!ncredible Kerala?

A Political Ecological Analysis of Organic Agriculture in the "Model for Development"

By:
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ABSTRACT

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In 2010, the South Indian state of Kerala's Communist-led coalition government, the Left Democratic Front (LDF), unveiled a policy to convert the entirety of the state to organic farming within ten years; some estimates claim that approximately 9,000 farmers were already participating in certified organic agriculture for export at the time of the announcement. Kerala is oftentimes hailed as a "model for development" by development practitioners and environmentalists because of such progressive environmental politics (e.g., McKibben 1998). Recent scholarship from Political Ecology, however, has christened organic farming as a neoliberal project, and much like globalized, conventional agriculture (e.g., Guthman 2007 and Raynolds 2004). Drawing from fourteen months of fieldwork in Kerala between 2009-2011, I explore this tension between Kerala as a progressive, political "model," and globalized, corporatized organic agriculture. I utilize Kerala's experiences with organic farming to present another story about North-South relations in globalized organic farming. In contrast to recent Political Ecological work surrounding alternative food systems, I contend that organic agriculture can actually offer meaningful possibilities for transforming the global agricultural system in local places. Using Polanyian (1944) and Gramscian (1971) understandings of civil society and social change, I argue that Kerala's agrarian crisis of the 1990s, stemming from the commodification of Kerala's agrarian environment and the intensification of chemical-based, cash crop agriculture, stimulated an ecological countermovement in the late twentieth century. This crisis included several farmer suicides and pesticide-poisoning from Endosulfan. Kerala's civil society and political institutions actively developed this countermovement by relying on an existing institutional structure that supports redistributive reforms, and a history of political organizing by Kerala's Left. This ecological countermovement is now comprised of organic farming institutions (e.g., vanguard certification-centered bodies such as the Indian Organic Farmers Producer Company Limited (IOFPCL)) and policies (e.g., Kerala's 2010 Organic Farming Policy), that are re-embedding market-driven agriculture ecologically and socially. To augment my Polanyian analysis, I also utilize analytics from Global Commodity Chain and Global Value Chain scholarship, and rely on Cultural Political literature and the work of several Kerala scholars (e.g., Heller 1999 and Herring 1983), to argue that Kerala's organic farming movement is promoting the civic engagement of organic farmers in agricultural governance. Kerala's Organic Farming Policy, for example, represents an alternative form of state-led development that prioritizes local-level decision making. Finally, I explore the bifurcation of Kerala organic farming countermovement between proponents of Kerala's Organic Farming Policy and certified organic farming for export; each defines organic farming differently. I contend that this divide is not "natural," but the result of a conjuncture of agrarian cultural politics, an "imaginary" of Kerala as a biodiverse "hotspot," existing political priorities,

and political economic and geographic changes in places like Wayanad District. This evidence illustrates that countermovements occur on and are shaped by terrains with history, and are far from monolithic. These findings also trouble the idealization of Kerala as a "model," and demonstrate that organic farming politics can take on different forms throughout the world, contingent on local and global factors and dynamics. I conclude, however, that Kerala's organic movement does not have a predetermined future: it is neither destined to be a "model" nor homogenized and conventionalized by the forces of globalization. Evidence from Kerala instead elucidates that organic agriculture can offer a valid critique of chemical-dependent capitalist agriculture, but not necessarily in the way that current Political Ecological thought would prescribe.

DEDICATION

To the Organic Farmers of Kerala,

And Their Supporters

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ABBREVIATIONS

APEDA	Agriculture and Food Products Export Development Authority
ASEAN	Association of South East Asian Nations
BBC	British Broadcasting Company
CBD	Convention on Biological Diversity
CPI	Communist Party of India
CPI(M)	Communist Party of India – Marxist
CI	Conservation International
CSA	Community Supported Agriculture
EU	European Union
FiBL	Research Institute of Organic Agriculture
GCC	Global Commodity Chain
GMO	Genetically Modified Organism
GNP	Gross National Production
GVC	Global Value Chain
Ha	Hectares
HDI	Human Development Indicator
HYV	High Yielding Variety
ICA	International Coffee Agreement
ICAR	Indian Council of Agricultural Research
ICS	Internal Control System
IFOAM	International Federation of Organic Agricultural Movements
IMF	International Monetary Fund
IMO	The Institute for Marketecology
Indocert	Indian Organic Certification
Infam	Indian Farmers Movement
IOFPCL	Indian Organic Farmers Producer Company Limited
ISO	International Organization for Standardization
IUCN	International Union for Conservation of Nature
KAU	Kerala Agricultural University
KCBC	Kerala Catholic Bishop's Council
Kg	Kilogram
KSEB	Kerala State Electricity Board
KSSP	*Kerala Shasthra Sahitya Parishad* ("People's Science Movement")
KVK	*Krishi Vigyan Kendra* (Agricultural Extension Station in Wayanad district)
LDF	Left Democratic Front
MSSRF	M.S. Swaminathan Research Foundation
NCOF	National Centre of Organic Farming
NGO	Non-Governmental Organization

NHM	National Horticultural Mission
NPOP	National Programme for Organic Production
NSOP	National Standards for Organic Production
PDS	Public Distribution System
PGS	Participatory Guarantee System
PIO	Person of Indian Origin
PL-480	Public Law 480
Rs	Rupees
SHG	Self-Help Group
SHM	State Horticultural Mission
SECO	Swiss State Secretariat for Economic Affairs
UDF	United Democratic Front
UK	United Kingdom
US	United States
USDA	United States Department of Agriculture
WSSS	Wayanad Social Service Society
WTO	World Trade Organization
WWF	World Wildlife Fund

MALAYALAM WORD REFERENCE

Adiavasi	Original/tribal inhabitant
Ayurveda	Traditional system of Indian medicine
Block Panchayat	Local-level administrative area above the village-level
Cherkan	Young man/boy
Crore	Ten million
Ezheva	Lower-caste Hindu
Godown	Storage unit for farm products
Grama Sabhas	Local-level administrative unit
Jaiva Krishi	Organic farming
Janmans	Hindu landlords under feudal Kerala
Nadan Pashu	Native cow
Pachayum Chuvappum	Red and green
Padakshera Samithi	Local-level farmers' committees, established by the LDF
Paka	Authentic
Panchagavya	Mixture of 5 products of cow for fertilizer/pesticide
Panchayat	Local-level administrative area, usually the village-level
Kai-Coolis	Bribe
Kaipad	Traditional system of rice cultivation
Kerala Shasthra Sahitya Parishad	Kerala's People's Science Movement
Kissan	Farmer
Krishi	Farming
Krishi Bhavan	Local agriculture office ("agriculture house")
Kudumbashree	Women's self-help groups established by the LDF
Kuttan	Boy child
Kutty	Child/Young woman/Student
Lakh	One hundred thousand
Malayalam	The official language of Kerala
Malayalee/Malayali	Person from Kerala
Manishen	Man
Mappila	Muslim
Nad	Homeland
Nambutiri/Namboodiri	Upper-caste Hindu, usually landlords under feudal Kerala
Nayar	Upper-caste Hindu of Kerala (below the *Nambutiris*)
Pokkali	Traditional system of rice cultivation
Rupee (Rs.)	Indian currency
Sahai	Help
Swaraj	Home-/Self-rule
Thottam	Garden
Vaille	Paddy field
Vazha	Plantain tree
Verumpattam	Tenants under Kerala's previous feudalist economy
Yatra	Journey

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CHAPTER 1. INTRODUCTION: WHY STUDY ORGANIC FARMING POLITICS?

> The organic movement has reached a critical mass, which shows that there is a desire for ethical consumption. But now, people are starting to ask questions: is it better to buy a non-organic apple from the UK, or an [organic] apple from the developing world?
>
> – Edward Haigh, BigBarn (a local food advocacy organization in England)

> I personally never, ever buy a foreign apple. They taste disgusting. They taste of spray. They are revolting. If you can get them banned, I'd be for it. They are disgusting.
>
> – Staff member at an England-based organization promoting organic farming

> [I] tend to buy local/UK food rather than imported, although I then worry that by not buying and supporting economies, I condemn the third world to continuing poverty
>
> – Ethical consumer in England, reflecting on food purchasing decisions

In 2001, an infectious viral disease spread across the United Kingdom (UK), affecting its food supply. This viral epidemic, known colloquially as "foot and mouth disease," led to the culling of over ten million animals, suffering from fevers, lameness, and skin blisters. While humans are not susceptible to foot and mouth, "mad cow disease," or bovine spongiform encephalopathy, another infection affecting animals, had just been discovered in the UK's agricultural supply fifteen years earlier. Mad cow disease had been linked to several other deaths throughout Europe – these deaths were all human. Victims of mad cow disease had ingested infected meat, and soon succumbed to mental deterioration, followed by death. The origins and spread of both diseases were soon linked to unsanitary living conditions and low-quality feed for animals raised for meat.

Suddenly, at the turn of the century, consumers from the UK became very concerned about the origins of their food, and the processes of food production. Various stories began appearing in papers about other absurdities of the food and agriculture chain. In 2006, a *BBC* report highlighted that the UK exported 1,500 metric tons of fresh potatoes to Germany, while importing 1,500 metric tons of potatoes from Germany that very same year. A 2003 article published in *the Guardian* exposed the poor working conditions of workers and the environmental contamination of the cut-flower trade in Kenya, supplying mostly for European consumers.

By the twenty first century, "conventional" agricultural production had become increasingly intensive and industrialized – highly dependent on inputs of fertilizers, pesticides, and fossil fuels, with concentrated livestock operations and low-wage labor. Complex food chains covered thousands of miles, involved many middlemen, and were rife with environmental and social abuses and risks. Consumers became scared and concerned about the origins of their food, origins from which they were distanced and could not see.

As a result of this multitude of scares and problems, activists, farmers, consumers, and government officials began to develop several "alternative" and "sustainable" food systems to mitigate the effects of modern, agro-industrial agriculture, with the aim of remedying some of

the ills of what constitutes modern food production. These alternatives include organic agriculture, Fair Trade foods, farmers markets, vegetarianism, and local food. Yet, even these alternatives were accompanied by their own quandaries of ethics and consumption, as popularized in Michael Pollan's *Omnivore's Dilemma*, where Pollan (2007) exasperatedly describes the difficulties he faced in determining the merits of various ethical products in a Whole Foods grocery store in California. Such dilemmas are further complicated by research that questions the nutritional and consumer merits of alternative and sustainable foods (e.g., Smith Spangler *et al.* 2012).

As a researcher living in England in 2005, where and when I was completing my Masters' thesis, I was confronted with similar choices. One afternoon, I walked into an English grocery store, and I found myself deliberating between purchasing Fair Trade bananas with packaging, organic bananas with packaging, and conventional bananas without packaging (figure 1). In another part of the produce section, I had to decide between buying local, European apples and Fair Trade apples from South Africa. I found that the alternative agricultural scene had become almost just as complex as the conventional one.

Figure 1: Which bananas? From left to right: Organic bananas with packaging, Fair Trade bananas with packaging, and conventional bananas without packaging. All three were spotted in an English grocery story during one visit by the author. Photo by the author.

I became pulled into British food politics, a scene which I realized could aptly be described as a sliver of the *world's* food politics scene, comprised of global chains of production-consumption linkages. As a researcher, I frequented farmers' markets and specialty shops on the weekends and during the week to assess consumer perceptions about developments in alternative food production and consumption. As the introductory quotations from Haigh, the staff member at the organic farming advocacy organization, and the ethical consumer reveal, consumers possess a myriad of feelings over organic and imported food from developing countries – especially given the background of unseen unsustainable production practices leading to food scares. The diversity of feelings of these consumers represents mixtures of doubt, disdain, and even paternalism towards countries like India, producing food for export to Europe. Such ambivalence is fueled by reports that suggest organic produce from developing countries or grown by non-Western farmers could be contaminated with chemical pesticides and fertilizers (*the Boston Globe* 2011).

