases in women's wage labor participation have been driven by increases in the cost of living that

have outpaced wage growth. One income was no longer sufficient to sustain households relying primarily on wage labor.

Among the members of Makakabus there was a different pattern of changes characterized by greater (though far from complete) convergence of tasks between genders, leading to marked reductions in the gendered division of farm labor. A more dramatic change, however, is that decision-making in the Makakabus farms changed a great deal in terms of the expanded authority of women. From many households in the organization (and not just for the official leaders of the organization), there was a narrative of the emergence of leadership or equal partnership in agricultural decision-making for women who had formerly been relegated to a lesser role. As for the tasks of social reproduction, men were contributing more than in the past; however, there was less convergence in social reproduction than there was in farm labor. Thus, women were still doing the bulk of the work of social reproduction, and with the added responsibilities of farm labor, women had increased overall burdens. This has been referred to as the 'double burden' (Razavi 2002; Agarwal 2003) or 'double shift' (Zhang and Lovrod 2012).

Valencia, promoted by its government as "The City of Golden Harvest," is largely a rice producing area. Cabangkalan is in one of Mindanao's prime, flat, rice-growing plains, an area that has been irrigated since 1984. By the time I visited Cabangkalan in 2009, the community had marked dissimilarities between the practices of the majority chemical farmers, usually male, and the practices of Makakabus, a women-led collective of sustainable rice farmers. These differences have resulted in different levels of profitability, food security, and the retention of land control. I will now trace the how these changes occurred.

As an increasing number of farmers became dissatisfied with the chemical farming paradigm during the 1990s, some banded together in 1995 as the Bukidnon Masipag Farmers Multi-Purpose Cooperative (BMF-MPC), which drew funding support from the Philippine Development Assistance Programme (PDAP), an NGO working in the area. The women of BMF-MPC eventually expressed their desire to start their own livelihood diversification project, but the leadership of the organization, which was completely male, ignored the idea. A “mini-gender war” (PDAP 2009) transpired and the women, with the encouragement of PDAP, started their own organization, naming it Makakabus<sup>82</sup> (*‘Malahutayong Kahiusahan sa mga Kababayen-an sa Bukidnon’* or Sustainable Unity of the Women of Bukidnon). The Makakabus vision statement includes language on equity, social justice, food security, and sustainable agriculture (Makakabus organizational materials 2009). The new organization expanded quickly to 176 members, though when the leadership opted to enforce very strict regulations on exclusively organic farming practices, the membership dwindled quickly to only 8. Membership had rebounded back to a level of 48 (24 families) by 2009 as a number of residents of the area observed the economic successes of the core members of the organization and wanted to take advantage of the increased income opportunities and the lower overhead costs of organic farming. Although Makakabus’s quest for outside funding was hindered by the previous association with BMF-MPC, which had defaulted on a loan that they had received through PDAP (Philippine Development Assistance Programme), eventually Makakabus became one of ten sites in

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<sup>82</sup> An excellent summary of the beginnings of the organization of Makakabus can be found in the article by Angeles and Hill (2009) on the gender dimensions of livelihood diversification. In the time since their 2001 fieldwork, Makakabus has focused more on organic rice production with less emphasis on livelihood diversification.

Mindanao for PDAP's Promoting Participation in Sustainable Enterprise (PPSE) program, which supported their endeavors at organic rice production and other diversified livelihood sources.

In the meantime the chemical farming economy continued to see economic changes. Small farmers increasingly were not able to stay out of debt and they would frequently have to pawn their land to cover their debts. To reverse the trend of small farmers losing their land in *prenda* arrangements, Makakabus began paying off people's *prenda* debts so that the original owner/farmer was indebted to them instead. Makakabus would then get the owner personally involved in planting organic rice, bringing back the condition of the soil, and avoiding the expensive inputs of seeds, chemical fertilizers and pesticides. Rather than the 15% share of the net harvest that was the local standard for maintainers, Makakabus let the owner/maintainer retain 20% of the net harvest.<sup>83</sup> Thus within a few years the owner could pay off the debt to Makakabus and retake control of their land. These farmers would usually continue to farm organically since the organization not only had helped them regain their land but also supported them through the conversion from chemical to organic farming. After years of heavy chemical use, the first year or two of

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<sup>83</sup> Net harvest refers to the rice that is left after the harvesters and threshers are paid with rice. For example, if the gross harvest on one hectare of land is 120 sacks, one-twelfth or 10 sacks will go to the harvesters, one-twelfth or 10 sacks to the threshers (and the owner of the threshing equipment), leaving a net harvest of 100 sacks. Of this net harvest, 20 sacks will go to the maintainer of the land (whether that is the owner acting as maintainer in a *prenda* arrangement or a maintainer hired by the organization). 80 sacks will be the share for the organization in cases where the land has been pawned to the organization or 80 sacks to the member-owner in cases where the land is not pawned. All of these people have the option to retain their rice for their personal consumption or to sell the rice to the organization and let the organization handle the marketing.

organic cropping does not bring great yields, but after that organic fields will often produce as well if not better than the field did when it was farmed chemically. Since the input costs are negligible, organic farming then becomes more profitable for the farmer. Although labor hours increase in the organic paradigm, the farmers said their health improved and their personal productivity increased when they were no longer exposed to chemical pesticides. Their involvement with Makakabus gave these farmers a built-in marketing solution for the organic rice, as Makakabus was a local market consolidator.

Makakabus actually become the dominant organic collective in the area, while its parent organization BMF-MPC shrank to six farms. This was the result of BMF-MPC lacking in both the strength of its marketing plan and in its sense of gender inclusiveness.

Makakabus received a second round of funding through another PDAP loan in 2008, to facilitate its *prenda* land rehabilitation program, which was seen as a resounding success.

This second round of funding was through a newer phase of PDAP programs called Promoting Rural Industries and Market Enhancement (PRIME). In 2009, repayments on the loan were proceeding at the prescribed pace and the organization was expected to remain financially viable, even if there were no new loans or grants in the future.

The scaling of the operations of Makakabus has been in flux. Makakabus was centered on the Cabangkalan *barangay*, but included a few farms that extend into other *barangays* that were easily accessible. The key for leaders of the organization was for all of the farms involved to be close enough for easy inspection by the leadership to ensure that their rigorous farming standards were being met. Only if they were able to expand their administrative/technical staff would they be interested in moving into other municipalities in Bukidnon beyond Valencia. But even if it was financially and logistically plausible, I

sensed that there would be some reluctance. The leadership saw the strength of Makakabus as resting on the interpersonal relationships that allowed for a high degree of accountability and transparency in their activities. Scaling up the organization would risk the integrity of these relationships.

In the earlier days of the organization, effort was made to educate and motivate farmers in the area concerning organic rice farming. The success of the organization both in financial matters and restoring soil fertility in farmlands has meant that they no longer feel the need to 'advertise.' The organization was well known within the *barangay* and when farmers were interested in trying organic farming, they would come to Makakabus.

### **7.1 Scales of (re)production and the construction of gender identities**

For decades, corporate influence bent governmental extension programs toward the chemical farming approach, yet increasingly this approach is only profitable in large-scale farms where low-wage labor replaces the family farmer/owner-operator. In the communities I visited, the application of chemical pesticides was seen as men's work because of the need to carry heavy containers of pesticides and because women were concerned about transferring this exposure to a fetus or a nursing child. As noted in the previous chapter, the majority of the farmers I interviewed who had engaged in spraying pesticides complained about health problems and many of them had been hospitalized. Thus, the use of pesticides may keep women out of certain aspects of the rice-growing labor process and influence the gendered division of labor involved in that style of agriculture. In addition to avoiding chemical exposure for the sake of their children or future children, women were probably less likely to participate in cultivation that required

chemical inputs because acquiring these inputs required a higher level of mobility than many women had, considering their child care and other domestic responsibilities. Organic agriculture does not need these off-farm inputs, so travel, which can be especially difficult with children, is not as frequently necessary.

Makakabus emphasized gender inclusiveness in its programs and practices, because many of the other farmers attempting the organic paradigm were not necessarily engaged with these issues. The male members of BMF-MPC, for example, saw the women in their organization as housewives and helpers rather than farmers and entrepreneurs (Angeles and Hill 2009). The creation of Makakabus was the direct result of dissatisfaction with gendered exclusion in their previous organization, so when Makakabus began its independent existence, the stress was on transparency of operations and inclusion of all of the opinions of the members. BMF-MPC has stagnated since then, while Makakabus thrived. The male-dominated structure of BMF-MPC did not allow for the creation of a spirit of *bayanihan* (group cooperation on tasks) since they were excluding the decision-making potential of half of the community.

Makakabus is offering an alternative form and an alternative scale of the reproduction of environmental conditions. It also emphasizes alternative constructions of gender identities that blur the usual distinctions in the division of labor and break stereotypes about leadership. My research suggested that Makakabus was succeeding in the (re)production of their environmental spaces partially because they have created a spirit of *bayanihan*. Their attempt to transition to a more cooperative style of production that crosses family boundaries and utilizes reciprocal labor rather than wage labor was an example of how many organic producers attempt to (re)build the horizontal social

exchange arrangements that used to be more prevalent in Philippine rural life (Shields et al. 1996). In the case of Cabangkalan, which did not have significant settlement before the 1984 irrigation works, Makakabus was trying to establish these horizontal exchanges for the first time. There were still gendered divisions of labor in the organic farms, but the distinctions were definitely less clear-cut than in the chemical farms.

In my study I attended monthly meetings of Makakabus where all members were present and there were no apparent distinctions between men and women in regard to who participated in discussions. Group dynamics that I observed were inclusive in terms of allowing all voices to be heard and to accept ideas and criticism from all members regardless of position or gender. This may be evidence of a conscious performance of new more egalitarian gender identities to contrast the former experiences in the parent organization. From a variety of interactions and interviews, I can characterize the members of Makakabus as very future-oriented, hardworking, cooperative, food-secure, healthy, and noticeably happier about their prospects as farmers than other agriculturalists living in the area. The personal health effects of eating the organic rice they were growing were widely talked about by even the poorest members, and no one in the organization was selling their organic rice in order to purchase a larger amount of chemically grown rice.

I asked the leadership about how the organization maintained its focus and its culture of hard work, cooperation, and planning for the future. They indicated that regular meetings helped sustain group unity, members felt free to speak up about their concerns, and when something was agreed upon in a meeting, strict implementation of that policy was a way of showing the integrity and resolve of the organization. Financial transparency

kept the level of trust high. Members indicated that cooperation develops ‘organically’ from following the organic standards in farming. Many of the members spoke about how if they needed a hand on their farm, the other people in the group would pitch in. The shared sense was that the whole group would solve problems encountered by the farmers, so people never felt alone. Even personal problems were addressed by the other members of the organization. A spirit of camaraderie kept people focused on the future. Besides informal caregiving, Makakabus as an organization was also working toward a future where the health of its members would be protected through formal means via payments to a national health plan.

The near unanimous view that food security was improving for the members of Makakabus stood in stark contrast to the other communities I visited. Additionally the interviewees spoke of environmental health, especially in the context of soil fertility, but also in species biodiversity and climate change concerns. I did not get the impression that these concerns were driven by media exposure or other outside influence. Instead, I had the impression that people were thinking more actively about their environment because their type of farming was in a more active and creative dialogue with the farm ecology than was the case with the chemical paradigm, which was often reactive and prescribed.

The success of Makakabus in being a local market consolidator of rice and in altering the direction of movements in local land tenure through their land rehabilitation program led to changes in both the gendered division of labor and in the construction of gender identities among members. Femininity for Makakabus members consciously encompassed production, social reproduction, and the reproduction of environmental conditions rather

than the more traditional focus on social reproduction that was characteristic among many women who were wives of chemical farmers in the area.

## **7.2 Ecological revolutions and gender**

Jason Moore (2010) argued that we may be seeing an ecological revolution where neoliberalism is in crisis and the increasing price of food may play a pivotal role in curtailing the accumulation of capital, which could result in an overthrow of the neoliberal project. Arguably, there was an ecological revolution (Merchant 1989) occurring in the agriculture systems associated with Makakabus. A transition was occurring wherein the potential for profitability and stability was greater with the shift from chemical to organic cultivation practices. The land itself seemed to influence local constructions of gender, wherein more collective and gender-equitable approaches to labor and social organization were turning out to be advantageous. In this sense, this research supports Bakker's (2010) ideas about the agency of socationature.