Adding momentum to these doubts, it has become trendy in the scholarly literature to claim that alternative agriculture has limited potential to transform the global agricultural system. This literature has flagged that alternatives, like organic farming, are instead reproducing relationships and standards found within conventional, market-based agriculture, including exploitative and unequal North-South relations, especially as alternative agriculture scales-up and globalizes.

Given these claims, several consumers that I interviewed admitted that they sometimes avoided buying organic, and other sustainable products.

Research has also pointed out that alternative agriculture's fixation on individual consumer choices distracts scholarship, policy, and activism from examining broader political economic forces that shape and delimit agricultural production and the food system (e.g., Guthman 2011). Yet, while this is ultimately a dissertation about production, I open with stories of individual and Western consumption practices and concerns to situate myself – an individual consumer, born and raised in the United States (U.S.), and drawn to study production practices because of problems within the industrialized agricultural system that I first encountered as a consumer in European and American grocery stores. Furthermore, I deliberately connect consumer dilemmas and doubts to my social and ecological research on organic production, because my politics are such that I am drawn to examine the thoughts and behaviors of individuals and small-scale groups (such as organic farmers in Kerala), whom I believe are crucial components to large-scale and effective social action, movements, and change, both within and outside of institutional, governmental, and political structures. My research, I hope, will assuage consumers and activists (based in countries like the U.S.), who are much-needed partners in sustainable agricultural movements, about the ecological and social benefits organic farming can definitely provide to communities.

My individual consumption led to this dissertation on production. One day, in the same grocery store where I had spotted the various bananas (figure 1), I saw Fair Trade and Organic tea from Kerala, India for sale (figure 2). As a first-generation Indian-American based in Western culture, this image haunted me, especially given that consumers were imploring me for more information on food origins. I felt compelled to go to India to study agricultural production methods, particularly organic farming.

Figure 2: Fair Trade and Organic tea from Kerala, India. (Scanned image of box cover.)

1.1 Turning to Kerala, India

Organic farmers from India claim that they rely on on European and American markets to sell commodities produced with better environmental and social standards (Garibay and Jyoti

2003). Between 2003-2009, the area under certified organic agriculture in India grew by over 3,000 percent (Yadav 2010 and 2009). Indian farmers converted much of this land to organic farming primarily for export, particularly with the establishment of the National Program of Organic Production (NPOP) by the Ministry of Commerce, the Indian equivalent of the United States Agriculture Department's (USDA) National Organic Program. Policymakers in India even modeled the NPOP after American and European standards, to facilitate export to these regions. In 2009, India exported about 87.7 million Euros worth of organic goods to Europe and the U.S. (IFOAM 2011a).

In 2010, the South Indian state of Kerala, India, unveiled a policy ("Organic Farming Policy") to convert the entirety of the state to organic farming within ten years. This announcement signaled a momentous political step by a state, and indicates that an ever-increasing amount of land in India is coming online for organic production. Officials from Kerala have claimed that organic production is the solution to the innumerable agrarian problems the state is facing – from farmer suicides to chemical poisoning from pesticides such as Endosulfan, a persistent organic pollutant.

At various environmental events throughout South India, internationally-renowned activists like Vandana Shiva praise Kerala's Organic Farming Policy as an exemplar of Kerala's powerful grassroots activism, that which models sustainability. Shiva's praise of Kerala as "sustainable" stacks onto the pile of accolades Kerala has received for being a "model for development," due to its vibrant civil society, laid-back people, environmental production, Left-dominated politics, and Communist-led reforms (see chapter two). These and other admirations suggest that Kerala is the antithesis of globalized, corporate-dominated, top-down, destructive agriculture. Yet, given all the aforementioned concerns surrounding consumers and alternative food, I could not help but wonder: *how would globalized organics articulate with Kerala's much-acclaimed grassroots politics?*

1.2 The Conventionalization and Globalization of Organics? An Outline of Scholarship from Political Ecology

To answer this question about Kerala, I rooted my research in Marxist Political Ecology. In the 1980s, many independent theories and bodies of scholarship converged to form an academic subfield called Political Ecology, which highlighted environmental issues more prominently, and espoused to analyze physical environmental changes with tools from the social sciences. Political Ecology, with its focus on historical, social, and political concerns, emerged as a challenge to other fields and explanations of environmental degradation, including Malthusianism, cultural ecology, environmental determinism, and ecological Edenism (Robbins 2004). Political Ecology has now come to represent a field that is attune to questions about the construction of knowledge about nature, new social movements, green governance, violence, the production of subjects, institutions, identity politics, transnational alliances, etc., within a context of the capitalist mode of production. Fundamentally, Political Ecology is grounded in concerns about struggles over natural resources and the livelihoods of people. Political Ecology has always been directed at exposing the limits of ecological naïveté, especially with its explicit attention to place, and its broader relationship with political economic forces (Watts and Peet 2004).

Around the late 1990s, scholars trained in Political Ecology began to examine the political economy of organic production, with a focus on California. The USDA had finally begun to

regulate organic agriculture with the Organic Foods Production Act of 1990. While these regulations were hotly contested, several activists and environmentalists believed the codification of organic standards could benefit the growth of environmentally-friendly, alternative agriculture in the U.S. (Guthman 2004a). And indeed, America's organic farming movement flourished.

However, in their Political Ecological study of organic vegetable chains in California, Buck *et al.* (1997) concluded that "despite…countervailing tendencies, organic agriculture is beginning to resemble conventional agriculture" (p. 13). Specifically, to remain competitive and minimize losses, organic farmers (certified organic by an independent third party) were beginning to adopt more intensive practices, including monocropping and contractual arrangements, and rely on agribusiness capital for profits. Seven years later, Julie Guthman (2004b), a co-author of that seminal paper, noted that the Buck *et al.* (1997) piece created a flood of scholarship and debate, which "canonized" Buck *et al.'s* (1997) argument as the "conventionalization thesis" (301). Guthman's own and later work expounded on some of the finding within Buck *et al.* (1997), and argued that organic farming, as it currently exists (in California), was not the panacea for solving the ills of industrial agriculture. According to Guthman (2004a), there were many reasons that organic farming was falling short of the ideals heralded in its earlier, more radical roots, from the movement's oligopsonistic structure to how land is valued. Guthman also critiqued the organic movement's "agrarian dream" – its fascination with the "agrarianist vision for organic agriculture" (p. 9) that idealized a certain form of farming, one that is small-scale and family-owned and operated, self-sufficient, historically patriarchal, and ultimately fictional and unrealistic.

Over time, much of this "conventionalization" scholarship has continued to scrutinize organic and even other alternative food labels and standards, particularly as they expand in geographic coverage. For example, Jaffee and Howard (2010) point out that as the organic movement grows, corporations are becoming increasingly interested in obtaining a share of the organic market. This corporate involvement has led to a "co-optation" of standards, and a watering down organic and Fair Trade standards. According to such scholarship, organic farming is not just becoming conventionalized, but co-opted and corporatized as well. McEwan and Bek (2009), Reed (2009), Valkila (2009) have similar arguments about the corporatization and conventionalization of third party organic certification. Even Scott *et al.* (2009) note analogous processes occurring within the South East Asian certified organic movement – albeit within the specific cultural and political structures of Thailand, Indonesia, and Vietnam.

Several scholars also highlight that organic standards and production ironically deepen divisions between Northern and Southern countries. Raynolds (2008 and 2004), for instance, shows that many export-import organic commodity links between the North and South depend on former colonial relationships, and in contemporary trading arrangements, Northern countries continue to define the methods and practices surrounding agriculture (in this case, organic standards). Raynolds argues that as a result, current organic standards fail to address tropical realities, are expensive to comply with, and require extensive farm-level records that are burdensome and time-consuming for farmers in developing countries. Getz and Shreck (2006) similarly argue that the adoption of organic and alternative standards come with hidden costs for Central American producers. Getz and Shreck conclude that there is a disconnect in expectations raised by labels (e.g., that organic is a better alternative for consumption), and the actual experiences of producers in the developing world with regard to certification. Mutersbaugh (2006) even calls organic certification as a form of "neocolonialism," due to the standards and

restrictions that constrain and produce tensions for organic producers and their communities. Dolan (2004) highlights the paternalistic and neocolonial practices of "ethical consumption" (such as of organic products), by showing how Kenya's vegetable trade has become a field in which notions of justice and African development play out – "the African" is reconstituted as an object of duty and obligation, reflecting colonial legacies and nineteenth century liberal notions of duty and progress, reifying the "Other" as different and inferior to Europeans. Dolan concludes that forms of ethical consumption and production do not necessarily question the privileged position of the North, and instead reinforce North-South divisions discursively and economically.

For several scholars, such findings[1] have led them to dismiss the transformative potentials of alternative agricultural production and consumption. Fridell (2007), for instance, labels Fair Trade as purely a market-driven solution, with corporations as major beneficiaries of Fair Trade, and consumerism as an arena with *no* potential for social change. And while other scholars later iterated that their research findings were most likely place-specific (e.g., Guthman 2004a), almost a decade later, the "conventionalization thesis" and related claims preserve in scholarship examining organic farming (e.g., Darnhofer *et al.* 2010). Certainly, prevailing scholarship from Political Ecology contends that organic agricultural production (and consumption) reproduces structures and relationships found within conventional agriculture, imposes Northern standards and expectations on poor Southern farmers, and therefore carries limited potential for transforming the industrialized agricultural system. Organic farming, therefore, already has a predetermined outcome under a capitalist economic system.

1.3 Rethinking the "Conventionalization Thesis" with Political Ecology

Yet, some of these critiques – many of which have revolved around certification and standards – have not captured all of the social and ecological dynamics surrounding production and the politics of alternative agriculture in the developing world. I contend that in these places, organic agriculture is providing opportunities for radical social and ecological transformations, although not necessarily in ways that contemporary Political Ecological thought would prescribe. To present a different story about organic production in the Global South, I rely on a different reading of seminal Political Ecological texts.

1.3.1 A Polanyian Analysis of Alternative Food

Karl Polanyi is one theorist of political economy that frequently appears in Political Ecological works to critique the effects of free markets on society and the environment. Polanyi's (1944) analytic of the "countermovement" – society's protective response to the commodification of the three "fictitious commodities" of land (nature/environment), labor, and money – is a critique of the destructiveness of market liberalism, the ideology undergirding capitalist development.[2] Many scholars of the agro-food system have utilized the analytic of

[1] These critiques are related to those surrounding Fair Trade production in the developing world, and "commodity fetishism," a concept used in Marxist scholarship and Political Ecology to point out that under a capitalist mode of production, the social relations surrounding production and exchange become obscured and mystified. For instance, Bryant and Goodman (2003) argue that Fair Trade production and consumption creates a *new* fetish, through a geographical and problematic imagining of "the other." Hudson and Hudson (2003) conclude that Fair Trade cannot overcome commodity fetishism, despite its best efforts.

[2] Countemovements make up "the double movement" (see chapter three).

"countermovement" to make sense of the growing organic and alternative food movements (e.g., Bacon 2010, Raynolds and Ngcwangu 2010, Guthman 2007, and Goodman 2004). However, while some scholars argue that organic consumption and production *are* representative of Polanyian countermovements (Raynolds 2000), others disagree (Guthman 2007). Guthman (2007) further maintains that "voluntary food labels" (such as the USDA organic label) are forms of neoliberal governance, which extend the market into new areas; her argument implies that alternative food movements that rely on labels are therefore not "the Polanyian way."

I contend that these debates about whether organic farming *is* a countermovement (a protective and successful response to the destructiveness of unregulated markets) expose the limitations of utilizing only Polanyi's analytic of countermovements to understand alternative food movements. Block (2003) observes that Polanyi is full of "ambiguities" (p. 8) around the countermovement. The latter half of Polanyi's *the Great Transformation*, for example, leaves readers with the message that the self-protection pursued by individual countries – "socialist *interventionism*" as a form of a countermovement (p. 239, emphasis mine) – critically "impaired" the market, and led to the rise of fascism, World War I, and the Great Depression (Block 2003, p. 297). Thus, countermovements *both* mitigate market crises *and* produce crises themselves, but Polanyi never fully explains *why* and *how* countermovements evolve or emerge in the manner that they do. Polanyi does not provide deep analysis of the inner-workings of countermovements, or the specific historical and geographical conditions that produce countermovements (Burawoy 2003), and in fact remains "somewhat agnostic" with regard to such details (Hart 2002, p. 304). The organic farming literature that refers to countermovements mirrors these shortcomings within Polanyi's analysis of countermovements, and the dynamics and relationships within and surrounding organic food countermovements have been thus far underanalyzed by scholars, or, in the case of Asia, remains unknown.

Polanyi's lack of theorization around the inner-workings of countermovements help explain why there is such debate in the alternative agriculture literature over what exactly a successful Polanyian countermovement might look like. Polanyi himself states, "the great variety of forms in which the 'collectivist' countermovement appeared was not due to any preference for socialism or nationalism on the part of concerted interests, but exclusively to the broad range of the vital social interests affected by the expanding market mechanism" (p. 151). These "variety of forms" could reference the present-day U.S. Farm Bill, organic agriculture, or even "roll out neoliberalism" (Guthman 2007) – and each, arguably, represent concerned groups of people who are dissatisfied with the outcomes of market liberalism. Therefore, to ask what is "the Polanyian way" (Guthman 2007) in terms of food countermovements may therefore not be that useful, as countermovements can manifest themselves in a variety of forms, many of which have, ironically, proven to be just as destructive to society as the principles of market liberalism. The U.S. Farm Bill, originally created to protect U.S. farmers from the volatile prices of international grain markets, have encouraged the further intensification – and subsequent deterioration – of agriculture (Pollan 2007 and Worster 1982). Seemingly counterintuitive countermovements are therefore very much part of "the Polanyian way."

Where Polanyian analysis provides critical and productive insight, is Polanyi's critique of liberalism, and the accepted notion within liberalism that the economy, politics, and society are separate spheres. According to Polanyi, society cannot be separated from the markets, as markets are *always* embedded. This embeddedness is culturally specific, always changing, with different actors, and not predetermined. Most importantly, there is nothing essential or inherently natural to either human interests or the way markets work, as liberal economists posit.

Polanyi therefore troubles the mainstream and liberal theory of the individual subject as one that is purely economically self-interested. Humans are social beings, ones that interact with and shape the market and society, which is what accounts for the ongoing double movement and its diversity of appearances throughout the world (Polanyi 1944). However, as noted earlier, Polanyi does not provide more details about these interactions or the interests of people within countermovements and the double movement. To borrow from Burawoy (2003):

> We should not turn Polanyi's double movement into an inexorable law. We need to examine the conditions for its operation… [Our] task is to understand under what conditions and in what form state and society will hold up the market juggernaut, throw up barriers to or rush headlong away from the commodification of land, labor, and money (p. 244).

Burawoy is noting that countermovements need to be historicized, and understanding the divisions within them can help scholars understand the form that countermovements take and even why they fail. Thus, I spend less time with the hackneyed debate over what *is* an alternative agriculture countermovement, and instead look more closely at *how* exactly and *why* people, states, and markets interacted in Kerala to produce an ecological countermovement that is now rooted in organic agriculture. To augment my Polanyian analysis of organic farming in Kerala, I pull from theories and texts that were influential in early Political Ecology, particularly those that examined "the agrarian question."

1.3.2 The Agrarian Question

Scholarship surrounding the "agrarian question" illuminates the complex and sometimes unpredictable relationship between nature (specifically, agriculture) and capitalism. Classic works on the agrarian question – debates between Lenin (1899), Kautsky (1988 [1899]), and Chayanov (1991[1919]) – were focused primarily on analysis of agrarian social relations and the politics of the peasantry in relation to capitalist development and accumulation. They were grounded in trying to understand the relationship between capitalism and agriculture, the politics of those in the rural countryside, and why and how farmers and agriculture continue to be integrated into capitalism in uneven ways in the late twentieth and early twenty first centuries (De Janvry 1982 and Bernstein 1996).

Building on the classics, Goodman *et al.* (1987) and Mann (1989) explore the uneven relationship between capitalist accumulation and nature. Mann (1989) argues that nature's material properties inhibit full capitalist transformation of on-farm, agricultural practices. Goodman *et al.* (1987) emphasize, however, that there are technological approaches to overcoming these natural obstacles to farming and capitalist accumulation, which constantly shift the boundary between agriculture and industry. Kloppenburg (2005) illustrates how biotechnology is breaking down this barrier, by initiating ongoing primitive accumulation through the hybridization of seeds. Wells (1996) and Henderson (1998) complicate the notion that nature puts up barriers to capitalist accumulation in agriculture, and argue that nature is not just being *overcome*, but it actually provides opportunities for capitalist development and accumulation, and shape relations between laborers and growers. Additionally, Walker (2005) and Hollander (2008) argue that the social construction of an agricultural landscape can have just as much of an influence in shaping relations of production (though state involvement and investments, for example).

As these debates on the agrarian question illustrate, agriculture's natural properties, as well as understandings about nature, contribute to the ongoing unevenness of capitalist development. Goodman and Watts (1997) rely on the agrarian question to reject totalizing and non-descript notions of globalization as an all-encompassing phenomenon that is erasing geographic differences, and that agriculture is becoming completely transnationalized (e.g., McMichael 1994 and Friedland 1991).

In a similar vein, Friedburg (2007), Bingen and Busch (2006), and Dunn (2003) argue against claims that top-down global restructuring and increasing standardization are homogenizing agricultural production practices. In examining the contradictory and unexpected effects of European Union (EU) phytosanitary standards in Poland, Dunn (2003) troubles the logic that standards automatically harmonize production in historically-specific geographies. Friedburg (2007) also notes that knowledge, trust, and cultural norms continue to shape dynamics along fresh vegetable chains; standards alone do not dictate relations of production. These scholars remain more attune to the fact that local conditions, cultural specificities, geographic differences, and history, influence agricultural production, and long agricultural commodity chains.

1.3.3 My Arguments

To answer my framing question – *how will globalized organics articulate with Kerala's much-acclaimed grassroots politics?* (section 1.1) – I utilize Polanyi (1944) and work on the agrarian question to ultimately and simply argue that the politics and outcomes of organic production are not predetermined or homogenous. Countermovements take on different forms throughout the world, contingent on geography, history, political economy, and a variety of other local and global factors and dynamics. I use empirical research from Kerala and the research of Kerala-focused scholars to challenge the increasing determinism of the "conventionalization thesis" (Buck *et al.* 2007). I pay attention to situated social and ecological relations to claim that organic agriculture can indeed offer meaningful possibilities for transforming the agricultural system in local places.

I therefore make the following four arguments in my dissertation:

1. Kerala's agrarian crisis of the 1990s, stemming from the commodification of Kerala's agrarian environment, stimulated a countermovement in the late twentieth century that is re-embedding market-driven agriculture socially end ecologically through organic farming and policy. This countermovement has roots in Kerala's century of progressive politics.
2. Kerala's countermovement is bifurcated. Its 2010 state-wide Organic Farming Policy is being developed as an alternative form of state-led development that prioritizes local-level decision-making about agriculture.
3. The certified organic farming facet of Kerala's organic farming countermovement is promoting the civic engagement of organic farmers in agricultural governance, and disrupting expected power relations in agricultural arrangements by creating Kerala-based institutions that assist with certification – unlike what the logic of the "conventionalization thesis" would suggest.
4. The fact that Kerala's organic farming countermovement is bifurcating between proponents of the Organic Farming Policy and those involved in certified organic farming

for export is not a "natural" outcome, but one with a historic cultural political underpinning. This cleavage represents existing agrarian, political economic, and cultural divides in Kerala.

Together, these four claims tell a story that shows that organic farming is an alternative development strategy for Kerala, and emerged from an agrarian crisis and the particular politics and history of Kerala's civil society, as a Polanyian countermovement. Yet, my narrative also highlights tension within Kerala's civil society and Kerala's agrarian cultural politics; these tension not only play a key role in shaping Kerala's organic farming movement, but complicate idealizations of Kerala.

1.4 My Methodology and Positionality

To make my four claims, I documented "globalized" organic agriculture in Kerala by researching the origins, governance, and agrarian cultural politics of Kerala's organic farming movement through fourteen months in Kerala over two trips between 2009 and 2010-11, with funding from a Foreign Language and Area Studies Program (FLAS) grant and a Fulbright-DDRA fellowship. My arguments are based on approximately sixty-nine informant interviews, participation in nineteen trainings and conferences related to sustainable agriculture (including an Internal Control System training of Organic Wayanad, a certified organic farmers' group, for two weeks), observations from six farmers' meetings, and observations from five agricultural expos (such as the international Biofach Organic Trade Fair in Bombay).

Additionally, I had the opportunity to participate in and observe the daily activities of local non-governmental organizations (NGOs) (such as Thanal, in Thiruvananthapuram) advocating for alternative food production and consumption, outlets selling organic produce within India, agricultural education institutions in Kerala (such as Kerala Agricultural University), and farmers' groups. Through these experiences, I was able to have further and several, in-depth conversations with various stakeholders (e.g., farmers, NGO staff, government officials, consumers, traders and buyers, and activists) in both Malayalam[3] and English. Finally, I read and collected several primary and secondary documents (e.g., Government Orders from the Agriculture Department) and media (e.g., newspaper articles on Endosulfan and radio propaganda on organic farming from Radio Mattoli) for discourse analysis.

I split my time predominately between Thiruvananthapuram city, the capital of Kerala and the location of several government offices and policymakers, and Wayanad district, a northern agricultural district of Kerala, where the Indian Organic Farming Producers Company Limited (IOFPCL) and the export-based and certified organic institutions of Kerala have roots. I also traveled extensively throughout South India to observe events and interview informants.

I was able to easily develop relationships with people in Kerala because of scoping work I did while in Kerala in 2009, but also because of my own cultural background as a first-generation Keralite[4] (born and raised in the U.S.), whose parents were born into farming families in Kerala. Due to my upbringing, familial connections in agrarian areas of Kerala, and additional language training at the American Institute of Indian Studies (AIIS), funded by the FLAS grant, I felt that I was able to "blend in," and connect with several of my informants in Kerala, many of

[3] Malayalam is the official state language of Kerala.

[4] Although people from Kerala often refer to themselves as "Malayalees/Malayalis," in reference to the official language of Kerala, Malayalam, I refer to people from Kerala as "Keralites."

whom I considered friends and family, and even called "Aunty" or "Uncle." As a result, I often found the "insider-outsider boundary" (Sulthana 2007) to be rewarding, but also blurry, and even uncomfortable. To draw from the research experiences of Sulthana (2007):

> I was simultaneously an insider, outsider, both and neither…. The borders that I crossed, I feel, are always here within me, negotiating the various locations and subjectivities I simultaneously feel a part of and apart from. …The contradictions in my positionality and in-between status had to be constantly reworked as I undertook fieldwork (p. 377).

Sulthana's grappling with positionality with her fieldwork in Bangladesh, as a South Asian with family connections in her place of research, resonated strongly with me.