However, collective and equitable approaches being more conducive to group food security does not *necessarily* mean that the government will use food security and community stability as the most important criteria through which to evaluate rural development. Although it might be more progressive for the state to use these criteria, it remains that crude economic criteria often hold sway. Yet, even in a scenario where budgetary concerns prevail, the organic paradigm may be considered preferable because it does not need constant capital inputs, whereas the chemical paradigm is prone to state intervention because of its reliance on outside inputs that have a high degree of volatility in price. Furthermore, in a self-sufficiency/food sovereignty paradigm, there is less

vulnerability to outside economic influences, which means planning can be more stable. Slanting rural development toward corporate export cropping, on the other hand is riskier since it relies on the whims of distant markets. To sum up these changes, the ecological revolution may also be intertwined with significant changes in the agricultural economy.

The Philippines is a place where political and professional success for women is relatively common and many people view women as the ones who hold the country together, whether through professional success, remittances from overseas jobs, or maintaining family stability domestically. Yet a patriarchal belief system was still entrenched within the culture. Rural men typically feel they should be the productive force of the family unit. However, the changes that have occurred in the general agricultural economy in recent years, such as those in Bukidnon, have deprived most men of the opportunity to be in control of their destinies. The challenges to family farmers in the Green Revolution model of agriculture have meant that men end up selling, pawning, or renting their land, and frequently have to rely on wage labor to pull in an income. This situation decreases their income potential, which can diminish self-esteem, and the experience of farming as paid employees doing repetitive specialized tasks may take away their senses of themselves as problem-solvers. If farmers are still farming their own land, but using the prescribed methods of reductionistic chemical farming (Plumwood 2002), in which the decisions are dictated by the instructions on the seed bag, fertilizer bag, or pesticide container, then they may lose a sense of themselves as independent problem-solvers.

Before I started talking to people in Cabangalan, I was expecting to encounter two groups: those who believe in and are practicing organic farming, like the members of

Makakabus, and another camp of people who are staunch advocates of the chemical approach. To the contrary, every one of the small farmers using chemical methods with whom I spoke in Cabangkalan expressed that they would like to compost their rice straw rather than burn it, that they would like to restore the soil's natural fertility, that they want to avoid taking loans for increasingly expensive fertilizers and pesticides, and that organic farming has greater income potential.<sup>84</sup> They saw the Green Revolution as essentially a failure and expressed an interest in trying organic farming. Yet short-term financial concerns often prevented them. Worries about the drop in productivity during the first year or two of the organic conversion process, combined with their currently indebted state meant that weathering the transition period was out of the question for most of the farmers in the village. Thus the chemical approach continued to be used, with soils requiring ever-greater amounts of fertilizers and pesticides just to attain the same yields as previous years. The larger chemical-farming operators could usually stay profitable by taking advantage of economies of scale in regards to some input and labor costs. But in the process, excessive fertilizer was turning the soil acidic and jeopardizing the long-term production viability of the land. Small-time chemical farmers were almost all struggling with debt. The Makakabus *prenda* land rehabilitation program addressed these issues in the community by offering a way for small farmers to eventually reassert control over their land and bring back its soil fertility.

Chemical farming operations lack a long term approach to soil fertility, since the 2.5 croppings per year average does not allow enough of a fallow period to restore natural

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<sup>84</sup> Broad and Cavanagh (2012) also found that organic farmers were earning better incomes than chemical farmers in their study near Davao in southern Mindanao.

nutrients. Input manufacturers want to perpetuate the continuous style of cropping so they can sell more products, but ecological damage caused by the technologies of the Green Revolution may be reaching a tipping point, creating a need for a paradigm shift.

The IAASTD report (2008) suggests that sustainable agriculture is the path that needs to be taken by developing countries, in order to both preserve soil fertility and keep the control of agricultural lands out of the hands of elites and foreigners. I asked chemical rice farmers in Cabankalan if they would be interested in a hypothetical program (governmental or otherwise) that would give them financial assistance during a conversion to organic farming. The unanimous answer was yes. Farmers stated that they cannot straddle the two paradigms. For example, one chemical rice grower I interviewed said to me that he would like to see the enforcement of the laws against burning rice straw. Yet he routinely burned his rice straw. When I asked him why, he said that as a chemical farmer, he would be economically disadvantaged in the short term if he did not burn his rice straw. His response suggests that he needs to be spurred on to do what he considers the right thing, and both governmental regulation and financial assistance can help him get to that place.

Since organic rice farming only produces two croppings per year, while chemical rice farming produces 2.5 croppings, some may argue that the food security of the Philippines would be improved by chemical farming since more rice is produced. When I asked one of the leaders of Makakabus how she felt about this, she said:

Those people are just seeing their life in the present, rather than seeing the future outcomes of what they are doing today. The more they hasten their production, the more they are destroying their land. And they are destroying their health. They are not thinking of the next generation to come. What will be their future?

When the environment reaches a point where group-oriented organic farming is more productive than single-family chemical farming, it may mean that the construction of gender may shift in subtle ways as well. In Cabangkalan, a contrast developed between soils that required ever-increasing and financially draining inputs of chemical fertilizers versus soils that thrived with simple composting and overturning of internal organic materials. As the dominant model of the patriarchal family unit engaged in chemical farming was shown to be a less effective economic strategy in Cabangkalan, residents of the community (beyond just Makakabus members) were gradually becoming more open to the construction of more egalitarian gender identities. In this sense, the environment was an active force in the process of gender construction.

Makakabus members specifically spoke about how their lives were modeled after and inspired by the agricultural cycles they observed around them. The cyclical flows of energy and nutrients in the farming ecology informed and (re)inscribed the Makakabus members' senses of the reproduction of human labor in the system. Cooperative efforts in the production of the rice and the provision of childcare and eldercare were part of the responsibilities of those involved in the labor. This contrasted with many of the other farms in the area where people were more separated into either rice laborers or those taking care of social reproduction. We can also consider the differences between paradigms in terms of nutritional allocation. Nazarea-Sandoval (1995) put the differences in nutritional allocation by gender in the context of energy flows: "Energy is channeled toward the dominant and the 'indispensable' and away from the subordinate and the 'marginal.'" If the chemical paradigm devalues the labor of women, then males may get nutritional preference.



Figure 7.1: Rice seedlings being pulled and bundled for replanting in another field in Cabangkalan (photo by author).

The gendered division of labor in Cabangkalan differed according to which farming paradigm was being practiced. For example, pulling (known as *gabot*, which is the removal of seedlings from an immersed paddy) and transplanting (which is the replanting of those seedlings further apart from each other in another field) were largely considered women's work in the area. It was this labor-intensive practice, which was used in all organic farms, that brought better yields than the simple broadcasting method (spreading seeds at random) that was commonly used in the chemical paradigm. Broadcasting is wasteful of seeds compared to transplanting. But also, the practice of broadcasting excludes women from potential income activities and in places where it becomes the norm, there is a risk

that the environmental knowledge that women have about the farming ecology can be lost. The acts of *gabot* and transplanting were much more interactive with the rice paddy ecology than the act of broadcasting seed. When planting, there needs to be careful consideration of how much distance there is between separate plants, so sunlight will not be blocked by neighboring plants and there will be room for the panicles to develop.

Some activities in the *basakan* (rice paddy) system, such as turtling (land preparation) and carrying sacks of grain were done by males regardless of which farming paradigm was practiced, but I was able to witness more convergence in the gendered division of labor in the organic farms in tasks such as water management, weeding, harvesting, threshing, and practicing *papalid/pahangin* (using the wind to winnow the grain from the chaff). In the non-organic farms, pesticide application was always done by men, while indigenous pest deterrence strategies used in the organic farms were done by either gender. Some of the activities practiced on the non-organic farms, such as spraying pesticides, applying chemical fertilizers, and burning rice straw have taken some of the creative problem-solving out of farming. There is much less about these strategies that would link farmers' experiences to specific ecological conditions.

### **7.3 Land control, class, and gender**

Land control has been lost by many of the original settlers and agrarian reform beneficiaries in places like Butong and Cabangkalan. Although many people in the area indicated that the problem of land tenure instability was in an uncontrollable downward spiral, Makakabus challenged the trend with a variety of actions that made land control a principal part of their sustainability strategies.

One criticism of governments and NGOs that focused on practical (e.g. income, jobs, credit) rather than strategic (e.g. education, literacy) gender needs is that this resulted in the prioritization of activities that were market-oriented and reinforced male economic power (Harris 2009). Angeles and Hill (2009), for example, criticized how, in the Philippines, specifically for Makakabus, PDAP stressed women's practical rather than strategic gender needs. While this may be true, the question is whether this was really the wrong strategy. While increasing educational opportunities for everyone is advisable, stressing practical gender needs can in some cases be more beneficial. Land tenure is an increasingly important issue and security of resource control may prove to be more important than monetary security. If households lose control over their land, then they will be at a greater disadvantage than if they have control of their land but are disadvantaged educationally. The importance of control over land will continue to escalate, as global food prices will presumably increase. I heard many farmers and wage laborers in Agbalo and Butong say they wanted their children to get out of farming, but I did not hear this sentiment expressed among members of Makakabus. In Agbalo and Butong, there was a desire for the strategic gender need of education to solve the poverty problem, but with more land tenure problems, they were generally in a more disadvantaged position to facilitate this outcome.

Makakabus's organizational materials (2009) include the goals: "To develop and promote sustainable farming systems in order to improve the production base of farmer owned and managed enterprises. To develop strategies around securing and sustaining asset reform in agrarian relations." From this we see that land control and land tenure were early and basic considerations of the organization. Land reform from the government

had not been succeeding, so the members of Makakabus decided to create their own land reform program. As local farmers see that the means toward preserving land control is the adoption of a more collective approach, this stands in contrast to and challenges the previous view of the (usually patriarchal) family-centered orientation. Makakabus's effort to keep land owned and operated by small farmers will not only help reorient the local farming economy toward smallholder owner-operation, but will change the ways that gender is constructed in Cabangkalan.

#### **7.4 Neoliberal economic reforms, development, and gender**

In a climate of neoliberal economic reforms, rural development programs tend to emphasize monetary security and market orientation rather than rewarding agricultural practices with positive ecosystem services and a local focus. These emphases can drive changes in the construction of gender as well.

The Philippine Local Government Code of 1991, which was partially guided by IMF structural adjustment (Perez 2010; Lim and Montes 2010), was a devolution of central government power to local government units (LGUs). While devolution could have hypothetically led to a democratization of development decision-making (Harris 2009), local political and economic elites have tended to capture the process. Furthermore, the emphasis of development tends to be more on the generation of tax revenues for the LGU rather than social equity in the community (Harris 2009). LGUs may be reluctant to implement programs that promote internal consumption, since only monetized commerce can bring in tax revenues. Thus, there may be an incentive to administer development programs that promote chemical farms that use purchased inputs rather than inputs

developed on the farm. During the 2000s, government-sponsored agricultural development focused mainly on increasing yields, with very little emphasis on maintaining ecosystem services or integrating gender concerns. NGOs tried to fill the void and led the movement to protect soil fertility, water resources, and air quality.

International changes in how development programs are conceived affect priorities in the Philippines. During the 2000s, the Canadian International Development Agency (CIDA), which was the principal funding source for PDAP (Philippine Development Assistance Programme), underwent an evolution in its emphases. PDAP's PPSE (Promoting Participation in Sustainable Enterprise) program was focused on the goal of sustainability along with economic interests, but its successor was PRIME (Promoting Rural Industries and Market Enhancement), which even in name reveals a shift in focus to market-orientation without any reference to sustainability. "People empowerment [and] equitable land distribution...gave way to...private sector development, market linkages, and asset generation activities" (PDAP 2009). The words of CIDA Second Secretary/CIDA Philippine Mission head Joe Goodings were: "There is such a thing as healthy profit. That's how the world works" (PDAP 2009).