Positionality affects the types of methods that may be available to a researcher, and may also affect the type and amount of information a researcher is able to obtain (e.g., Haraway 1988). Oftentimes, I felt inhibited by my positionality as an American-raised, gendered subject, difficultly navigating two cultural worlds (America and Kerala). For example, I often questioned: should I have played the socially-acceptable role of the "demure" Malayalee woman (Lukose 2009) during farmer trainings, where I was the only woman present? Or, should I have asserted myself, as a researcher? But, what was the acceptable way to assert myself, given my privileged economic position as an American researcher (let alone the gendered and caste-laden landscape)? Was it wise of me to reveal that my mother's brother illegally poached animals like monkeys in national forests, so that I could bond with some informants who felt dissatisfied about land-use in Kerala? Was it advantageous of me to share my own Leftist political leanings to gain access to more information in discussions with politicians who viewed me skeptically, because I was a mere *kutty*,[5] as opposed to a fellow comrade in their eyes? I regularly grappled with these questions of performance and authenticity, and was often dissatisfied by my lack of answers. I was acutely aware that my positionality sometimes affected how I was able to conduct research, including dissuading me from quickly disseminating a state-wide organic farming survey (see chapters six and seven).

Ultimately, however, I felt that my positionality was advantageous to my research, because I straddled two cultural upbringings. As one organic farmer affectionately introduced me to other farmers one day: "She came back to Kerala, because she cares about us." My long-standing familiarity with Kerala allowed people to speak with me comfortably, I believe. I appeared as an aide to farmers hoping to broadcast their perspectives to consumers, a role model for young Keralite women interested in exploring social sciences, and a tactical audience-person for policymakers and NGOs involved in organic farming politics. I hope that I also appeared as a collaborator and partner to all my informants, and that our time and conversations together were

[5] *Kutty* translates into young woman, young student (boy or girl), *and* child (boy or girl). *Kuttan*, the Malayalam equivalent for "little boy," is rarely used to describe anyone other than little boys (children). An older boy or man might typically be called *cherkan* or *manishen*, whereas an older girl or woman is usually called *kutty*. *Kutty*, therefore, is an all-encompassing term in Malayalam that colloquially associates young women with children. Hence, I would oftentimes be referred to as a *kutty* (young student/young girl/young child), but male counterparts my age would be called the equivalent of "man" or "young man." An example: At the third Kerala Padana Congress in 2010, a regular conference put on by the Communist parties of Kerala to foster political and intellectual discussion and reflection, a male attendee called me a "*kutty*" and asked me to switch my seats and sit next to another (female) *kutty*, so he could have more space by other men close by. Throughout this conference, I overheard several people (mostly men) refer to each other as "comrades."

mutually-beneficial. I also hope that I was able to convey why, despite my parents' departure from agriculture and India, sustainable food systems in Kerala remains an important, worthwhile, and inspiring topic of inquiry.

1.5 A Map of Chapters

In the following chapters, I detail my arguments. Chapter two is a mostly descriptive chapter that introduces Kerala's recent organic farming efforts. I explain that because Keralites have become very active with organic farming in the past ten years (e.g., the state's 2010 Organic Farming Policy), Kerala as a place provides a good arena for exploring the questions and debates surrounding organic agricultural production in the developing world. Additionally, relying upon secondary literature and primary documents, I briefly describe India's 2001 National Program on Organic Production (NPOP), and trends in the nation-wide production and consumption of organics, to provide contextual background for Kerala's organic farming movement, but to also accentuate how and why Kerala's organic initiatives are notable. The second half of this chapter then draws upon secondary literature and primary documents to situate Kerala as a place renowned for radical politics and as a "development model" (McKibben 1998) – I do this partly to emphasize that Kerala, much like organic agriculture (as "conventionalized"), is frequently accompanied by its own narrative, that it is a "model." This section will also illustrate the complexity of Kerala's civil society. I emphasize that my dissertation will depart from these generalizations, and instead foreground how local histories and social relations interact with organic agriculture in Kerala.

The third chapter introduces the historical conditions that led to the formation of Kerala's contemporary organic farming movement. I utilize data from my interviews and observations, and discourse from policy documents, to argue that Kerala's agrarian crisis of the 1990s stimulated Kerala's politically-aware populace (historically organized and mobilized by Kerala's Left through caste and class reforms) and state institutions into creating an organic farming countermovement in the late twentieth century. I build upon Herring's (2001) Polanyian analysis of Kerala, as a place that contested "the Great Transformation" through contemporary (1970s) land reforms and the building of institutions by Kerala's Communist-led coalitions that promote redistribution and local-level democracy. These coalitions were influenced deeply by Kerala's anti -feudal and -caste movements around the turn of the twentieth century. I then illustrate that a normative ideal of proper land use in Kerala now leverages what I conceptually call a "moral economy of the land." Next, I turn to Kerala's agrarian crisis, and argue that regulating the market continues to be a constant struggle for the Left in Kerala, particularly in an era of neoliberal reforms. In fact, I explain how, despite the Left's attempts to protect Kerala's society, the market's destructive forces manifested itself throughout the state's agricultural arena in the twentieth century. I utilize a Polanyian (1944) framework to illustrate that the subsequent commodification of the agrarian environment in Kerala led to four key destructive outcomes in Kerala's agricultural community in the 1990s: suicides, fungal diseases, a deterioration of coffee production, and pesticide poisoning from Endosulfan. I focus on these four issues to later emphasize that Kerala's organic farming politics have predominately been shaped by environmental concerns. These outcomes propelled Kerala's farmers, activists, and the LDF government into creating an organic farming countermovement, deconstructed in the following chapters.

The fourth chapter builds on chapter three to detail the history and politics behind the making of Kerala's 2010 Organic Farming Policy of the Kerala State Biodiversity Board (Biodiversity Board) – one facet of Kerala's organic farming countermovement. This chapter also builds on the previous one to show that not only is Kerala's organic farming movement being developed as a reaction to the effect of market-based agriculture on the environment, but it also being developed as an alternative form of state-led development that prioritizes local-level decisions making about agriculture. I argue that the Biodiversity Board relied on Kerala's history of radical politics to forge a coalition of Kerala's civil society (Leftists, environmentalists, agricultural bureaucrats, and farmers), to respond to the commodification of Kerala's agrarian environment, by organizing to create a state-wide Organic Farming Policy (under the umbrella of the Agriculture Department). This policy is one key component of Kerala's organic farming countermovement, and it has come to dominate discussions of organic farming politics in the state. I then rely on a Gramscian (1971) understanding of "civil society" and Williams' (2008) use of Gramsci for examining Kerala's contemporary politics, to emphasize that institutional structures and political activism were already in place in Kerala to facilitate the forging of this countermovement, and to facilitate the opening for further changes in Kerala's agricultural governance. In the second half off the chapter, I focus on the internal governance struggle between the Biodiversity Board and Kerala's Agriculture Department, during the development of this Organic Farming Policy. This struggle was fueled by competing visions for agriculture in Kerala, and the Left's policies of promoting commercial cash crop agriculture with chemical inputs in Kerala's history. I also argue that the debates between the Agriculture Department and the Biodiversity Board signify that organic farming provided a stimulus and opening for ongoing transformation in agricultural governance (e.g., standards and relationships) within Kerala. Kerala's organic policy is now re-embedding market-driven agriculture within social relations in Kerala. Thus, in the last part of the chapter, I show that this organic policy promoting the civic engagement of organic farmers in agricultural governance.

In the fifth chapter, I once again build on chapter three to detail the history and politics behind the making of another facet of Kerala's organic farming countermovement: its export-led certified organic farming movement. Here, using data predominately from interviews and observations from farmers' trainings, I present how politicized farmers, activists, and religious leaders responded to the agrarian crises to build momentum for organic farming by building Kerala-based certification institutions. I show that the translation of international organic standards by Kerala-based certifiers – who share cultural practices and histories with the farmers they are certifying – disrupts power relations expected in certified organic farming arrangements. In the second half of the chapter, I concretely illustrate these claims by focusing on a 2010 German coffee order for the Indian Organic Farmers Producer Company (IOFPCL). First, I present empirical details about and a chart of this chain. Next, I use analytics from Global Value Chain and Global Commodity Chain literatures (e.g., Gereffi 1994), to demonstrate that organic agriculture is providing Kerala's farmers and activists openings for subordinating markets (in the Polanyian sense) with international ties – that is, opportunities for civic engagement within long commodity chains and in local production. I explain how this organic chain is providing increased prices and more negotiation power for farmers through direct marketing opportunities (such as at trade fairs like Biofach), where long-term relationships with buyers are established, and has facilitated the formation of local farmers' groups to manage and decide upon organic farming practices. Finally, I illustrate that Kerala's grassroots alone does not make up its multifaceted organic countermovement, but that its global connections (and dialogue) have

facilitated the development and growth of Kerala's organic agriculture as well (e.g., through ties to the Catholic Church).

In the sixth chapter, I return to chapter two to trouble the normative ideal of the Kerala "development model." In chapter two, I will have hinted at the dangers of romanticizing Kerala, but in this chapter, I will elucidate how an "imaginary" of Kerala's environment is contributing to the struggle over what "organic agriculture" should be in practice in Kerala. This "imaginary" intersects with contested policy priorities of Kerala's Left, and existing political economic and agrarian cultural divides to produce a countermovement bifurcating between proponents of the 2010 Organic Farming Policy, and proponents of certified organic agriculture for export. This division is occurring along existing political economic and cultural lines, and illustrates that organic agriculture (and the countermovement), as a phenomenon, occurs on a terrain with history. My exposing of this tension reinforces the notion that countermovements are *not* monolithic social phenomenon. Furthermore, this tension between Kerala's groups also illuminates why Kerala's organic farming countermovement does not have a predetermined future, but could take multiple paths, depending on future alliances.

In the concluding chapter, I come back to the Political Ecological literature of this chapter (chapter one), and reflect on how Kerala's story offers different understandings for and about Marxist Political Ecology and potentials for political change. I summarize that the evidence from Kerala demonstrates that organic agriculture can offer meaningful opportunities for transforming the agricultural system and agricultural governance in local places – these political openings have no predetermined path, and are contingent upon local histories, social relations, and political economy. In Kerala, decades of political organizing around redistribution and welfarist reforms, its agrarian crisis, and the cultural divides over farm management are affecting the trajectory of its organic farming countermovement. Finally, I present a few future research ideas, solutions for overcoming some of the challenges in Kerala's organic farming countermovement, and reflections on how to best connect global producers and consumers.

CHAPTER 2. SITUATING KERALA: ORGANIC AGRICULTURE AND THE KERALA "DEVELOPMENT MODEL"

> [Kerala] is, in other words, weird – like one of those places where the *Starship Enterprise*[6] might land that superficially resembles Earth but is slightly off. …[Kerala's] various campaigns and protests seem a sign of self-confidence and political vitality, a vast improvement over the apathy, powerlessness, ignorance, or tribalism that governs many Third World communities. …Kerala is the vastly more successful society.
>
> –Bill McKibben, celebrated environmentalist in "What is True Development? The Kerala Model" (emphasis mine)

One Saturday morning, early in my research, I found myself in the rural Palakkad district of Kerala, stirring a large drum with a mixture of five products from a cow: dung, urine, milk, yogurt/curd, and ghee (figure 3). The chartreuse-colored and foamy slurry emitted a putrid odor, yet it was closely surrounded by me, and several others who were a part of the *Kissan Swaraj Yathra*,[7] a group of farmers and activists touring India to garner awareness and elicit government attention for the agrarian distress affecting the Indian countryside. The travelers– the *Yatris* – had stopped in Palakkad to highlight the organic farming activities of its Kerala-based partner NGO, Thanal. At that moment, we were in the *Thottam* (garden) of an organic farmer, learning about *panchagavayya*, a home-made organic pesticide and fertilizer prepared wholly from cow-based ingredients.