This is not to say that, with the replacement of PPSE with PRIME, there has been any change in the farming approach of Makakabus, but it does reveal that the emphasis of PDAP's evaluation of its member communities shifted from social equity and ecosystem services toward profitability, which in turn, may exert an influence on local constructions of women's identities, away from 'protectors of the resource base' and instead toward 'responsible entrepreneurs.'

With the emphasis on privatization associated with neoliberalism, the functions of

rural development that were handled by Philippine government agencies were increasingly handed over to private investors or NGOs because of the lack of government funds available. In the case of Makakabus, the members sought the assistance of an NGO because they knew there would not be the same level of support from the LGU.

Harris (2009) pointed out that individualized rights for resources like water or land may fit into a philosophy of neoliberalism where rather than relying on their community or state, individuals are encouraged to take responsibility for their own welfare. Yet, in the context of land tenure in the rural Philippines, economic situations are often so precarious that relatively small shocks may push a landowner into selling or pawning their land. Thus some land tenure activists I spoke to in Bukidnon and other parts of the Philippines promote the idea of redistributing land to communities or cooperatives rather than individuals and theorize that the policy of individual titling was a purposeful strategy designed to allow elites to accrue large landholdings again.

Nightingale (2006) stressed the need to evaluate how international policies can affect gender relations on very local scales. In the case of Makakabus, the organization was paradoxically practicing a very locally oriented style of agriculture in regard to its inputs, but relying on marketing a portion of its products outside of the community to capitalize on the small premium that some consumers in urban areas were willing to pay for organic rice. International development personnel may look at this situation and think they need to strategize on opening export markets for organic producers like Makakabus. But I would argue that what is really necessary is to work on addressing the factors that are creating the price disparities. The rice subsidies that the United States uses for its domestic production bring down the price of chemically grown rice worldwide.

Rather than facilitate an expansion of the geographic scales of trade for organizations like Makakabus, development planners might focus on helping to develop viable local markets for their products. But because of the small discrepancy in price between chemical and organic rice<sup>85</sup>, there was not enough demand within the neighboring city of Valencia to warrant a retail outlet there, so the bulk of the rice that was not consumed by members<sup>86</sup> was sent three hours away to the larger, more cosmopolitan city of Cagayan de Oro to be marketed to a more health-conscious clientele.<sup>87</sup> The Makakabus leadership was actively trying to change this situation, since in principle they, like MASIPAG-influenced farmers organizations in general, would prefer to feed local people first, but there were no viable retail locations in Valencia City for them to tap into at the time of my study. As awareness of organic products grows in the area, this will likely become a possibility, but as of 2009 the explosion in organics awareness that occurred in the 2000s in the United States had not happened in the Philippines.

Small farmers tend to focus on production, often giving little thought or effort to marketing. Lack of marketing knowledge or LGU support meant that many individual

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<sup>85</sup> In terms of a premium for organic rice as compared to conventional, the selling price of milled organic rice was usually 1600/sack compared to 1500/sack for conventional rice, though Makakabus was strict about filling sacks to 50 kilos, while much of the conventional rice weighed only 48 kilos per sack, so the actual difference can be as little as 0.75 pesos per kilo (P32/kilo compared to P31.25/kilo).

<sup>86</sup> Of the rice that was produced, members of the organization consumed a significant portion. For those acting as maintainers, an average of half of the rice they earned was consumed and the rest sold, but for land owners, the amount consumed was approximately 10% since they retain a larger share of the net. Aside from a small amount saved for seed, the rest is sold.

<sup>87</sup> Of the rice that was sold outside of the organization, there was some walk-in business from local families, but 80% of the rice sold by Makakabus went through their marketing arm, BOPC (Bukidnon Organic Products Corporation). Cagayan de Oro was the main city in which this rice was marketed, but Manila and Cebu, the two largest cities in the country, also occasionally received shipments.

farmers in Bukidnon who tried to produce organically got discouraged because they had no structure in place for marketing their products. The success of Makakabus is largely attributable to their advantageous marketing arrangements. Collective marketing efforts by organic producers were a scaling strategy of sorts because economies of scale may be achieved in situations that would be too difficult for individual producers who are not linked to a collective or cooperative.

The only farmer in Cabangkalan I met who had switched from organic to chemical methods (this was before Makakabus was a significant force in the community) blamed his lack of a good marketing strategy as the reason for his failure as an organic farmer. When I spoke to him, he said he felt trapped in the chemical paradigm, dependent on short-term income, and not able to consider a transition back to organic because of his short-term financial needs.

This farmer had loans that were building interest at the rate of 7%/month. As he put it, "loans are a way of life." His debts to a financier, the short term financial needs of his family, and his children's education required him to rely on the third cropping of his chemical rice fields for steady income (in the alternating years when there is no irrigation shut off). He said that organic farming was good because your inputs are reduced and if you continue for more than three croppings, you can get good yields. I asked him if debt and lack of liquidity were not problems for two farmers operating over the course of 20 years, one using chemical methods and the other using organic, which would be more profitable? He said the organic farmer would definitely be more profitable. I also asked him if there were a government program to finance farmers' conversions from chemical to organic farming, would he take part? And he said yes to that as well. He said

environmental and health benefits come from organic farming. He would like to see greater health and fewer worries about the price of fertilizers. He said the whole financial situation would improve; climate change would be lessened with organic farming, since there would be no burning of rice straw; and the restoration of soil fertility would be another effect.

Shields et al. (1996) detailed the ways that transitions in some Philippine communities from subsistence to a market economy have increased competition for scarce resources and meant that horizontal social exchange arrangements have been abandoned in favor of hierarchical relations, with the result that the sustainable reproduction of environmental conditions falls by the wayside. In the case of Makakabus, the transition ran in the reverse direction because horizontal social exchange and sustainable environmental practices were increasing. However, the need to engage in markets was still present. To promote consumption of organic foods on the local scale, governments and development agencies will have to help create local markets and institute programs that both reward the positive ecosystem services of organic farms and penalize the destructive externalities of the chemical farming paradigm.

Why did Makakabus thrive, while the original organization, Bukidnon Masipag Farmers Multi-Purpose Cooperative (BMF-MPC), shrank to a size considerably smaller than Makakabus? It did not seem to be about different agricultural methods. While BMF-MPC had a period in which its members were straying from organic growing methods (a development that partially prompted Makakabus to splinter off), by the time of my study both BMF-MPC and Makakabus were strict organic practitioners with a high degree of similarity in their agricultural styles. But BMF-MPC still remained stagnant compared to

Makakabus. One explanation concerns the orientations of the two organizations, with BMF-MPC being more focused on education and Makakabus being more oriented towards business. The heart of BMF-MPC was the leader's test farm, in which he experimented with a range of rice varieties and other crops. Aggressive marketing of the organization's output did not seem to be a priority, but this might also have been because the organization no longer had a critical mass to produce enough of an output to entice any distributors or retailers. Furthermore, the fact that the organization defaulted on their original loan from PDAP could not have helped their prospects. Makakabus, on the other hand, did have the critical mass to make a marketing arrangement with Bukidnon Organic Products Corporation (BOPC). The leadership of Makakabus felt they had outgrown their educational phase and were intent on making sure they remained financially viable.

One might assume that the decision to fund a women-led organization was to promote a kinder, gentler type of development. In the case of PDAP's decision to fund Makakabus though, I argue instead that PDAP was impressed by the rigor of the organization, suggested by its willingness to remove members for not following organic practices, and impressed by the organization's orientation toward business success rather than educational outreach. Many people both inside and outside of Makakabus commented on the strictness and discipline of its leader. The 'toughness' discourse was evident from a story told among the group's members of how the leader once chased one of the workers up a tree when he was not following proper procedures. The story may be apocryphal or the worker's decision to climb a tree may have been at least partially an exercise in jocular theatrics, but the story still underscores an intragroup discourse of some fear of retribution. This discourse was known by PDAP and its affiliates. While concurrently there

was also a strong discourse of the leader as being nurturing and generous, one must wonder whether the 'toughness' discourse was a key reason for the organization to be recognized by funders, and if so, what this says about the dynamics of development decisions. Does it take aggressiveness (that is often considered to be in the domain of the masculine) to be noticed by those in power? If so, are these victories for feminism or might they be seen partially as defeats? Unlike many feminist political ecology studies, Makakabus was a story of success. But we have to analyze how and why it has been a success so far.

Women in Philippine rural society have had the responsibility of maintaining the functional continuity of the family unit, while for men, activities like drinking and gambling have to a certain extent become gendered in themselves as male practices. Thus in an agricultural economy under stress, women may be seen as the more reliable leaders or entrepreneurs. But the limitation for the implementation of investment in women's enterprises is that men are not sufficiently involved in the provision of childcare since their gender identities do not emphasize this activity. If men do not help with the tasks of social reproduction, child care, and eldercare, then the PDAP/PRIME type of development projects add burdens of increased 'productive work' for women in the community (Angeles and Hill 2009) on top of their tasks of social reproduction. To reduce the cumulative burdens that women face, the projects need to find ways to spread the responsibilities and rescale societal practices of social reproduction. One is to encourage men to be more involved in the social reproduction of their families and communities. Another is for the government to do more to provide daycare and healthcare. Yet the neoliberal project is at odds with this idea since part of that project is to shrink the role of the state. Given the

fiscal effects of neoliberalism and structural adjustment there was little public funding available to restore, let alone add social services.<sup>88</sup>

Local development personnel saw women as better credit risks than men because their priorities were families, food, education, and housing, while men were seen as less responsible and susceptible to vices (PDAP 2009). PDAP's former executive director said, "Women are better entrepreneurs than men. They know how to save money, they know how to budget, they know how to engage the market." Though presumably beneficial in most respects for women, these perceptions, when they steer policies and programs, (re)create the gender identity of woman as entrepreneur, while there is no concurrent encouragement for men to participate in the processes of social reproduction. One local development officer spoke of maximizing the women's traits. "We capitalize on the women's survival skills" (PDAP 2009). This discourse reveals that while local lending organizations were working to improve the livelihoods of women, they were also engaged in the construction of subjects who will be good credit risks and thus bring them profit.

As Sultana (2009) put it, "Subjects are always embedded in multiple relations of power." Perhaps the potential of Makakabus was recognized more by those with ties to international development than by the men in their own community. The title of the article on Makakabus in PDAP's (2009) organizational publication is "Because Women Can Lead and Lead Well." One might see this statement in terms of a drive to create new possibilities and overturn an outmoded conventional view of men as the 'natural' leaders, but at the

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<sup>88</sup> Trade liberalization since the 1990s meant that import duties and taxes dropped from over 5% of national GDP in the early 1990s to less than 3% of GDP by the late 2000s. Likewise, total national government spending dropped from 24% of GDP in 1990 to 18.3% by 2010 (IBON Foundation 2009).

same time it solidifies the concept of gender itself, which might pose challenges for equity in the future.

The Philippine state promotes family cohesion. Billboards throughout Bukidnon state, “*Ang pamilya nga liga-on may kaugmaon*” (A family that is strong has a future). Other billboards proclaim, “A family that stays together has a future.” It is difficult to assess what prompted these billboards. Was it to discourage fathers from abandoning their families? Was it to encourage couples to work through their problems? What is interesting, though, is that these billboards express the state’s concerns, yet, at the same time, the government expends a great deal of energy in facilitating the voyages of Overseas Filipino Workers (OFWs) (Parreñas 2001b), many of whom are women of child-rearing age. Early in her presidency, Gloria Macapagal Arroyo told *Time* magazine (2003), “I am not only the president of 80 million Filipinos. I am also like the CEO of a global corporation of the 8 million Filipinos who live and work in 140 countries all over the world.” The Philippine transition into a neoliberal “labor brokerage state” (Rodriguez 2010) has ramifications for the sex ratio of some communities in Bukidnon.<sup>89</sup> The remittances of OFWs provide a significant portion of the Philippines’ Gross Domestic Product, though families are often torn apart through the long distance separations that are the result of these arrangements (Parreñas 2001a; Pratt 2009, 2012; Battistella and Conacao 1996).