Figure 3: Panchagavayya. Picture by the author

Having been on the road for several days already in other states, the *Yatris* were impressed with the *panchagavayya* mixture and the alternative farming efforts they saw and learned about in Kerala. As we walked away from the *panchagavayya*, one *Yatri* even questioned the need for my research into the history and politics of Kerala's organic farming movement. "Why Kerala?" he asked, "and not Punjab?" He went on to say that Kerala had a progressive, Leftist government that was anti-GMO (genetically-modified

[6] McKibben's use of "Starship" to invoke a vessel visiting distant lands is especially interesting because scholars have traced contemporary fascination by environmentalists and conservationists with landscapes in the developing world to colonial objectification of the faraway "other." This objectification buttressed imperial power, and was used to manage both colonial subjects and nature (Drayton 2000, Neumann 1998, McClintock 1995, Grove 1995, Pratt 1992, and MacKenzie 1988). Indeed, Kerala was oftentimes a place that European discoverers such as Marco Polo fantasized about, for spices.

[7] *Kissan Swaraj Yatra* translates into "Farmer Self-Rule Journey."

organism), anti-Endosulfan,[8] and pro-organic farming. Punjab, on the other hand, and other Indian states, were struggling with farmer suicides and the negative effects of Green Revolution policies. His words implied that Kerala's agrarian politics were far more straightforward, and that Kerala's agricultural efforts did not need any additional publicity or research. This *Yatri's* dismissive sentiments echoed Bill McKibben's: Kerala is a political, environmental, and social utopia, far-removed from ills plaguing the rest of the world. Kerala is a "model for development," a title bestowed on Kerala by activists such as McKibben, and even scholars like the anthropologists Franke and Chasin (1994), who laud Kerala's political and natural environment.

Yet, it is such sweeping generalizations of Kerala that my fourteen-month ethnographic research in Kerala intended to unsettle. For example, taking the *Yatri's* and McKibben's depictions of Kerala as at face value as a "sustainable" place, overlooks the fact that Kerala had the third highest suicide rate in India in the 2000s;[9] many of the victims were indebted farmers with less than an acre of land. Additionally, in the 1990s, Kerala's cash crop based agricultural sector was concurrently hard hit by a massive die-off of black pepper and declining coffee prices (see chapter three), straining farmers and impelling many to leave farming.

In this chapter, I answer: why study the organic farming politics of Kerala? I utilize primary and secondary documents, interview data, and my observations from the field to justify Kerala as a research location, and to situate its development, politics, and organic agriculture within the Indian context. I briefly explain the organic farming scene in India.

In the second half of the chapter, I introduce a history of Kerala's civil society[10] specifically, the components that have been involved in political and environmental activism. I focus on the ideal of Kerala as a "model" that is tied to this activism (e.g., McKibben 1998), the history behind this status as a "model" and its relationship to sustainability, and the consequences of this status. I specifically tell the story of the Left Democratic Front's "People's Plan," and its ties to the internationally-renowned environmental group, the *Kerala Shasthra Sahitya Parishad* (KSSP).

I finally examine the discursive power of the "Kerala model" abstraction, which my dissertation attempts to counter. I use this chapter to demonstrate that the dominant narrative of Kerala as a sustainable and social utopia leads scholars and activists to simultaneously both romanticize and dismiss its politics. I therefore suggest that the Kerala "imaginary" has powerful, material effects for development, the people of Kerala, scholarly analysis, and even the growth of organic agriculture. For example, the idea of the "Kerala model" is being used to market Fair Trade and organic chocolate – such as the Swiss Chocolate Stella's "Incredible India" bar – in Europe and India. I contend that this ideal of Kerala as a model, an apolitical abstraction, simplifies social relations and Kerala's history, and implies that organic farming will automatically be successful within and for Kerala, simply because Kerala is Eden, or "God's Own Country." Yet, my research demonstrates that organic farming is much more complicated within Kerala and India, and that relying on an abstraction makes answering whether globalized

[8] Endosulfan is a pesticide and persistent organic pollutant that has been linked to birth defects in Kerala. After tense debate, it is currently being phased out in India (see chapter three).

[9] In 2006, when Kerala had a high suicide rate, over 100,000 people, mostly farmers, took their lives in India. Most of these farmers swallowed pesticides (National Crime Records Bureau of India 2006).

[10] I rely on Polanyi (1944) and Gramsci (1971) for my definition of civil society: A realm of social organization, in which different actors organize to fight for and promote their needs and wants within the context of capitalism, and that is intimately linked to, and shaped by, politics (the state) and the market (the economy). I expound upon this more in chapter four.

organic farming fosters civic engagement or is becoming "conventionalized," difficult (my broad framing question, section 1.1).

I use Kerala's reputation as a starting point for my dissertation, and to examine the relationship that Kerala's civil society has with globalized organic farming – the latter which is increasingly coming with its own predetermined narrative, as a conventionalizing phenomenon reproducing structures and relationships found within conventional agriculture (which I explored in chapter one). My research aims to counter these fatalistic analyses of social phenomena to understand the politics and potentials in alternative farming practices. Much like Timothy Mitchell (2002) in his study of population and food in Egypt, I ultimately contend that for successful development outcomes, practitioners and scholars of social science need to reject detached generalizations, and instead examine how local histories and social relations interact with globalized phenomenon.

2.1 Kerala's 2010 Organic Farming Policy and Vanguard Certification Institutions

It is because many Keralites, such as the administrators of the Kerala State Biodiversity Board (Biodiversity Board), have taken an active leadership role in promoting alternative agriculture, that I decided to base my research in Kerala. Two milestones of Kerala's organic farming movement are particularly notable, and stand as the focus of my research.

The first milestone is Kerala's 2010 state-wide Organic Farming Policy. On May 17, 2010, during a large and well-publicized ceremony in Kerala's Kozhikode district, the Left Democratic Front (LDF)[11] Chief Minister of Kerala, V.S. Achuthanandan, unveiled the State Organic Farming Policy, Strategy and Action Plan ("Organic Farming Policy").[12] Developed by the Biodiversity Board and Kerala's Agriculture Department, one major goal of this policy is to convert the entirety of Kerala – around 2,000,000 hectares – to organic farming within ten years. Although twelve other Indian states are currently either discussing or already have similar policies in place (ICCOA 2011), Kerala was one of the first and only states to spearhead several state-wide discussions with local stakeholders on the subject of organic farming throughout the 2000s.

Farmers in Kerala were already engaging in organic production by the time of this announcement; one official estimate claims that close to 9,000 farmers within Kerala were certified organic for export by 2009 (Yadav 2009). Certified products "are…those which have been produced, stored, processed, handled and marketed in accordance with precise technical specifications (standards) and certified as 'organic' by a certification body," and usually fetch a price premium (IFOAM 2009a).[13] In India, these standards are set by the Agriculture and Food Products Export Development Authority (APEDA) of the Ministry of Commerce, which has accredited eighteen institutions in India to execute organic certification (IFOAM 2011a).

The second milestone is the establishment of Kerala-based certification bodies: Indocert in 2001, and the related, Indian Organic Farmers Producer Company, Limited (IOFPCL) in 2004. Indocert is the first "indigenous" organic certification body of India (anonymous informant at

[11] The LDF was the ruling coalition of parties in Kerala's state assembly from May 2006-May 2011. The current coalition, the United Democratic Front (UDF), is led by the Indian National Congress.

[12] See the Appendix for the full text of the Organic Farming Policy.

[13] Certified organic and Fair Trade farmers in Kerala have received up to double the price for their products compared to conventionally-grown foodstuffs. Farmers who only have organic certification typically receive around thirty percent more for their products.

Indocert 2011). Leaders involved in Indocert also formed IOFPCL in 2004, to help Indian farmers directly find and connect with foreign buyers and markets. Organic certification is a new phenomenon in India; the majority of Kerala's 9,000 certified farmers received certified status within the past five years (see chapter five). Policymakers, NGOs, and farmers estimate that several thousand other producers in Kerala are also farming organically, but are not certified.

Kerala's organic movement is continuing to grow, and is receiving praise from notable activists and environmentalists. Indian environmental activist Vandana Shiva visits organizations and farms promoting organic farming in Kerala on various occasions. At the 2010 Indian Biodiversity Conference in Thiruvananthapuram, Kerala, Shiva lauded the Biodiversity Board's Organic Farming Policy, the state government's stance on Endosulfan, and the work of Kerala's NGOs. "Kerala is and can be a model," she cheered, while lamenting the condition of agriculture and biodiversity in the rest of India at the close of the conference. She continued: "the world needs more models." Indian ecologist Madhav Gadgil also acknowledged Kerala's organic farming efforts at the 2011 Kerala Science Conference, in Thiruvananthapuram, Kerala. He predicted that Kerala's farmers would benefit from the organic farming activities in the state. Many other scientists expressed similar feelings to Gadgil at the Science Conference, with one extending his admiration of Kerala to say: "Kerala is the Mount Everest of social development."

Since Kerala has a vibrant organic farming movement that has caught the eye of various visionaries, Kerala as a place provides a good arena for exploring the questions and debates surrounding organic agricultural production in the developing world (outlined in chapter one). Additionally, Kerala's extensive history of civil society politics and mobilization – that which has captivated the above thinkers – can provide insights into the role of local histories and politics in shaping globalized phenomenon. Before examining Kerala's civil society' society in more detail, however, I will contextualize Kerala's organic agriculture efforts within the broader Indian context and existing data.

2.1.1 Data on Emerging Organic Markets of India – A Trend Towards Conventionalization or Civic Engagement?

Although farming without chemicals is not a new phenomenon in India, organic agriculture entered India's national agenda in 2000, when *certified* organic agriculture became codified as India's National Programme for Organic Production (NPOP). Modeled after IFOAM (International Federation of Organic Agriculture Movements) practices, Codex rules, and EU regulations, NPOP regulations and standards (National Standards for Organic Production, NSOP) were introduced and developed by policymakers, NGOs, and industry and business through India's Ministry for Commerce. These regulations were formulated specifically for export markets.[14] In 2006, both the U.S. and the EU approved these Indian standards sufficient to meet their import requirements.[15]

In 2004, the Indian Ministry of Agriculture set aside specific funds for research and development of organic farming through a program entitled the National Centre of Organic Farming (NCOF). The NCOF formally began monitoring organic farming – albeit mostly of certified organic farming – throughout India. Between 2003 and 2009, the area under certified

[14] Currently, the Indian domestic market is not regulated, which has allowed states like Kerala to become more active in developing state-specific organic farming policies.

[15] A more in-depth history and structure of the NPOP, as well as details of the NSOP, are available online through APEDA's website: http://www.apeda.gov.in/apedawebsite/organic/index.htm

organic farming in India grew by almost 3,000 percent, to over one million hectares (table 1). Most of these goods consist of spices, tropical fruits, cereals and pulses, coffee and tea, cotton, and sugar (Yadav 2009). In 2009, India exported about 87.7 million Euros worth of organic goods (IFOAM 2011a). However, according to APEDA (2007-8), India's organic exports represented only about four percent of its total organic production in 2007-8 – yet, a thirty percent increase from the previous year. While organic agriculture for export is growing rapidly in India, and represents a significant form of foreign exchange, the majority of organic items are currently staying within India.

Table 1: Growth in India under Certified Organic Management

Years	*Area under organic management (ha)*[a]	*Increase from previous year (%)*
2003-4	42,000	N/A
2004-5	76,000	81.0
2005-6	173,000	127.6
2006-7	538,000	211
2007-8	865,000	60.8
2008-9	1,207,000	39.5
2009-10	1,085,648	-10.1 [b]

[a] Excludes area under wild forest collection, eight million ha in 2008-9.

[b] Increase in area under organic management between 2003-9: 2,774%. Note the drop in the percentage if the 2010 figure is included: 2,485%. Because data is not available after 2010, it is difficult to discern whether the 2010 decline in area under organic management is part of a long-term trend or a one-time incident. One possible explanation for the drop could be the global recession, which slowed the growth of organic farming in places like the U.S. (*The New York Times* 2008).