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<sup>89</sup> The *barangay*-wide ratio for Butong was 100 females: 115 males. The differences between sexes were even more pronounced in the 25-49 year old age range, which may be an indicator that more women were leaving the communities for work in other countries or other parts of the country. Small farming villages are not the primary sources of OFWs, but the phenomenon definitely occurs even in small communities and it is not limited to the unmarried and the childless.

In the Philippines in general, in the era of neoliberalism, people were decreasingly producing for their kinship and neighbor groups and increasingly producing for international markets. The OFWs were an extreme example of this. Not just the products produced from their labor, but their bodies themselves crossed international boundaries. The Philippine government valorizes the OFWs as national heroines/heroes, suggesting the ways that the government favors financial stability over family and community stability. The food sovereignty framework stands in opposition to this strategy by stressing community cohesion and more local self-reliance.

## **7.5 Conclusion**

Development programs and projects must address both labor issues (equitably producing income) and environmental issues (protecting the sustainability of resources) (Nightingale 2006). Gender-sensitive development has been shown to make an impact in the promotion of local-scale economic-ecological endeavors that are also financially viable, promote local food security, and ensure long-term ecological sustainability. The success of Makakabus suggests how these concerns can be combined with and advanced through organic agriculture.

Angeles and Hill (2009) note that development aid and NGOs have essentialized women in Cabangalan as “alternative income providers and domestic reproducers.” Yet, the success of Makakabus’s program for retaking land that had been pawned to local elites shows this tendency to be in the process of being overcome. My purpose is not to say that Angeles and Hill were wrong in their conclusions from their 2001 fieldwork. It is to question what may have changed in the interceding years. By the end of the 2000s,

Makakabus was involved in production as well as reproduction. Whereas in the early years of the organization, the emphasis may have been on alternative income, that has changed to a focus on competitive organic rice production. In answering the question what may have changed in the interceding years, it is interesting to consider that Makakabus may, on the one hand, have been influenced by neoliberal pressures for engagement with markets, yet on the other hand have been influenced by food sovereignty discourses regarding sustainable agriculture, community development, and land reform. Makakabus has been involved in a project that is empowering women and men, especially of the poorer classes, through their *prenda* land rehabilitation program, and thus land control emerged as an urgent issue equally as important as education in these rural contexts.

The conditions that allow Makakabus to be successful are fairly narrow, such that their profitability and viability could be precarious if there are negative outside influences. Governmental and non-governmental organizations in developing rural landscapes can ensure that farmers organizations and cooperatives are institutionally and economically encouraged to provide beneficial products and ecosystem services to their localities rather than leaving them subject to the whims of international economic forces. This entails promoting food security strategies that make local, sustainable staple production a central part of the plan. The example of Makakabus shows us how more egalitarian gender identities, a less gendered division of labor, and a focus on fighting class inequities can be part of this process.

# Chapter Eight: Conclusion

## 8.1 Contributions to the field

Food sovereignty is a burgeoning movement that has reacted against the neoliberal corporate food regime (McMichael 2005). While much has been written about the subject on the macro-level, this study includes detailed micro-level analysis of three Philippine villages. Analyzing the food security strategies in these communities in Bukidnon offers some workable recommendations concerning future paths in agricultural development, and contributes to the literature of development geography and political ecology. This project supplements the growing body of work that addresses globalization as more than simply an economic phenomenon, but rather as a set of spatio-temporal and political-ecological practices as well.

My project works across disciplines, scales, and groups. Analyzing agricultural and food security strategies using a political ecology approach bridges geography, anthropology, political economy, ecology, rural sociology, and agrarian studies. The findings may be useful for those interested in agricultural development and the tension between commodified agriculture and subsistence cultivation. My ethnographic research examined the various scalar forces that affect the people of a rural area and how they work within or against these scales. Through interviewing, working with, and reporting back to NGOs, academics, and governmental units and agencies spanning the local, provincial, national, and global scales, my project suggests some possibilities for cross-scale partnerships, providing the potential for re-envisioning relations of production, consumption, social reproduction, and the reproduction of environmental conditions.

As a Visiting Research Fellow for the Department of Geography at the University of the Philippines – Diliman, I reported my findings to them at the end of my stay in the Philippines. I also presented my findings and recommendations to the University of the Philippines – Los Baños School of Environmental Science and Management and the national secretariat of the NGO MASIPAG (Farmer-Scientist Partnership for Development) at Los Baños, as well as the leadership of the NGO Amihan (National Federation of Peasant Women – Philippines) in the Manila area. I reported back to the mayors of the municipalities and the *barangay* captains of the communities in which I did interviews. I also plan to report back to the governor of Bukidnon, with whom I met at the beginning of the study, as well as regional, provincial, and municipal leaders and national personnel of the Department of Agriculture, Department of Agrarian Reform, and the Department of Environment and Natural Resources. Finally, I will contact the United Nations Food and Agriculture Organization in the hopes of presenting my findings to them. I hope to have future trips to the Philippines and continue to have lasting relationships with the local farmers, wage laborers, and NGOs and continue to engage with them around their evolving concerns.

## **8.2 Summary of findings regarding research questions**

### **1) How does the production of scale intersect with power relations in particular ecological contexts?**

At first glance, this project might seem like a typical David vs. Goliath story about small farmers trying to achieve their independence in the face of corporate influence. One might be tempted to reduce the analysis to a simple contrast between sustainable farmers

who operate on a micro-scale and plantations that operate on a macro-scale. Instead, I argue that the success stories within the sustainable paradigm are primarily where there has been cooperation on a scale of many families, whereas the failures (whether of sustainable farmers or conventional farmers) have largely been when operators are too isolated and do not have a successful support group. Regarding agribusiness strategies (such as those of input manufacturers), there is of course a top-down approach that we can accurately associate with large-scale marketing, but we also need to remember that the target customer base has often been the isolated individual farmers who attempt (and some would say get trapped into) the chemical paradigm. With wave after wave of small farmers losing control of their land, the success of this strategy is questionable. Thus, a finding of this study is that it is extremely challenging to be a completely independent small farmer in the Philippines today, regardless of the paradigm of agriculture that is being practiced. Scaling processes are largely about deciding with whom someone is going to cooperate and against whom someone is going to compete. In this sense, the difficulties faced by the lone producers show the problems with scaling too small.

While there may be similarities between the successful players in the agricultural economy in the scaling of their operations at meso-scales, we see a sharp difference between a group like Makakabus versus the large chemical rice farms or the sugarcane *haciendas* in their reproduction of environmental conditions. Makakabus emphasizes a very low-external input type of farming, while the other players source inputs from afar and therefore take part in a much more complex web of geo-economic influences. It would be an overstatement to say that Makakabus avoids the realm of capitalism because they still rely on marketing their products outside of the community, but one might say that

through their land rehabilitation program, they take over some of the dead tissue of a type of globalized hydrocarbon capitalism that is based on long distance transport of materials.

### **1.1) How are the neoliberal and corporate agribusiness projects being scaled?**

Most of my attempts to speak with the management of large agribusiness corporations were thwarted. In Chapter Six, I detailed the rather elaborate process that Dole used to avoid being interviewed. I did not succeed in meeting with any management representatives of Chiquita or Monsanto either, even though there were initial—perhaps disingenuous?—signs that they would cooperate with my interview requests. Pioneer (a DuPont company) was the only one of the mega-corporations operating in the area that agreed to speak with me, perhaps because they had the least to hide. Pioneer, present in the Philippines since 1976, has had fewer controversies about business and labor practices compared to the other American companies operating in the Philippines. Its Philippines Country Manager, whom I interviewed, praised the Philippine government for its regulations on biotechnology. He did not think the regulations were overly strict, and he praised the government's strong protection of intellectual property rights, referring to the Plant Variety Protection Act of 2002 (RA 9168), which was drafted with the assistance of USAID. This law was important to Pioneer and Monsanto since they sell GMO seeds in the Philippines, and it illustrates the government's cooperation with the interests of agribusiness corporations.<sup>90</sup> The Philippine government's strong role in the 'banana war' with Australia (Fagan 2005) showed how Manila was also willing to go to work for the interests of Dole, Chiquita, and Del Monte.

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<sup>90</sup> It was interesting though that the Country Manager was frank about the possibility that in the long run GMO seeds may not prove to be as effective as hybrids, mentioning that GMOs could potentially be phased out by the company.

How were agribusinesses interacting with the people of Bukidnon? Corporate outreach into communities was minimal. Pioneer, for example, donated a few corn dryers to some Philippine communities, but no projects were undertaken for Bukidnon specifically. Marketing and advertising from companies like Monsanto and Pioneer was fairly minimal. Generally, promotional materials were available at input dealers, and marketing techniques did not rely on narrative, symbolic, or emotional appeals. Instead, product claims focused on the technical aspects of their products, which was indicative of a general attitude that emphasized the improvement of yields without substantive engagement with community issues. As Pioneer's Country Manager said, "The only way to self-sufficiency is to produce more."

To many people in Bukidnon, the operations of Pioneer and Monsanto, which markets its RR corn under the name DeKalb, are under the radar. However, the impact of Dole is more evident, and something on which people generally had an opinion. The prevailing sentiment was that Dole offers a fair wage, but the company does not benefit the community as a whole. People had serious concerns about the effects of Dole's pesticides on workers and residents in the vicinity of their plantations. In addition, Dole rescaled the agricultural geography of municipalities like Pangantucan by renting small and medium sized parcels of land, especially ones that were contiguous, and then stitching them together to make larger banana plantations. While the local landowners enjoyed a brief burst of income in these arrangements since the first five years of rent were paid in a lump sum, local activists pointed out that in the latter years of these 25-year contracts, what once looked like a fair rent will seem paltry due to inflation. Moreover they argue that given Dole's banana cultivation practices, erosion, acidification, and pesticide residues in soils

will mean the lands will be seriously degraded by the end of the rental term. At that point, another rescaling effort might be necessary wherein the government will have to deal with lands that are in need of environmental remediation, as was the case in some former Dole lands near Davao in southern Mindanao.

Many of the neoliberal reforms demanded of the Philippines by the IMF, World Bank, Asian Development Bank, and WTO are examples of the 'hollowing out' of the state (Jessop 1994; McCarthy and Prudham 2004). The activities of the National Food Authority, the National Irrigation Authority, the Department of Agriculture, the Department of Agrarian Reform, and the Department of Environment and Natural Resources have all been subjected to rescaling efforts by outside forces, wherein part or all of their responsibilities have been privatized, deregulated, and/or pushed off to other scales of governance. The motivations for these acts have generally been to push the Philippines toward budgetary austerity or to encourage an export oriented economy, both ostensibly to spur the Philippines into a better fiscal situation wherein it can pay back its debts. However, it was apparent in 2008-2009 that these policies were negatively affecting many small farmers in Bukidnon as they were left with insufficient price supports and reduced levels of agricultural extension services.

### **1.2) How are small and medium sized farmers scaling their operations?**

There was a clear contrast between individualistic/nuclear family-oriented Butong and group-oriented Makakabus in their labor arrangements and marketing strategies. Agbalo was more similar to Butong in its labor arrangements, though there was some reciprocal labor there as well.

Makakabus embodied a group-scale orientation in its labor arrangements, centralized rice purchasing, a high level of food self-sufficiency, localized activity spaces, and farming techniques that promoted localized reproduction of environmental conditions. One might assume that the rice would be marketed locally as well. However, this was not the case. Although a fair amount of the organization's rice was consumed by its members and some other local residents, the majority of the rice sold was marketed in the capital of the Northern Mindanao Region.

The group-scale orientation, however, enabled the members of Makakabus to assert more control over their lives than when they were involved with chemical agriculture. Their responses in this regard revealed the direct connections between food sovereignty as a community strategy and the experiences of sovereignty on a personal level. The members felt that they could control their own destinies, whereas those who were not in Makakabus frequently expressed their doubts.