Data Sources: Yadav (2009) for the National Centre for Organic Farming (NCOF), India and Yadav, A.K. (2010), *Organic Farming Newsletter* 6(4).

Kerala's present share of certified organic farming in hectares and number of farmers remains is small (table 2). However, the majority of India's certified organic spice exports are from Kerala. One employee of the Spices Board of India estimated that ninety percent of certified organic pepper, ginger, cardamom, clove, nutmeg, and mace are produced in and exported from Kerala (anonymous informant at the Spices Board of India 2011). From 2009-2010, Kerala exported about 244 metric tons of these six spices, worth almost 788 *lakhs Rupees*, the equivalent of over one million dollars (table 3).

Table 2: Kerala's Current Share of Certified Organic Farming

	Total under organic management (ha)[a]	*Total net area sown (ha)*[b]	*% of net area sown under organic management*[c]	*Total number of organic farmers*[d]
Kerala	14,869	2,101,431	0.71	8,892
India	1,085,648	141,230,000	0.77	714,117
Kerala proportion (Kerala/India)	1.37%	1.49%	--	1.25%

[a] Data Source: Yadav, A.K. (2010), *Organic Farming Newsletter* 6(4). Excludes area under wild forest collection, eight million ha in 2008-9. Includes areas in three-year conversion period and area already certified. 2009-10 data.
[bc] Data Sources: Kerala: Classification of area on the basis of land utilization 2006-2007. These estimates are based on surveys conducted of revenue land (as per Village Records). Therefore the area under cultivation in forest land is not included. India: FAO 2008.
[d] Data Source: Yadav (2009) for the National Centre for Organic Farming (NCOF), India. 2009-10 data.

Table 3: Export of Select Organic Spices from India, 2009-2010

	Quantity (MT)	*Value (lakhs Rs.)*	*Kerala's share (MT)*[a]	*Kerala's share (lakhs Rs.)*[b]
Ginger	79.34	133.09	71.41	119.78
Pepper	295.71	710.02	266.14	639.02
Cardamom	0.17	3.06	0.15	2.75
Clove	3.51	14.46	3.16	13.01
Nutmeg	3.02	13.67	2.72	12.3
Mace	0.11	1.01	0.1	0.91
Total	***381.86***	***875.31***	***343.67***	***787.78***

[ab] Estimated at 90% of total production.
Data Source: Spices Board of India, Kerala office (April 2011)

Although Kerala represents a small proportion of certified organic agriculture in India, industry representatives, policymakers, and NGOs claim that farmers will gain from the development of national standards, particularly because many Indian farmers already farm without chemicals (Ramesh *et al*. 2005). As a result, research and training institutions are being set up throughout India to assist farmers with certified organic production. NGOs, foundations, and development institutions are financing the roll-out of organic farming in many *panchayats* (Centre for Indian Knowledge Systems 2009, Abraham 2008, and Garibay and Jyoti 2003). As part of its tenth Five-Year Plan, the government of India also earmarked several billions of dollars for the promotion of organic agriculture throughout the country. Furthermore, India's growing middle class and urban populations are increasingly expressing interest in purchasing

organic produce (Neilson and Pritchard 2009). However, as table 4 shows, how Kerala's organic farming movement is growing is unclear.

Table 4: Total Area in Kerala under Organic Certification

Year	*Area under organic management (ha)*	*% difference from previous year*
2005-6	15,474	N/A
2006-7	147,745	855
2007-8	11,935	-92
2008-9	10,508	-12
2009-10	14,869	42

Excludes area under wild forest collection, eight million ha in 2008-9. Includes areas in three-year conversion period and area already certified.
Data Source: Yadav, A.K. (2010), *Organic Farming Newsletter* 6(4).

Between 2006-2010, there was a drop in the area under certified organic management in Kerala, mirroring the small drop in national figures (table 4). Yet, these numbers also show an upturn between 2009-10, and do not reveal who is represented and why they are leaving, joining, or returning to certified organic agriculture. Furthermore, these figures only represent certified organic agriculture.[16] However, there is a paucity of published data on non-certified organic farming and on the politics and culture of organic agriculture in India, rendering analysis of India's contemporary organic farming scene difficult.[17]

Despite the scarcity of organic farming data in India, I observed that organic agriculture was the object of criticism within India. One contract worker at a major organic advocacy organization based in South India complained to me that the organization was fostering long supply-chains over direct farmer relationships, fixated on business opportunities and expanding markets, and practicing cronyism above all other sensible relations and decisions; this contractor believed that India's organic farming movement was ignominiously dominated by corporate interests. Several European researchers directly remarked to me that India's organic farming movement was driven purely by consumer concerns in Europe and obsessed with markets. P.J. Chackochan, Director of IOFPCL and an organic farmer, complained that many farmers were leaving his organic farmers' group, Organic Wayanad, to obtain certification through a competing accreditation agency with lower standards. This list of opinions and observations certainly supports the notion that the growth of organic agriculture is driven by money and

[16] I will speculate more on these numbers and the challenges organic agriculture faces in India in chapter six.
[17] The little available data is most gray literature, authored by lobbyists, business interests, and NGOs (e.g., Marwaha 2005, Tiwari *et al.* 2005, and Import-Export Bank of India 2003). The better and existing peer-reviewed research is numerically-driven, on yields, organic manure, nutrients, and soil management, but very little is Kerala-specific or utilizes tools from the social sciences (e.g., Charyulu and Biswas 2010, Navadkar *et al.* 2004, and Thakur and Sharma 2005). The best piece on organic farming in Kerala is a 2004 unpublished working paper from the research institute Centre for Development Studies in Thiruvananthapuram, Kerala, India entitled *Future in the past: A study on the status of organic farming in Kerala*, by Balachandran V. Balachandran's work is comprised of a preliminary survey (a mail-in questionnaire) of the organic farming scene in Kerala. However, the 151 respondents were not all organic farmers; nor were the geographical regions of Kerala represented in a statistically-accurate manner.

capitalist markets, and is replicating structures and relationships found in conventional agriculture.

Yet, I was also privy to as many contrasting stories regarding organic farming in India, and witnessed examples of civic engagement, farmer empowerment, and changes within agricultural relations. One middle-aged organic farmer in northern Kerala told me that he and several other organic farmers felt politically-confident enough as a group to lobby for their interests at the state capital, in the south of Kerala; the previous year, they prepared and delivered a Memorandum of Understanding to Chief Minister Achuthanandan, requesting compensation for losses endured by farmers converting to organic agriculture or already farming organically.[18] During a training promoting alternative agricultural methods, a young organic farmer tearfully revealed that his cow saved him from death – reverting to organic agriculture and utilizing cow-based inputs had revitalized his farm and his assets. Now this farmer is part of a network of other organic farmers in Wayanad district of Kerala, and regularly speaks at trainings and showcases his organic farm.

K.M. George, farmer and Co-Ordinator at Organic Wayanad, a group of organic farmers, adamantly declared to me in an interview that he would never return back to conventional agriculture. He argued that his and his family's health had dramatically improved after switching to organic food production and consumption, cutting down on their hospital visits:

> **Sapna**: Sir, will you ever go back to conventional farming?
> **George**: No.
> **Sapna**: Why?
> **George**: Because I understood what it is. …If you enter into my soil, my farm, there's a peace.
> **Sapna**: Is there?
> **George**: One, if you go onto our soil during the rain time, a lot of life, a lot of life.... You can see the earthworms, their peace. Then, second, every time you look at the trees, as they grow, there's a mental satisfaction. Last evening, I was working on my beans and tying them. In a few days, when I see some beans start growing, I'm going to think about picking them and making a curry. That's satisfying. Then, I started living where I am now in [19]82.... From there then to 2000, all the money I made went to hospitals and doctors. All the money we made would go for my wife, or my children.
> **Sapna**: So, now do you visit the hospital less?
> **George**: Yes….

George is now the Co-Ordinator of Organic Wayanad, a group of organic farmers, and actively organizes local-area farmers to join the organic "family" to act as advocates and reinforcements for one another in their everyday lives and with local politics. Over lunch at an Organic Wayanad training, George extoled the fact that one of the trainees was active in *Kudumbashree*, a grassroots-institution created by the LDF during the People's Campaign for Decentralized Planning (section 2.2.1). He advised the other trainees to become involved in local politics as well, to create greater awareness and support for organic farmers in the district.

[18] This issue of compensating farmers for various losses does have precedent in Kerala (e.g., for plantains), and continues to be debated among Kerala's policymakers (Manojkumar *et. al* 2003).

As I delineated in this section, narratives regarding people's observations of and experiences with organic farming are polarized within South India. While statistics show that India's organic farming movement has seen overall growth in the past ten years, there is actually little research on the politics and social aspects of India's organic farming movement. It is precisely these unknowns of and tensions within India's trends – particularly whether organic farming has become conventionalized or fosters civic engagement (or both) – that my research explored with specific reference to the local geography of Kerala.

2.2 The history behind the "Kerala Development model" imaginary

In the past thirty years, in popular and scholarly discourse, Kerala has been called a "model" for development (Lukose 2009). In this section, I present the origins of this discourse, before delineating how the "Kerala model" became tied to an idealization of environmentalism (section 2.2).

Kerala currently has the highest HDI of any Indian state, close to those of Western European countries (Government of India 2011 and Tharamangalam 2006). Additionally, Kerala's indicators are on par or better than other industrializing nations in Asia (Kannan 2000a).[19] For example, Kerala's total literacy rate is just under ninety four percent. These indicators created the foundation for the idea of the "Kerala model." Mainstream environmental writers such as McKibben (1998) broadly define the "Kerala model" as: success in achieving high human development indicators (that match those in the developed world) and demographic gender balance, without corresponding economic growth and high consumption.

Scholars debate the origins of the "Kerala model" and why it has a high HDI (e.g., Desai 2005, Tharamangalam 1998, Chasin and Franke 1991, and Sen 1990), but Kerala's Communist-led reforms of the mid-late twentieth century, which prioritized politicizing, educating, and mobilizing the Keralite populace, especially the working classes, have contributed to creating a state and civil society that prioritize welfare and redistribution. A recently-formed geographic area, Kerala was created along linguistic lines (the Malayalam language) in 1956 by the unification of three regions (Travancore, Cochin, and Malabar), seven years after Indian independence from the British Empire. Kerala was set up as a parliamentary system, and Kerala's people democratically elected the first majority Communist government in 1957. This election was momentous for subsequently shaping Kerala's state and political institutions to prioritize redistribution. Various parliamentary coalitions over the following twenty years, led by Communist Party leaders (under the Communist Party of India – Marxist, in later years), with extensive pressure from mobilized groups, went on to implement a series of reforms attempting to improve health care, workers' rights, and education. Over two million acres of land were also distributed to tenants under the state's land reforms in the 1970s.[20]

The successful political mobilization of the Communists and their ascendency to political power early in Kerala's formative history – which I will detail in chapter three – is astounding given the cultural diversity of Kerala's civil society. For example, almost half of Kerala's

[19] When the Government of India released preliminary data from India's decadal census in early 2011, Kerala once again emerged as the state with the highest female-male sex ratio (Government of India 2011 and *The Economic Times* 2011). Kerala's numbers contrasted with the all-India trend of a declining female-male sex ratio, indicating increasing infanticide and neglect of female infants and children within India, and led one researcher to label Kerala as "peculiar" (John 2011).

[20] I provide details about Kerala's social reforms in chapter three.

populace is non-Hindu: According to the 2001 national census of India, about 25 percent of Kerala's population is Muslim, and 19 percent is Christian. 56 percent of Kerala's population is Hindu (Government of Kerala and Centre for Development Studies 2005). I will elaborate more on how the complexities of Kerala's civil society articulate with organic farming in chapter six.