One of the most troubling things I encountered was the way in which transient wage labor seemed to be making people lose the drive to plan for their own communities. A detailed study of identity formation was ruled out by time constraints, but one thing I found was a difference between the spatial scales of the maps interviewees drew for me of what was important to their work. Wage laborers, who were much more likely to have longer commutes, tended to emphasize roads and de-emphasize community landmarks or landscape detail in their maps when compared to the farmers who were staple producers and more locally based. Participating in different food security strategies alters people's connections and commitments to local and regional spaces, and thus their understandings of themselves as socio-spatial actors.

I was also aware of differences in the way that people were scaling their actions in a temporal way. There were similarities in short-term economic decision-making between the agribusiness plantations, the local elite's plantations, and the smallholders employing chemical methods. Conversely, the organic farmers, such as the members of Makakabus, did not try to maximize profit in the short-term. These more durable commitments were evident in the practice of growing only two crops of rice per year, opting for long-term soil fertility over short-term financial gain.

Before visiting the study area, I was aware of resistance to agricultural biotechnology among farmers in Mindanao. I assessed accurately ahead of time that some of my interview subjects in Bukidnon would be critical of the potential environmental impacts of GMOs such as changing soil chemistry, the possible unintended side effects of developing 'superpests' and 'superweeds', and the potential for genetic contamination of native varieties. Furthermore, some residents were critical of the marketed 'expertise' (Mitchell 2002) of biotech companies that serves as a veil for intellectual property (IP)-based accumulation strategies. Yet, two other issues were more visceral for most of the farmers I spoke to: GMO seeds are too expensive and the resultant crops are not edible for humans.<sup>91</sup> They framed their objections in direct food security terms. They wanted to be able to scale their food sovereignty at the level of their farm.

Two Philippine NGOs, MASIPAG and Landcare, have a great deal to offer communities in the Philippines in terms of how they scale their projects. MASIPAG indirectly inspired the formation of Makakabus, which initially broke off from a MASIPAG

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<sup>91</sup> In the area, RR corn, and to a lesser extent Bt corn, were the main GMO seeds for sale, and both of these produce feed corn.

group, but not because of any objections to MASIPAG philosophy. Developing a *bayanihan* communitarian approach, using reciprocal labor, and acting as a local market consolidator are all ways in which Makakabus embodies MASIPAG's approach to scaling agricultural development in rural communities. Landcare, which is especially geared toward diversified farming and agroforestry in upland environments, also encourages organizing groups of families to scale their projects on a meso-scale, so problem solving and marketing can both be done collectively.

### **1.3) How are changes in land use decisions affecting the construction of scale in Bukidnon?**

According to Nightingale (2006), "The political ecology literature has emphasised that access to, control over and the distribution of resources are at the core of most environmental issues, both in terms of social inequities and in terms of ecological decline." In the context of the agricultural economy of Bukidnon, land was the most important resource, and both social inequities and ecological decline were in dynamic tension with the way that the distribution of land occurs in Bukidnon. The cash cropping plantation paradigm relied on volume for its profits and typically its practitioners were more concerned with short-term profits than long-term sustainability. For the sugarcane *hacenderos*, the large rice planters, and the banana plantations, much or all of the land under cultivation was not owned and there was less of an incentive to preserve its ecological integrity since it was seen as an expendable resource. For smallholders, on the other hand, there was often a greater incentive to preserve soil fertility and prevent erosion since the condition of the land is integral to their long-term security strategy.

However, local land ownership itself does not guarantee non-exploitative labor relationships, since local large landowning elites can still hold sharecroppers or wage laborers in poverty. Menser (2008) argued that land ownership itself needs to be democratized, which in the Philippines would require the revision of its land reform policies in a more truly redistributive direction. Market-based land reform in places where there are severe inequalities is often a way of formalizing and institutionalizing the unequal relations of different groups, since the wealthier parties are the ones who can participate in these kinds of titling endeavors (Borras and Franco 2010). As discussed here, these practices were prevalent in the area of Bukidnon. The Comprehensive Agrarian Reform Program from 1988, however, could be used in its present form to democratize land reform since compulsory acquisition was one of the avenues of that land reform program. However, the World Bank and Asian Development Bank have been reluctant to fund this type of land transfer on the basis that it creates conflict. My research and the work of Franco and Borras (2007) and Borras et al. (2009) suggest that there will potentially be *more* conflict if land reform programs are not truly redistributive, but it is unlikely that the World Bank and Asian Development Bank would support a return to compulsory acquisition given their market and private property orientation. While left wing groups like KMP advocate a new program called the Genuine Agrarian Reform Bill that would use compulsory acquisition without compensation for present landowners and give free land to landless peasants, it seems to me that the government would be more likely to consider a middle ground where landowners would be compensated for part of the value of their land and agrarian reform beneficiaries would have to pay for a portion of the value of the land.

Attempts could be made to involve outside donors, such as philanthropic foundations or international financial institutions, to help fund the program.

Community titling is another way in which land reform can be democratized and the government can scale agrarian reform more broadly than through individual titling.

Community titling is possible under CARP, although it has been under-utilized historically.

Community titling would help immensely with the problems around pawning arrangements and sales (legal or otherwise) that lead to a large percentage of redistributed land falling into the hands of local elite landowners.

Government policy on biofuels also exerts an effect on land use decisions and the ways in which certain producers scale their operations. The Philippine Biofuels Act stimulated sugarcane production in Bukidnon, which exacerbated problems with land consolidation by local sugarcane *hacienderos*, further diminishing the amount of land devoted to staple cropping.

## **2) What are the results of different food security strategies in terms of gender relations, class relations, agricultural productivity, and the health of the farms' biotic communities?**

The organic rice collective Makakabus fit well into the paradigm of low-input sustainable staple cropping. In contrast, Butong's agriculture was more geared toward cash cropping (sugarcane and bananas) and chemical production methods. Agbalo occupied a middle ground between the two, growing primarily white corn, a staple crop, but not fully practicing sustainable production methods.

### **2.1) Gender relations in the farming economy of Bukidnon**

Mosse (2005) wrote that women often do not receive recognition for their agricultural knowledge and their agency is denied in market interactions or planning with development organizations. The story of what occurred at first in Cabangkalan with the Bukidnon Masipag Farmers Multi-Purpose Cooperative (BMF-MPC) certainly fit that description, but what happened with the creation of Makakabus out of BMF-MPC turned these notions on their head. Though the gendered division of labor was only partly modified, the gendered division of decision-making was radically altered. The leadership positions in Makakabus were, by charter, all occupied by women, while the group decision-making process was completely gender-neutral. Both of these features were in stark contrast to the processes and organization of the male-dominated BMF-MPC.

Because the change in gender relations among Makakabus members was overlain with a new emphasis on communal and reciprocal labor, the way gender was constructed vis-à-vis family life was also different from the rest of the community at large. In other words, while Makakabus members were moving toward a group identity that de-emphasized traditional gender roles, the families practicing chemical agriculture in Cabangkalan were still in a pattern where men were in charge of production decisions and women were more in charge of the responsibilities of social reproduction. Still, the convergence of gender identities in Makakabus should not be exaggerated since participating men were taking on *some* new responsibilities of social reproduction, but less than the degree to which the women were taking on new responsibilities of production. Therefore the problematic aspect of these changes was that women were often facing increased burdens of work.

Shifts toward plantation economies in places like Butong have moved the area away from subsistence and toward a more wage-oriented economy. While there was a raw increase in the amount of wages earned by women, which may have afforded some independence in certain situations, the fact that women's wages were not as high as men's translated to disadvantages in their economic power. Women were usually limited to lower wage positions such as weeder or stalk gleaner. Furthermore, women transitioning into wage labor may be acquiring new skills, but the changes were not of the same order as what the women of Makakabus experienced, because Butong women's wage labor jobs did not alter their agricultural decision-making responsibilities.

For corporate workplaces such as Pangantucan's Dole banana-processing center, only 27% of the workforce was female, so the overall effect of Dole's presence is to increase the gendered economic disparities in the area. Asia Pro, which is a major contractor with Dole and Del Monte for temporary labor, also employs only 40% women.

A majority of recent Overseas Filipino Workers (OFWs) in the 15-34 age group have been women (Basa, Villamil, and de Guzman 2009). Although the Philippines in general relies on remittances from OFWs for approximately 11% of its GDP (*The Economist* 2010), it was clear that none of the three villages I visited had quite this much reliance on outside support. Roughly equal amounts of money were coming from OFWs and from relatives in other provinces. Looking at these international and inter-province remittances combined, Makakabus members received supplemental income from outside of the community equal to 2.5% of their regular income, while Butong received 5.6%, and Agbalo 7.5%. A number of people in Butong mentioned that they would like to rely on their children for more support in the future, so the exodus of working age people, especially young women, may

increase in the future. Makakabus members on the other hand, did not talk about the need to send members of the community to outside places as a security strategy. So it is possible that female empowerment in the agricultural economy was reducing the temptation to venture outward. It is possible as well that the construction of gender for Makakabus members was such that agriculture was seen as a collective family endeavor where everyone has a contribution.

## **2.2) Class relations in the farming economy of Bukidnon**

In my study, in a place like Butong, I found correlations between declining food security, increasing class stratification, decreasing quality of environmental conditions, and a less locally oriented reproduction of environmental conditions. Conversely, for a group like Makakabus, there were correlations between increasing food security, less class stratification, increasing quality of environmental conditions, and a more locally oriented reproduction of environmental conditions. There was a lack of a simple correlation between income and quality of life. The findings of my study are similar to those of Bachmann, Cruzada, and Wright (2009): health, food security, and the local environment are all improved by sustainable farming; and it is important that this all happens within a farmer-empowerment approach.

The *Masagana 99* program and other efforts of the Philippine government to introduce fertilizers into rural economies created disastrous results for many farming families. Typically, a cycle of debt from high-interest loans to pay for the fertilizers would be deepened by the fact that the need for chemical fertilizers grows over time as organic soil organisms are killed and the soil is acidified and hardened. Especially in places like Butong, this problem was compounded by the division of farmland into smaller parcels as

multiple heirs inherited split estates. Then, as the processing of sugarcane became locally cost-effective, a small elite developed who would take pawned or sold land from former smallholders and amass large sugarcane plantations, driving an increasing amount of the population into wage labor and further dividing the class structure of the community. Land consolidation by sugarcane *hacenderos* meant wealth was being concentrated in the hands of a few, but we can also see that if a community's land is divided among too many, then parcel size becomes too small and farmers have difficulty staying profitable.

Some smallholders in Butong, starting in the mid-2000s, opted to rent their land to Dole, which was quickly establishing large banana plantations in the area. Again, this development removed more people from their status as independent owner-operators and many of them turned to wage labor. Both the sugarcane and banana plantations have pushed communities like Butong further away from staple production and thus away from food self-sufficiency. The problems of relying on wage labor have been compounded by inflation of food prices and drops in real wages, especially among sugarcane workers, which has resulted in an increase in the incidence of child labor.

In places like Pangantucan, if we continue to see the transition from small farmers farming corn to *hacenderos* planting sugarcane, the municipality will bifurcate into a tiny elite and a large poverty-stricken working class. The middle class will be replaced by a rural proletariat. If this occurs concurrently with continued population growth, then wages will remain flat and unemployment will grow. There is already an insurgency that could be fueled by these potential frustrations. The NPA (New People's Army) operated in most provinces, including Bukidnon. Though the NPA was not very strong at the time of my study, it is not far-fetched that increased class stratification could swell their ranks and

lead to more unrest, especially in rural *barangays*. If local government units are serious about promoting a positive climate for investment, they need to promote the stability of middle class farmers, so these farmers do not lose their land and potentially turn to the NPA in their discontent. Protecting smallholder farming in rural areas is likely to maintain physical security and preserve political stability, which can attract outside investment.

In regard to the cash-cropping paradigm, it is important to not fetishize money and instead to engage in a more general assessment of the well-being of communities. Cash cropping may have benefited the elite sugarcane *hacenderos* and management-level employees of Dole, but the cash cropping paradigm was not benefiting the area in general. Butong, which was oriented mostly toward cash cropping, may have looked on paper like the most prosperous village because of its higher incomes, but it actually had the deepest problems with hunger, malnutrition, and a declining quality of life for most of its residents.

Makakabus was working to reverse the trend of land consolidation by the wealthy in Cabangkalan. Ironically, their strategy is to use the same tactic as the large landowners—*prenda*. The organization either takes over existing *prenda* arrangements between large landowners and smallholders, or they work with smallholder chemical farmers who are first experiencing problems with debt. Their intent, however, was not to retain the land, but instead to rehabilitate it, get the original landowner involved in organic production, and return the land to them with enhanced soil fertility.<sup>92</sup>

An important question to ask is whether this strategy of using *prenda* for positive social change should be replicated in other places. I consulted with a number of people in

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<sup>92</sup> Makakabus also works with both old and new members who are not involved in *prenda* arrangements.

Philippine NGOs and academic institutions about this, and the consensus was that it could be a positive tool of rural redevelopment. However, they were hesitant to promote it on a large scale since there is potential for abuse. One thing that is clear is that it would only work in a situation where the parent organization operates with a high degree of transparency. It was inspiring to see what Makakabus's efforts were doing for class dynamics in Cabangkalan, particularly in contrast to the deteriorating situation in Butong.

One of the main reasons people opt for *prenda* in the first place is that they are dealing with debt problems from high-interest loans. The transfer of wealth from poor farmers to wealthier members of communities through loan interest is considerable. Ideally, micro-lending with low interest rates could be done by farmers organizations so that interest earned by the lender would be put back into the community. Makakabus was succeeding in this endeavor, but many farmers organizations do not have the capital to start a program like this. Foreign NGOs may be able to fill the gap here temporarily, but as Cahill (2008) argued, microfinance from external sources may discourage the agency of Filipino residents in the solving of their own problems. Milgram (2005), also looking at the Philippines, questioned the ability of microfinance to address the "social causes of poverty" rather than just the symptoms. Furthermore, microfinance has had mixed results in other places in providing gender equity (Goetz and Gupta 1996), health, and educational benefits (Korth et al. 2012).

Governments can prevent class stratification in rural areas by providing better transportation infrastructure so more small farmers can transport their products to market themselves. Currently many farmers sell very low to rice traders who take care of the

transportation. Better transportation infrastructure would help ensure that the state's price support programs benefit the people that are the intended beneficiaries.

Seed choices are another factor that affects the construction of class in rural communities. Control of seeds by small farmers means control of the means of production. MASIPAG (which influenced Makakabus) emphasizes the importance of strengthening the smallholder class by using open-pollinated seeds that do not need external inputs (such as chemical fertilizers and pesticides) and thus keeping farmers out of debt. The transnational-corporate/biotech strategy threatens that control through patents and because of the possibility of genetic contamination of native and traditional varieties of seeds. Although a national attempt to prohibit the cultivation of genetically modified crops would probably be challenged in a WTO action, provinces can consider such bans individually. So far, several Philippine provinces have succeeded in banning GMO crops.

The degree to which vertical integration occurred in the area depended largely on what crop was being grown. The Dole banana plantations were the most vertically integrated operations in the sense that they rented land, hired field workers, processors, and transportation workers, and then exported the produce through the port in Davao in southern Mindanao. Chiquita, on the other hand, outsourced banana production to independent growers. They required standardization of practices for the growers, but did not have official control over the production processes. A seed purveyor like Monsanto was only vertically integrated into corn production, for example, through the pairing of seed and herbicide combinations.

In a sense, Makakabus was vertically integrating to a limited extent since land procurement, labor, inputs, harvesting, threshing, and acting as a local market consolidator

were all largely coordinated by the organization. So it is interesting to see how vertical integration can lead to increased class stratification in the corporate examples, but also decreased class stratification in the case of Makakabus. Thus it is less the case that vertical integration itself is the enemy of social equity and more simply the economic terms that different parties negotiate.

### **2.3) Productivity and profitability**

Even among those farmers in the villages who were not practicing sustainable agriculture, there was more respect than I imagined for indigenous and traditional practices of organic agriculture. What was interesting was that this came not so much from environmental concern or holistic philosophy, but from the simple recognition that organic practices could be more profitable. Agroecological techniques have been demonstrated to help end rural poverty, as producers are not tethered to expensive chemical inputs and do not lose capital to the interest on input loans (DeSchutter 2010).

Unfortunately, time constraints did not allow me to interview enough of the chemical rice farmers in Cabangkalan to be able to make head to head comparisons in the incomes of chemical farmers versus organic farmers. But it was noteworthy that there was agreement among both chemical and organic farmers that organic farming results in higher incomes over long terms (such as five to ten years or more).

Comparing the incomes of different crops is problematic as well, considering differing geographies, but one of the leading families in Makakabus was earning P91,321 (\$1,943)/hectare from rice, while the largest sugarcane *haciendero* in Butong was earning P51,720 (\$1,100)/hectare. Sugarcane farmers, and to an even greater extent, corn farmers

(at least those who were using fertilizers) were spending large percentages of their gross incomes on chemical fertilizers.

Yet, one of the major insights to gain from this study is that higher income is not necessarily the foundation of community well-being. Even though Makakabus lagged behind Butong in income measures, the attitudes of the residents of the two places were starkly different. Makakabus members could be characterized as happier, healthier, more food secure, more group-oriented, and more optimistic about the future.

It was evident that farmer profitability and corporate profitability could sometimes be at cross-purposes; when I asked the Country Manager of Pioneer whether his company would consider marketing an open-pollinated variety seed, he frankly confessed that there would be no economic incentive for a seed company to produce a seed that could be saved.

#### **2.4) Health of the local farming community**

There was a large disparity between the different communities in terms of their perceptions of their increasing or decreasing food security. Although income was obviously an important factor for food security, there was a clearer correlation between food security and self-sufficiency in staple food production. Even though Makakabus had lower incomes (both median income and average income of the lowest quartile) than Butong, it was Butong that had higher levels of hunger. Makakabus had the highest degree of food self-sufficiency and the highest ratings for improving food security. There was also unanimous agreement within the group that there were no examples of malnourished individuals in the group. Official *barangay* data was not disaggregated in a way that could confirm this, but I was able to confirm with the Cabangkalan *barangay* health worker that Makakabus members did not have malnutrition problems and that the malnourished

children in the area were typically the children of wage laborers in the chemical farms, especially day laborers who did not have a steady boss. It was clear as well from interviews that the absence of hunger within Makakabus was partially due to the group's strong social safety net compared to Agbalo and especially Butong.

The effects of pesticides and other agro-chemicals on human health were quite serious in all of the communities. Many of the members of Makakabus mentioned avoiding pesticide exposure as a leading reason they converted to organic methods. While the effects of smallholder use of pesticides was an issue in all three of the *barangays*, the effects of Dole's spraying of pesticides in its banana plantations near Agbalo and Butong was a major issue for both residents and workers who complained of a variety of ailments. The complaints were already substantial even though Dole had only been operating in these communities for less than four years.

### **2.5) Health of the non-human biotic communities in the area**

The University of the Philippines – Los Baños, which is the leading agricultural school in the country, has emerged as a solid backer of the organic paradigm. Likewise, Xavier University in Cagayan de Oro (the capital of Region 10/Northern Mindanao) promotes organic agriculture through its Center for Sustainable Agriculture.<sup>93</sup> This has had a direct effect on the direction of agricultural development in Valencia, as the city

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<sup>93</sup> Central Mindanao University, a large agriculture school between Valencia and Pangantucan, seemed to be undergoing a changing of the guard. From the agriculture professors I spoke to there, there were a wider range of opinions on the chemical paradigm. Although everyone agreed that excessive chemical fertilizer use had destroyed the productivity of some farmlands, some of the older professors advocated a 'balanced fertilization' approach (where both organic and chemical fertilizers are used), while others more fully embraced organic fertilization practices such as vermi-composting and sustainable agriculture practices such as crop diversification and low-external input farming.

agriculture office has drafted plans to be the organic rice capital of the Philippines. When I talked to the Valencia Agriculture Officer in 2009, the Sustainable Agriculture and Organic Rice Development (SAORD) Master Plan was nearing completion and Valencia had become the first local government unit in the Philippines to be registered with the International Federation of Organic Agriculture Movements (IFOAM). The DA leadership in Pangantucan was less proactive. Funding for the department was low and there was a lack of an ambitious development plan.

Do those who own land have obligations to prevent land degradation? When I interviewed one soil science professor at Central Mindanao University, he explained his view that all land in the Philippines is Philippine land and that the government needs to promote food security for the entire nation. Therefore he advocated a regulatory framework where if the government detected that the soil fertility of a particular parcel was not being protected, then that landowner risked losing title to that land and ownership would revert to the state. This of course would be difficult from both the standpoint that the Philippines does not have the resources to inspect all of its farmlands and from the standpoint that resistance to this type of government intrusion would be strong considering the potential for abuse inherent in such a program. However, the professor's viewpoint does illuminate the tension between food sovereignty planning and the potential ecological abuses that are possible when short-term profit-motivated farming is being practiced.

The Dole banana plantations were one of the most serious threats to the ecological integrity of farmlands in Bukidnon, since they are causing problems with erosion, soil acidification, and pesticide residues in soils. Soil quality will likely be seriously

compromised when owners re-occupy the land at the end of rental contracts, and erosion is a particularly important problem since it also affects downstream waterways. Siltation is believed by the Department of Environment and Natural Resources to be causing problems with floods, which are an increasing menace in the Philippines. The effects of Dole's pesticides are not confined to human health, since numerous farmers have complained that their livestock have been sickened or killed from sprays drifting from Dole plantations.

I looked for evidence whether multicropping farmers were more attuned to microenvironments or other environmental factors than farmers who were monocropping. I did not find this to be the case, since many of the farmers of Makakabus, who were monocropping rice (although they were diligently rotating varieties from season to season) spoke at length about their farming ecology and expressed a creative engagement with farming processes to a degree that I did not see elsewhere, except in a few cases in Butong and Agbalo where farmers were also practicing sustainable and organic methods of fertilization and cultivation.

The Ecological Solid Waste Management Act stipulates that crop waste is not to be burned. Thus, a national law can be enforced to eliminate burning. Composting is possible not just for rice straw, but corn stalks and sugarcane leaves as well. If pressure is put on local governments to enforce the law, then the end result might be more conversions to organic methods. The logistics and issues of this transition will be discussed in the next section.

### 8.3 Philippine concerns

Control of staple food production is one of the most fundamental aspects of food security. When this project was originally conceived in 2006 and 2007, it was evident that the Philippines could soon be reaching a pivotal moment of policy decision-making regarding whether to pursue export-orientation or local self-sufficiency. The 2008 food price crisis did in fact push the government in the direction of promoting self-sufficiency<sup>94</sup>, but has this been a mere change in the political discourse that is not matched by changes in the material realities of agricultural production in the Philippines? The answer to this question is complex. Since 2010, the Department of Agriculture under President Benigno Aquino III has taken some important steps toward sustainability, which should benefit long-term self-sufficiency. Furthermore, the Food Staples Sufficiency Program (FSSP) rightly focuses on farm to market roads, post-harvest facilities, and irrigation works, which are important measures to improve infrastructure. However, the government has not made strides on addressing the growing problems of consolidation of land by the wealthy, increased control of land by agribusinesses, or land tenure instability among smallholders. In order to reach and maintain staple self-sufficiency, policies still need to address the problems of stalled land reform and the use of land for export cropping.

International economic policies have had deleterious effects on the food security of the Philippines, and in certain cases these policies have filtered into Philippine governance itself and contradicted national efforts for food self-sufficiency. The different scales of

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<sup>94</sup> 'The Blueprint for Food Security' was an ambitious plan made as a response to the food price crisis in 2008 by the Gloria Macapagal Arroyo administration to increase rice output with an original target for full self-sufficiency in 2010. By 2009, the target was pushed back to 2013.

government within the Philippines are presently hamstrung. The various tenets of neoliberalism work against Philippine independence. Deregulation has eviscerated the oversight capabilities and the inter-scalar coherence of government agencies; privatization curtails government influence over an economy that is increasingly difficult to control; and trade liberalization threatens the viability of internal rice and corn production. As one senior official from the Department of Agrarian Reform told me:

We should not have total trade liberalization. The economic playing field is not the same. You have rich guys and poor guys and we are poor guys and Japan and the US are rich guys. If you put them on equal footing on the economic playing field, the poor guy will lose out. You have to have certain restrictions.