Despite achieving impressive HDI, Kerala's economic stagnation of the 1990s led several scholars of Economics and political leaders to question whether Kerala ever was a true and comprehensive "model," and whether it could continue to be a "model."[21] For example, Kerala scholar Tharamangalam (2006 and 1998) increasingly contended that Kerala's labor militancy, supported by the left-leaning government coalitions, crushed entrepreneurialism and Kerala's market-leadership. Other scholars criticized the Kerala state and its welfarist institutions as unwieldy and overly *dirigiste*: "the inefficiencies of the state's apparatus – arising out of an over-centralized, over politicized, and corrupt bureaucracy – have been the bane of Kerala, retarding its development" (George 1998, p. 37). In other words, the "Kerala model" was top-down in its politics, and not responsive to people's political and economic concerns, affecting its developmental path (*Ibid*).

2.2.1 The People's Plan

In response to Kerala's economic enervation and charges that the state was bureaucratically-inefficient and top-down, Kerala's dominant Communist Party, the Communist Party of India – Marxist (CPI(M)) pursued a series of decentralization reforms in 1996 entitled the People's Campaign for Decentralized Planning (the "People's Plan") (Williams 2008, Heller 1999, and Isaac and Tharakan 1995). These reforms entailed devolving discretion of thirty five to forty percent of the state's annual plan budget to local village communities (*Grama Sabhas*), extending civil society's participation into the economic realm, and allowing for communities to decide how to use state funds. The CPI(M) built institutions that empower Kerala's civil society to actively determine the nature of economic activity and state policies, and to control political and economic development. For example, the CPI(M) fostered the development of women's neighborhood groups, known as *Kudumbashree*, as subsets of *Grama Sabhas*, to increase the participation of women in political matters.

Although several other Leftist scholars critique these LDF institutions and policies for promoting a political atmosphere that upholds pre-existing notions of gender and Hindu superiority in caste hierarchies (Kabir 2010, Raman 2010, Steur 2010 and 2009, Lukose 2009, Sreekumar 2009, Devika 2007 and 2006, and Jeromi 2007), the LDF's decentralization has transformed the state's politics by empowering Kerala's people to become active participants in the state and markets (Williams 2008).[22] Local-level officials now determine a significant portion of Kerala's economic and political activities. As a result of these real and important changes, Kerala continues to be a place idealized and renowned for grassroots social politics and as a "development model." For instance, Véron (2001) celebrates the People's Plan campaign as building a "new model." Véron (2001) also argues that the People's Plan's fostering of social capital and NGO involvement in political decisions has the potential to increase environmental sustainability in Kerala.

The next section will examine how exactly these reforms and Kerala's civil society became entwined with the concept of sustainability and the environment in the 1990s, producing a

[21] A more extensive literature review of the "Kerala model" debates of the 1990s can be found in Lukose (2009).
[22] I discuss cultural political differences in more depth in chapter six.

particular "imaginary" of Kerala in popular discourse. I define "imaginary" as an abstraction and ideal, or "a way of imagining nature [or society], including visions of those forms of practice which are ethically proper and morally right" (Peet and Watts 1996, p.263). I will next argue that the latest iteration of the Kerala "imaginary" presents Kerala as a place not only worthy of emulation for radical politics, but also filled with fecund nature and stunning, Eden-like landscapes, together which suggest that Kerala's people and environment compose an earthly paradise.

2.2.2 Environmentalism and the Kerala Model: Silent Valley, the KSSP, and the People's Plan

In the 1990s, Kerala suddenly became renowned for *sustainable development* (e.g., Franke and Chasin 1994). It was during this decade that environmental concerns ascended into mainstream discussions regarding development, trade agreements, and government policy, with the release of the Report of the World Commission on Environment and Development (1987) (the Brundtland Report), which specifically defined sustainable development. The landmark 1992 Rio Earth Summit brought together NGOs, world leaders, and environmental activists together for the first time, escalating environmental concerns even higher in the global political agenda. Additionally, the convergence of several historical and economic factors – the oil and debt crises in the 1970s, deregulation and World Bank and International Monetary Fund (IMF) austerity measures of the 1980s, a restructuring of capital in North America and the growth of Fordism, and growing awareness of global environmental problems such as the ozone hole and climate change (with their links to industrial activity) – spurred the emergence new social movements in the late twentieth century (e.g., conflicts over the Sardar Sarovar Dam on the Narmada River in India, structured beyond traditional and working-class struggles). People within these movements began seeking new ways to impose controls on corporations and states that engage in environmentally- and socially-destructive behavior (Adams 2001 and Peet and Watts 1996).

As a result, several development practitioners and scholars began endorsing civil society participation and local knowledge as an alternative to previous development paradigms (Mohan and Stokke 2002, Escobar 1995, and Neumann 1995). 1993 was declared by the United Nations as the International Year of the Indigenous Peoples, for example. Hence, environmentalists and development practitioners began fixating on the "local level" as a place for solutions for global environmental and development-related ills.

Given these historical incidents and world-wide changes in environmental- and development-thinking, Kerala, already upheld by scholars and activists as a model for social and political development, became a model for environmental politics and sustainability during this time (e.g., Chattopadhyay and Franke 2006, McKibben 1996, and Franke and Chasin 1994). Part of this refocused eye on the sustainability of the "Kerala model" derived support from Kerala's past environmental movements, those of which had grassroots' foundations and influenced the subsequent strategies of Kerala's Left.

The most well-known of these environmental movements is the Save Silent Valley Campaign of the 1970s and 1980s. Silent Valley is a tropical area located in Eastern Kerala, on the border with Tamil Nadu state, in the southern part of the Western Ghats mountain range. In 1973, the National Planning Commission approved fifty-plus-year old plans for a mega hydroelectric dam (120 megawatt) by the Kerala State Electricity Board (KSEB) within the valley. These plans immediately caused an uproar among environmental advocates in Kerala, who claimed that the

valley was one of the few places within Kerala with no record of human activity or tribal habitation, and therefore in need of preservation.

The *Kerala Shasthra Sahitya Parishad* (KSSP),[23] a social organization of respected scientists and Leftists committed to disseminating science in the Malayalam language, publicly and vehemently opposed the Silent Valley dam. The KSSP claimed that the KSEB was selling surplus electricity to neighboring states instead of supplying power to the people of Kerala. As a result, the KSSP argued that the dam was unscientific and unnecessary, and would not only destroy the pristine environment of Silent Valley, but bring little benefit to the people of Kerala. Members of the KSSP simultaneously engaged in mass campaigns to convince the public and international friends about the issue, and agitated against the state and national governments. Prominent international conservation organizations such as the International Union for Conservation of Nature (IUCN) extended their support to the KSSP (Chattopadhyay and Franke 2006, Narayanan and Sajan 2005, and Swaminathan 1999).

Due to the KSSP's efforts, the dam was ultimately defeated, and Prime Minister Rajiv Gandhi turned Silent Valley into a National Park in 1985. The Save Silent Valley Campaign was one of the first anti-dam movements in India, and shot Kerala's environmentalism into fame (Chattopadhyay and Franke 2006 and Narayanan and Sajan 2005). Additionally, according to Narayanan and Sajan (2005), "the success of this agitation won KSSP global acclaim as a flagship civil society organization in India and the third world" (p. 11).

The Silent Valley Campaign also radicalized the KSSP. I interviewed M.K. Prasad, a leader of the Save Silent Valley Campaign, self-identified Marxian, and long-standing member of the KSSP who was instrumental in starting an activist environmental wing within the KSSP:

> **Sapna**: …what led you to join KSSP?
> **Prasad**: I became a member in 1967. I was fascinated by this, because this KSSP originated as a science-writers movement…writers of science, writing science in local language…Malayalam science-writing people. And this was registered as a society. After some years, the group found merely spreading science is not going to help. So this society resolved to use *science as a tool for social revolution*. (Emphasis mine)

"Science for social revolution" is the official slogan of the KSSP. In the late 1980s to the early 1990s, the KSSP engaged in the Total Literacy Programme, a local-level planning and development intervention to educate and empower Keralites, ideally to become active members of civil society advocating for social change. Through environmental education and the mobilization of educational volunteers at the local level, Kerala's literacy rate surged to over ninety percent.[24]

In 1996, the newly-elected LDF government, propelled by the grassroots success of KSSP's Total Literacy Programme (and the idea of empowering people to revolutionize society), launched the People's Plan. KSSP leaders, many of whom were card-carrying members of LDF parties, were active in the development of the LDF's local self-government institutions (Narayanan and Sajan 2005). Hence, Kerala's recent decentralization efforts and progressive politics have extensive overlap with and roots in its environmental movement. Activists and

[23] *Kerala Shasthra Sahitya Parishad* translates into "Kerala People's Science Movement" in English.
[24] According to results from the Government of India's 2011 Census, Kerala's literacy rate is just under ninety four percent (Government of India 2011).

scholars therefore find environmentalism to be a key part of the contemporary "Kerala model" (e.g., Chattopadhyay and Franke 2006).

Simultaneously, around the late twentieth century, international environmentalists and development practitioners began to fixate on local management of "biodiversity hotspots" for conservation; one such hotspot, the Western Ghats mountain range, is found in Kerala and neighboring states, and houses Silent Valley.[25] The Western Ghats in South India has been identified as one of the world's twenty-five hotspots, as well as a priority ecoregion for World Wildlife Fund, containing of several Important Bird Areas for Birdlife International, and nominated to be a UNESCO World Heritage Site. The Western Ghats is home to many large-scale fauna, including Asian elephants and Indian tigers. Thirty to forty percent of the species found in the Western Ghats are considered endemic to the area (Daniels and Vencatesan 2008). The increasing attention on the Western Ghats – such as that from the Save Silent Valley Campaign – catapulted Kerala's nature and biodiversity into the international spotlight. The Kerala "imaginary," therefore, in recent years, came to encompass not just utopia or a far-off land to be discovered by McKibben's "Starship enterprise," but a tropical Eden – Eden as a natural place of perfection.[26]

Imaginaries of places as rich in biodiversity have real, material effects in terms of shaping the forms of governmental and NGO interventions that occur in these areas (West 2006, Tsing 2005). Organizations like Conservation International (CI) advocate more conservation measures in the Western Ghats, especially given that "less than 15% of the [total] Western Ghats is protected in twenty national parks and sixty-eight sanctuaries. … Thus, the protected area network is far from complete" (CI 2007). Because of these concerns over the general lack of adequate protected areas in places such as the Western Ghats, biodiversity conservation is taking new forms (Chapin 2004), including organic farming. In the next section, I will address the discursive power of the Kerala "imaginary" in the development of organic farming within the state.

2.3 Utilizing a Reputation and Selling Organics in "God's Own Country"

Throughout this chapter, I have described how Kerala is frequently referred to as a "model," and I have brought up several examples to demonstrate that scholars, activists, practitioners, and business representatives are both dismissive (e.g., John 2011 and the *Yatri*) and idealistic (e.g., McKibben) about Kerala. Regardless of the divergent opinions on Kerala, an "imaginary" of Kerala as a "model," tied to a utopian understanding of its environment and environmental politics, persists in a variety of discourse. For example, Kerala's Department of Tourism is vigorously promoting the idea of Kerala as Eden, and has launched a successful advertising campaign branding Kerala as "God's Own Country" (figure 4). The Department of Tourism's efforts align with the Ministry of Tourism's *Incredible !ndia* campaign, in which Kerala's

[25] Conservation biologists have come up with several approaches to identify and preserve key areas of biodiversity, including that of the "biodiversity hotspot" (Mittermeier *et al*. 1998).

[26] Kerala's declining birthrate also helped alleviate concerns regarding overpopulation – a fixation of environmentalists, many of whom were involved in and influential in the biodiversity movement (e.g., Norman Myers, see Mittermeier *et al.* 1998) – in the developing world.

Figure 4: The Kerala Department of Tourism's logo promoting tourism in the state with the slogan "God's Own Country." Source: http://www.keralatourism.org/

landscapes are heavily featured.[27] Kerala is considered a "torchbearer" for *Incredible !ndia* (Confederation of Indian Industry 2008).