Better government planning can keep staples from getting crowded out by high value commercial crops, but accomplishing this requires better coordination between the different levels of government: national, regional, provincial, municipal, and *barangay*. Part of the solution is a reintegration of the different functions of agencies accomplishing agricultural development (DA), land reform (DAR), and environmental protection (DENR). This will require inter-agency coordination to ensure that some communities do not fall between the cracks, while at the same time making sure that funds are not wasted on overlapping programs.

The devolution of the Department of Agriculture (from the Local Government Code of 1991) has created many problems in terms of the implementation of programs. For accountability to be restored and for good programs to take full effect, devolution needs to be reversed. The AFMA (Agriculture and Fisheries Modernization Act) of 1997 was an effort to encourage local government units to do crop zoning through SAFDZs (Strategic Agriculture and Fisheries Development Zones). The effort was a failure in most municipalities across the country because of the lack of accountability that local

government units had to the federal government. However, if the devolution of the DA can be reversed, then SAFDZs can be required again and can serve as a method by which staple cropping zones are protected and agribusinesses are prevented from taking control over too much land. Local governments have the liberty to put a cap on how much land agribusinesses can rent in each *barangay*. Strengthening the laws against conversion of agricultural land into other uses is another method the government can use to protect food security (Feranil and Teves 2011). Mapping, vermicast fertilizer programs, and organic growing technique training seminars are other aspects of a potentially revitalized AFMA. Furthermore, SAFDZs can act as aids for developing municipal food sovereignty programs. If provinces and regions are part of this process, the national government will be able to hold provinces accountable for specific production goals. The difficulties provinces have had in achieving these goals will be alleviated if the strategy is also based on progressive revisions of land policies instead of solely focused on production gains.

Also, it would be helpful if government agencies reconsidered their policies of facilitating foreign development projects. There is a temptation to unload parts of their responsibilities to private groups, but few of these private investor projects aid the Philippines in achieving self-sufficiency in food production. Although Task Force Food Sovereignty called for an end to the DA's sub-agency PADCC (Philippine Agricultural Development and Commercial Corporation), I would argue that PADCC needs to be strongly reoriented toward protecting lands and peoples involved in projects from exploitation. PADCC should exercise caution to make sure they are not facilitating projects associated with land degradation or disruption of the ancestral domains of indigenous groups, and ensure that projects do not have a net-negative effect on staple food production.

Organizing farmers organizations is necessary to attack problems of specific communities, and strong, principled, and transparent leadership of these groups is necessary to develop trust among members. All of the levels of governance in the Philippines can support these developments, and this can be facilitated by cooperation with civil society organizations. Furthermore, when the judicial system deals more effectively with violence perpetrated against community organizers, whistleblowers, activists, and journalists, smallholders will be more empowered to unify and solve their own problems.

There is an analogy to be made between the different strategies pursued for food security and the different strategies pursued for family financial security. If one food security strategy is to focus on the localized production of staple foods, the analogous strategy for family security is to stay together geographically. The alternate strategies for both food and family have fetishized monetary solutions to the problems. The Philippine government has prioritized an export-oriented economy and this holds true whether we are talking about agricultural commodities like bananas and pineapples or talking about the labor of human beings. Exporting creates dependence on forces that are beyond the control of Filipinos, as the international demands for bananas and labor are both unpredictable. In the food security context, increases in energy prices may have multiple effects: increases in the prices of fertilizers; increases in the prices of staple foods (if they need to be imported); and higher prices and reduced demand for export crops (bananas, pineapples, etc.). In the context of families being reliant on remittances from abroad, the possibility of layoffs, reductions in real wages, and tighter immigration restrictions in developed countries are all potential exogenous shocks to this strategy.

If we think (slightly figuratively) in terms of an ecosystem that has different cycles of energies and nutrients, we might see contrasts in different ecosystems in the amounts of external inputs and outputs. There is never such a thing as a closed system, but some systems are more closed and some systems are more reliant on the flow of external inputs and outputs. With those that are more reliant on external flows, there is less predictability. What if the inputs (chemical fertilizers or remittances) stop coming? What if the outputs (export commodities or human labor) are rejected?

In a sort of chicken or egg question, we might ask what drives social change: is it a group dynamic or is it an ideology? If we analyze the resistance movements discussed in this study, we might see disparate answers to this question.

On the one hand, Landcare emphasized that communities do not need to be told what to do. They simply need to be pushed to organize and think about their challenges, so they will be able to develop solutions that are best suited to them. Landcare feels no need to be dogmatic about what types of strategies people ultimately use. Thus it is the existence of the community that is the starting point for social and ecological change.



Figure 8.1: A Landcare farm near Claveria in Misamis Oriental province in northern Mindanao (photo by author).

On the other hand, Makakabus based itself on an environmental philosophy and a technique rather than acceptance of a geographically organized unit of women agriculturalists and their families. The leadership adhered to a strict program of agricultural change and eliminated most of the members of its organization when they did not live up to the ideal. So, here we can see an example where ideology acted as the foundation for a new social structure. Makakabus did not rely on the cohesion of a social structure to be the organizing principle that would then guide an ideological transformation. If the opposite had developed—a broader-based, but more aimless organization—then the change in the social structure and the change in the scale of the reproduction of environmental conditions would arguably not have occurred.

Although Makakabus and Landcare have differing opinions on the importance of orthodoxy, we can see that they both engage very carefully and adeptly with the issue of how they scale their projects. Furthermore, they both recognize the importance of interpersonal relationships in the group dynamic for making their projects work.

One interesting thing I found in my conversations with national leaders of MASIPAG was that they were skeptical of approaches where money is thrown at a problem. They said solutions need to come from the ground up. If an NGO uses money to try to get a farmers organization started, then they believe the project is doomed to fail. The members of the farmers organization will come to depend on outside financial aid and will not learn to be self-sufficient. Instead, they feel that the role of NGOs is to offer support services and education, but not direct financial aid. PDAP (The Philippine Development Assistance Programme) is similar to the extent that they will only give loans to existing organic farmers organizations rather than trying to seed new ones.

Broad and Cavanagh (2012) drew the historical comparison that farmers “need public investment to facilitate their shift to organics, just as governments and international aid agencies initially subsidized the transition to chemical agriculture.” Investment would be significant in the short term, but once the transition is completed, the program would run itself. This one-time investment stands in contrast to the schemes to provide chemical fertilizers, high-tech seeds, and biocides to boost growth, since that strategy simply puts the growers on a track where they will perpetually need more inputs, potentially costing governments much more money.

When I was in Cabangalan, I asked the chemical farmers if they would be interested in a hypothetical program (governmental or otherwise) to assist them during a

conversion to organic farming.<sup>95</sup> The unanimous answer was yes. What would help make a program like this successful? One of the key components would be for someone to act as a guaranteed buyer of a farmer's agricultural output for a pre-determined period (perhaps two years) while the soil is rejuvenated, which should enable farmers to make the transition successfully. I am imagining four partners in this project. Local government units can use the municipal agriculture offices to spearhead the program. Their two main objectives would be to identify (or stimulate the creation of) farmers organizations in their municipality as potential participants, and to facilitate long-term marketing strategies for the organic products.<sup>96</sup> The farmers organizations would of course be the sustained groups who would carry the project not only through the conversion phase, but on through the post-conversion phase by acting as a local market consolidator (as in the model of Makakabus). Philippine NGOs (such as MASIPAG or Landcare) can act as consultants and technical advisors, who would help train farmers on organic practices and help ensure, through spot visits or testing, that no chemical methods are being employed. Foreign NGOs or philanthropic foundations would act as funders of the program. The funding would come in the form of acting as guaranteed buyers of the farmers organizations' products during the two-year conversion process. The amount would be negotiated ahead of time as necessary to give an adequate standard of living for the farmers. Additional funding might be needed to cover the expenses of the Philippine NGOs' training and inspection services,

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<sup>95</sup> Conversion should mean a net gain in income to growers in the long run, however, there would be potential short-term losses in income since the soil needs time to re-establish organic matter.

<sup>96</sup> Provincial and regional personnel can also facilitate local and regional market options for organic producers.

but if organic certification is eventually accomplished through farmer-led Participatory Guarantee Systems, then long-term costs can be minimized.

Provincial Environment and Natural Resources offices have set penalties for violations of labor and environment regulations at a level that is meaningful for Philippine firms. However, the amounts are not significant to large multinationals like Dole and Del Monte. They are just a cost of doing business to these companies. Provinces might consider establishing a two-tier set of penalties that is higher for foreign multinationals and lower for domestic companies. Furthermore, the municipalities where plantations are located should consider piggybacking on the fines so that they are compensated for the long-term environmental damage, such as soil erosion, that occurs within their jurisdictions. If such programs are to succeed, authorities must be willing to terminate an Environmental Compliance Certificate (ECC) if it is being violated. In order to prevent companies like Chiquita from subverting the requirement for an ECC (by using contract growers in plantations smaller than 100 hectares), provincial governments could change the regulations to require any export business to file for an ECC.

The Asian Development Bank (ADB) has pressured the Philippines to disband the NFA (National Food Authority), which the ADB considers an inefficient state trading enterprise (STE), but the NFA's ability to restrict imports is necessary to control the price of rice and corn in the domestic market (Glipo and Pascual 2005). Furthermore, my research showed the NFA's price support programs for rice and corn should be expanded rather than curtailed, since the support is very important for keeping farmers engaged in staple production. The government's fall 2011 decision to purchase only 1.55% of internal production was widely seen as a serious move in the wrong direction (Mora 2011; Despuez

2012). I agree with the Task Force Food Sovereignty suggestion to purchase 10% of internal production, since that is an amount that effectively alters market prices. The NFA buffer stock is also an important safeguard for guarding against hunger if there are sudden shortages of rice on international markets. Retaining the Quantitative Restriction (QR) on the importation of rice can ensure that imported rice does not flood the domestic market and destroy the ability of Filipino rice farmers to sell their harvests.

The World Bank (2011a) has continued to criticize the Philippine drive toward rice self-sufficiency, claiming that the Philippines is losing an opportunity to be a more competitive exporter of other agricultural products. The expansion of export crop plantations in Bukidnon, however, is actually a destabilizing force because it disrupts the continuity of land control for smallholders who form the backbone of the rural economy (or at least formerly did). Broad (1988) found that even World Bank personnel knew that export oriented development could lead to more, rather than less, rural poverty. Mindanao is more tied to the export paradigm than Luzon or the Visayas and its rates of hunger are far higher (Feranil and Teves 2011). During the era of trade liberalization and membership in the WTO, the Philippines moved from being approximately neutral in its agricultural import/export balance in 1995 to having an extreme trade deficit by 2010.

My research suggests that the national government should preserve some level of protectionism in regard to staples; ensure price supports when necessary; provide farm-to-market roads; maintain irrigation projects; coordinate land policies; and guide the nation's progress toward the self-sufficiency goal. If local-scale sustainable staple production is made the focus for the Philippines, it can work toward a greater degree of food sovereignty.

#### 8.4 General concerns

When we are contrasting the food sovereignty and the neoliberal approaches to food security, we might in the first case, see a virtue-based ethics that is based on duty and respect to those with whom one has actual personal relationships, standing in contrast to the second case, where there is a more universal ethic that is based on duty to others in the abstract. The problem with the former might be a danger of parochialism and exclusion, yet the danger with the latter is that out-of-sight may mean out-of-mind.

The World Bank (2007: 245) stated, “Agriculture remains one of the most promising instruments for reducing world poverty.” This is a peculiar statement, in the sense that it seems to ignore agriculture’s primary purpose, which is feeding people. It is as if the World Bank sees agriculture as simply another market relation that can generate exchange value. In the first chapter, I asked if the neoliberal approach is trying to solve a production-consumption problem, while the food sovereignty approach is trying to solve social justice and ecological sustainability problems. Development programs and projects must address both labor issues (producing income) and environmental issues (protecting the sustainability of resources) (Nightingale 2006). One might argue that by addressing poverty, the World Bank is addressing social justice concerns. However, referring to agriculture as a “promising instrument” portrays it as a new economic strategy. In reality, agriculture and social justice have been in tension for thousands of years, since the distribution of agricultural goods is at the heart of whether people experience hunger or not. In the food sovereignty paradigm, food and agriculture *are* social justice. The conversations I had with agribusiness representatives indicated that their objective was to increase production. This could be entirely appropriate, even in a food sovereignty context,

in the sense of feeding people. Yet, if production becomes simply an end in itself, then social justice concerns can be left behind.

A second statement by the World Bank (2007: 95) I believe showed too much faith in food systems based on trade:

Today, agriculture's ability to generate income for the poor...is more important for food security than its ability to increase local food supplies.

Neoliberal agriculture can actually hinder the self-determination of producers since ownership of the means of production (land, seeds, machinery, and irrigation water) are increasingly put under the control of corporations (Menser 2008). The World Bank's point is well taken that incomes need to rise for farmers<sup>97</sup>, but I think that achieving this through the means of more international trade of food can be shortsighted and risky.

World hunger is largely a problem of rural poverty. Smallholders generally do not have secure land tenure. They have problems with debt that are linked to the agro-industrial inputs they are encouraged to use, and they do not receive fair prices for the food they grow. For consumers who can afford to pay for food, paying the price for sustainably produced food will be the means by which a more socially just transfer of wealth can occur toward peasant producers, since they have been undercompensated for their labor in recent decades. In the mean time, more assistance is needed for those who are in poverty, such as agricultural wage laborers, whose wages and opportunities are too low to feed their families, and the urban poor, many of whom used to live in rural areas, but fled to the cities. Expanding the social safety net and strengthening rural communities are going to be

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<sup>97</sup> Expanding youth participation in farming is going to be increasingly important (Republic of the Philippines Department of Agriculture 2011), since the average age of farmers is increasing. Young people need to see income opportunities in farming.

the keys to fighting hunger. Increasing food production through industrial agriculture is all for naught if a large and growing segment of the world's population is both unable to afford the food and unable to grow it themselves.

The peasantry is an anachronism according to the neoliberal paradigm (McMichael 2008b). Arguably, it is because economies of scale frequently produce greater efficiencies in industrial production, that the same logic bleeds into conceptions of what *should* be productive in agriculture as well. Modernization and capitalization in agriculture are seen as self-evident pathways to greater yields, greater incomes, and reductions in poverty. The food sovereignty paradigm challenges these assumptions on both factual and theoretical grounds. Global scaling of agricultural economies can be detrimental to sustainability. Ken Conca (2001) asserted:

[T]o the extent that global economic restructuring increases the spatial and social distance between production and consumption, it does further harm to the already-damaged negative feedback mechanisms that are an important dimension of sustainable economies.

Communities can better measure their successes in terms of their environmental health, human health, social equity, and economic stability rather than in terms of things like tax revenues and corporate investment. McMichael (2005) calls the food sovereignty movement a “direct symptom of [the] socio-ecological crisis” that the corporate food regime has created. UN Special Rapporteur on the Right to Food Olivier DeSchutter (United Nations Human Rights 2011: 1) said:

We won't solve hunger and stop climate change with industrial farming on large plantations. The solution lies in supporting small-scale farmers' knowledge and experimentation, and in raising incomes of smallholders so as to contribute to rural development.

How should the food sovereignty movement proceed on international scales? The Doha Round of the World Trade Organization may be currently stalled, but WTO regulations stemming from the Agreement on Agriculture (AoA) still influence a great deal of agricultural trade. A radical approach is to pressure national governments to drop out of the WTO. Yet, however many qualms there may be about the agricultural policies within the WTO, most national governments are not willing to risk being ostracized from general trade agreements. A less drastic approach is to focus on the issues that hurt developing countries specifically in agricultural trade and food sovereignty. An entry point into a broader critique is to concentrate on the Minimum Access Volume (MAV) stipulations that are currently part of the AoA. The MAVs are not free trade. They are devices to facilitate dumping by the United States and other big exporters, which can be extremely dangerous to importing countries if the price of a commodity goes below the farmgate prices that their domestic farmers receive, since that would mean that they cannot sell their harvests. Food sovereignty advocates can expose MAVs and campaign to end them. This may be easier than some other battles, since it can still be argued using the logic and language of free trade. Alternately there could be efforts made to negotiate with the WTO to make global Northern governments stop the production subsidies that drive prices so low.

How I might differ with the food sovereignty 'establishment' such as La Via Campesina (LVC) is that I would consider trying to work with the World Bank rather than vilifying them. Instead of 'expose and oppose' (Borras 2010), perhaps LVC could modify their critique of the World Bank to 'expose and propose'—exposing what the Bank is doing that is wrong and then proposing how to work with them to reorient rural development in ways that are more socially just and conducive to food sovereignty. LVC may be able to

make better inroads into the FAO too if they do not make their relationship with the World Bank (one of the FAO's main funders) exclusively adversarial. The WTO may be fundamentally inimical to the protectionist strategies that food sovereignty advocates will need to employ, but the World Bank is a more pliable institution that could potentially become an ally to the cause of food sovereignty. For example, the World Bank's mission in the Philippines in the late 1980s was actually pushing the government to do more radical land reform than was being proposed by the government that succeeded the Marcos dictatorship. The World Bank (2007) also recently expressed some tentative support for community titling in some land redistribution schemes. Furthermore, the World Bank (2007) has recognized some of the ecological damage caused by Green Revolution technologies and suggested more sustainable techniques for retaining soil fertility and combating pests.

In summary, some of the key things for food sovereignty advocates to work for in order to achieve more socially just and sustainable rural development are:

- land reform that is truly redistributive, but still achievable;
- agricultural support services for sustainable farming methods that protect soil fertility and give better income opportunities for small farmers;
- facilitation of local marketing so farmers can specifically address the food needs of their communities and regions;
- gender equity and education that will allow women as well as men economic independence;
- medical care, sanitation, and clean water resources that will promote increased productivity and income and decreased infant mortality, which will in turn result in declines in birth rates (Lappé et al. 1998);
- social safety nets that allow for food entitlements when access to proper nutrition is difficult;
- and an end to WTO involvement in agriculture, or in lieu of that, continuation of tools of protectionism such as Quantitative Restrictions and import tariffs, and an end to forced trade through Minimum Access Volumes.

Food sovereignty is increasingly known as a global movement, linked especially to the organizing efforts of La Via Campesina. However, the food sovereignty movement is composed of innumerable smaller groups that are scaling their efforts at various levels. National struggles deal with issues like stopping trade liberalization, preserving protectionist measures, and gaining self-sufficiency in staples. Regional and provincial groups deal with issues like land reform, environmental sustainability, and market planning. Finally, even smaller groups scale their efforts at municipal levels or even just a dozen or more families. Landcare groups, MASIPAG farming cooperatives, and collectives like Makakabus are demonstrating leadership in creating community-based food sovereignty. It is these groups that operate on a personal level that are so vital to the integrity of the movement as a whole since their members are involved directly in the localized tasks of agricultural production, social reproduction, and the reproduction of environmental conditions. Scaling food security and agricultural strategies to more locally oriented solutions will be a way of promoting not just food sovereignty, but also more self-determination for all people.

## Appendix A: Questions for agriculturalists

What year were you born? Were you born in this area or in a different part of the Philippines? How long have you lived in this area? How long have you lived in this village?

Tell me about your family history, especially the work that you, your family, your parents, and your grandparents have done. Do you own land? Did your parents own land? When and how was it acquired? Have you sold, rented, or pawned land? Do you work as a tenant farmer? Do you do sharecropping? Do you do wage labor?

How many adults and how many children are in your household? What are their ages and genders?

Tell me the income producing activities of *each* of your household's members. For example: farming your own land, farming someone else's land, doing plantation labor, raising animals, providing transportation, sales, services, seasonal labor, sporadic labor, etc.

How much income is produced by *each* of these activities?

How many hours per day or per week are spent on each of these income-producing activities? Does this change from week to week or from season to season? How has this changed over the last ten years?

[For wage laborers only]: How many landowners do you work for during the year? Who pays you? Do you get paid by the hour? By the day? For piecework? How do you find out where the work is? Is there an organized structure for finding employment? Do you get paid in goods rather than money for any of the work that you do?

What crop(s) do you plant or work with?

How much land is devoted to each of these crops?

Quantitatively describe the past year's output of *each* of your agricultural products (your yields) and how this differed from previous years.

How much do you spend on farming inputs like fertilizers, seeds, and pesticides? How much do you spend on outside labor? If you hire people, how much do you pay them?

How far do you travel to get to each of your work sites? How do you get there? What changes have there been in the last ten years in the amount of time you or other people in this area travel for work?

## Ehrhart: Scaling Food Security

Where do you market your products? Who buys your products and do you know to whom they sell them or what they do with them? Would the answers to these questions have been different 10 years ago?

What price(s) do you get for the products that you sell?

How have price fluctuations affected your income from selling agricultural products?

Do you see the people in your community in recent years relying more or less on farming for their income than they used to?

Is your community changing by growing more crops for local consumption or is it changing by growing more cash crops? Specifically which crops have been increasing and which ones have been decreasing?

Is part of your household income derived from the remittances of OFWs (Overseas Filipino Workers) or relatives in other parts of the Philippines? Has your household lost any members to regional or international migration? When did this occur?

Can you describe your family's diet in detail?

Where do you buy food and how much do you allocate for certain items? Can you describe your overall food budget?

How have price fluctuations in items that you purchase affected your cost of living?

Do you make adjustments in your activities or your consumption patterns when times are good or when times are bad? How do seasonal variations affect you?

Which of the foods in your diet do you grow yourself? What percent of your diet comes from food that you grow yourself?

Do you feel the level of food security is improving for your community or is it getting more difficult for the members of your community to ensure that they are getting a wide enough mix of sufficient foods for their sustenance? If things are changing, why are they changing?

Do you know people in your community who have experienced malnutrition or not getting enough food? What percent of your community do you think experiences malnutrition? Do certain people (age, gender, or occupation) experience hunger more often?

Do you grow a greater or lesser variety of crops than you did 10 years ago or compared to what your parents grew in the past?

What is good about each of the crops you mentioned that you work with? What is bad about each of the crops you mentioned that you work with? Why have you chosen to grow the crop(s) that you grow? What or who influences your decisions?

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Is there anything distinctive about the land on which you work? Do you feel that you have special knowledge about the particular crop(s) or the particular piece(s) of land that you are working on?

What changes have you witnessed in the environment or the level of biodiversity?

Is soil erosion a significant problem for you? If so, what is done to combat this erosion?

What is done to fertilize the land on which you work? From where is this fertilizer purchased and of what does it consist? Do you create any of your own fertilizers?

Do you use crop rotation, intercropping, or let fields lie fallow to enhance the health of the soil?

What kinds of problems with pests occur on the land on which you work? What strategies do you or others use to combat the pests?

Have you or other people you know experienced health problems that you think are linked to pesticides, fertilizers, or other farming inputs used in the area in which you live or work?

Do you save seeds or buy new seeds with every planting? What type of seeds? Where do you get your seeds and what influences you in your choices?

Have you heard about genetically modified seeds? Has their introduction been an issue in your community? How do you feel about genetically modified organisms (GMOs)? Have you used them yourself or would you be interested in using them?

What agricultural policies of the national or provincial government have been significant or relevant to your work activities?

What programs from the local government affect you or your community? Do these programs help everybody equally?

What changes have you seen in the local landscape in the last ten years?

Have you seen significant changes in the land-ownership arrangements in the area? If so, why have these changes occurred?

Have there been significant migrations in your community due to changing economic arrangements?

Have family or household structures in your community changed due to migratory work?

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Have you seen women's or men's roles or responsibilities change in the local farming economy? What is different about the work that women or men do now than in previous years?

How does your life differ from that of your parents? What would you like to see for the lives of your children or the next generation? Is there anything that you think needs to change?

Do you have any other thoughts to share about your experiences in the local agricultural economy?

Please draw a map of what is important to your work.

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