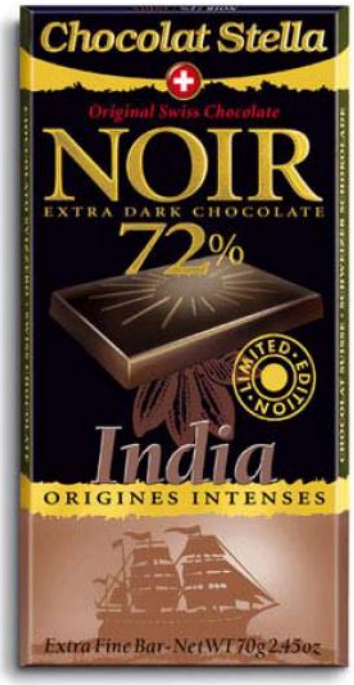
In this section, I will illustrate how the Kerala "imaginary" is a powerful idea that farmers, boosters, and the State are reworking for the justification and selling of organic farming initiatives in Kerala. I will briefly focus on the Swiss Chocolate Stella's "Incredible !ndia" chocolate, which directly sources Kerala cocoa from IOFPCL. Such marketing is part of building a narrative that organic farming will be successful for the people of and in Kerala – a direct contrast to the discourse surrounding globalized organics.

Chocolate Stella, a Swiss-based chocolate manufacturer, originally began working with IOFPCL, and specifically the subset of farmers in the organization Organic Wayanad, in 2007. At a general body meeting of Organic Wayanad farmers in May 2011, I had the opportunity to meet Anthony Panakal a representative from Chocolat Stella-Bernrain. Panakal, originally born and raised in Kerala, was now settled in Switzerland with his wife and three kids. In May, he had returned to Kerala to meet directly with Organic Wayanad farmers at their meeting, and to announce his company's advance offer of procuring Fair Trade and organic cocoa for 3,600 *Rupees* (Rs.) per metric ton – 1,000 Rs. above the current market rate, and a repeat offer from Chocolat Stella, which had previously sourced cocoa from Organic Wayanad.

Speaking entirely in Malayalam, Panakal also revealed that Chocolat Stella had unveiled a new chocolate at the International Sweets and Biscuits Fair (ISM candy show) in Cologne, Germany, earlier that year: a single-origin dark (seventy two percent) chocolate called "Incredible India" (figure 5), with cocoa sourced entirely from Kerala. He proclaimed that although tasters and buyers were surprised to learn about the existence of Indian chocolate, the "Incredible India" bar was a hit, and considered good quality. Chocolat Stella wanted to continue the Fair Trade and organic "Incredible India" line, and sell the chocolate at major European outlets such as Marks and Spencers. Panakal also explained that Chocolat Stella was currently the only manufacturer marketing 100 percent Indian chocolate in Europe.

Chocolat Stella's advertising of "Incredible India" chocolate pulls from the "imaginary" of the "Kerala model," with direct references to "God's Own Country," fruit and fertility, and even a transport vessel – while not the Starship Enterprise, a ship with masts like those of the colonial era, harkening back to a time when Kerala's spices were hungrily sought-after by European travelers (figure 5). The latter trope is fostered by phrases such as "world-novelty," "exquisite," and "high-quality." Kerala once again is represented as Edenic, exotic and far-off, and a place aiming to become more utopian with its partnership of sustainability with Chocolat Stella.

[27] *Incredible !ndia's* promotional materials can be found on the following website: http://www.incredibleindia.org/. The title of this dissertation is in reference to the *Incredible !ndia* campaign.



INCREDIBLE INDIA

We are particularly proud to introduce you our latest world-novelty from one of our sustainable projects.

As a World Première we are launching an exquisite high quality Swiss dark chocolate produced with cocoa coming from India.

The botanic name of the cocoa tree is "Theobroma Cacao", which means "food of the gods". The cocoa we use for this chocolate comes from the southern state of Kerala, known as "gods own country" because of its highly fertile grounds.

Since many years, we support the cooperative IOFPCL (Indian Organic Farmers Producer Company Limited) in Kerala with various concrete financial investments like advanced payments for cocoa and guaranteed purchase quantities. We also provide them with field technical workshops as well as trainings for their representatives in Switzerland in order to convey the quality as a cultural asset for the future of the cooperative.

The fruits, spices and cocoa grown by the members of the IOFPCL cooperative are of high quality, organic and Fair-Trade certified. The Fair-Trade premium prices guarantee the small farmers better revenues, enabling them to improve their living conditions and enhance the welfare of their communities and consequently contribute to sustainable development.

We are very pleased to present you this delicious chocolate, fruit of our Swiss-Indian joint development project.

Enjoy this heavenly delight!

Figure 5: Press release of Chocolat Stella's "Incredible India" chocolate accompanied by a picture of the chocolate bar. Source: Chocolat Stella 2011.

My intent with sharing this image is to highlight the pervasiveness of the Kerala "imaginary," and how that is continuing to be reproduced, even in discourse regarding organic farming. For example, Kerala's 2010 Organic Farming Policy makes reference to "God's Own Country" (p. 3),[28] and the need to preserve Kerala's biodiverse and fertile nature as the major reason to convert the entirety of the state to organic agriculture. This "imaginary" is a powerful idealistic force within Kerala and its environmental movement, as I will explain in chapters three and four.

My intent has also been to use this "Incredible India" chocolate example to ask: what does it mean to attach the "Kerala model" to organic farming, and development initiatives more broadly? I contend that the genuine efforts of Kerala's farmers, activists, and policymakers are either dismissed or romanticized with the ongoing utilization of this trope. This attachment implies that organic farming will automatically be successful in Kerala – a deterministic narrative that forecloses critical inquiry into the politics of this movement (as demonstrated by the *Yatri*), erases the history of Kerala's organic farming movement, simplifies the complications within India's organic farming scene, and affects perceptions of the state.

For example, the ongoing use of the "Kerala model" for selling organics obscures tensions within the organic farming countermovement in Kerala, the result of existing agrarian cultural politics, which I explore in chapter six. At the general body meeting of Organic Wayanad with Panakal, for example, farmers felt disgruntled that Chocolat Stella, an international entity, was promoting different and more complicated planting and harvesting methods of cocoa compared to local government officials. Other farmers felt irritated because Chocolat Stella was only interested in cocoa, a plant recently introduced to Kerala, when these farmers were also growing other crops such as black pepper, coffee, and different spices. Disgruntlement like this at foreign entities is what led other farmers and activists to denounce the cultivation of organic products for export, and instead focus on more domestic markets by pursing different value chains for farmer empowerment, dividing Kerala's organic farming countermovement (see chapters five and six). The Kerala "imaginary," however, obscures these politics, divisions, and nuances within its organic value chains.[29]

2.4 Conclusion: The Imaginary's Implications for Land Use

In this chapter, I introduced the history of Kerala's civil society and its relationship to environmentalism. I demonstrated that the priorities, actions, and recent history of Kerala's Left has extensive overlap with Kerala's environmental movement, through the KSSP and decentralization – this overlap has implications for the Left's ideas about and actions on land use in Kerala, which I will explore in proceeding chapters.

Throughout this present chapter, I also maintained that the ongoing abstraction of Kerala as a "model" has been a disservice to Kerala's civil society, and obfuscates critical analysis of its organic farming movement. I dig under the "Kerala model," to present a more complicated understanding of Kerala's environment (and its environmental priorities), which my later chapters will show has been a contested terrain. My dissertation attempts to counter the abstract caricature of the "Kerala model," and instead examines the social relations hidden in determinist discourse, and foreground how local histories and social relations interact with globalized

[28] See the Appendix for the full text of the Organic Farming Policy.
[29] I will elaborate upon the "Kerala model" in chapter six.

phenomenon (e.g., organic farming). It is this tension that has led to the grounding, pivotal question of my dissertation: *how will globalized organics articulate with Kerala's much-acclaimed grassroots politics?*

I propose a reading of organic farming movements that is more attentive to situated social relations, but does not romanticize either Kerala or alternative agriculture as utopian, either. I reject both tropes to answer whether organic farming is becoming conventionalized, and whether it fosters civic engagement in India. Relying on my empirical research in Kerala, and in contrast to recent Political Ecological work, I argue that organic agriculture can actually offer meaningful possibilities for transforming the global agricultural system in local places, but certainly has a complicated history and agrarian cultural political scene in Kerala. The next chapter will specifically examine the origins of Kerala's organic farming politics.

CHAPTER 3. ORGANIC'S ORIGINS: FROM AGRARIAN CRISIS TO ALTERNATIVES

> I rise to present the Budget for Kerala for 2010-11. This is the Fifth Budget that I am presenting. [These] Budgets are organically harmonised by a common vision that only by preserving the State's legacy of welfare should Kerala move ahead into the future of rapid economic progress and modernization. This is the way of progress. We have a great poet who, in similar vein, appealed to the little hands quivering with boiling blood to grasp the burning torches of freedom and equality handed down by forefathers as a precious legacy.
> *"Oh, little hands with boiling blood,*
> *come and bear these torches"*
> It is in 2011 that the birth centenary year of Mahakavi Vyloppilli Sreedhara Menon, the poet who thus sang about human progress, falls. While poems like "First Harvest" and "Eviction from Home" reveal the twin themes of equality and justice, "Son of Sahyan" is a great poem written for ecological justice. Five decades ago, linking ecological consciousness with social justice, the poet lamented,
> *"But, how quickly has progress*
> *Greyed the green."*
> If green is the colour of environmental consciousness, red is the colour of social justice. These are the colours of Vyloppilli's poems. …While observing centenary of Vyloppilli, I am happy to present this red and green- Pachayum Chuvappum[30] Budget.
>
> – T.M. Thomas Isaac, Minister for Finance, at the unveiling of Kerala's annual budget on March 5, 2010

Bananas, particularly deep-friend plantain chips, have become an increasingly popular snack and gift in Kerala. These and other snacks have developed such popularity, that activists complain that the surge in banana consumption has turned one of the northern districts of Kerala, Wayanad, into *Vazha*nad, which literally translates into "banana land" in English (figure 6). At a class on food safety for new organic farmers, K.M. George, Co-Ordinator of the farmers' group Organic Wayanad, took a harsher stand; he called Wayanad district a "doctor's Dubai," as a result of the surge in cancer rates in the area, which he believed were the direct outcome of amplified pesticide use.[31]

George estimated that around 2,500 metric tons of Furadan were applied to banana fields in Wayanad's 2,131 km^2 of land in 2009. Furadan, a chemical pesticide and neurotoxin, is slowly being phased out of the U.S. by Environmental Protection Agency, as a result of its toxicity and safety concerns, but it is widely used in the developing world (Eilperin, *Washington Post*, 2008). Many farmers in Kerala rely on Furadan to prevent crop losses due to pests, and it is rumored

[30] *Pachayum Chuvappum* is Malayalam for "green and red." Isaac called this budget a green budget – the first to foreground the importance of the environment in Kerala's politics and economic concerns, alongside the welfare of its civil society.

[31] Many Keralites migrate to Gulf countries in hopes of finding better employment opportunities and greater economic prosperity. George believed that Wayanad could be the economic equivalent for medical practitioners, given the high incidence of cancer rates in the district.

Figure 6: Banana trees growing in several plots in Wayanad district. Photo by the author.

that farmers frequently apply more Furadan than the recommended dosage by the Kerala Agricultural University.

After condemning the use of Furadan, George asked the trainees: "who ends up eating these Furadan bananas?" He pressed them: "When you go to someone's home and bring a gift, when you want to buy a little child a snack, maybe your nephew, what do you buy? Banana chips, right? These poisons are coming right back into our homes!" George – a farmer himself – then decried that farmers were poisoning fellow Keralites, which he explicitly noted were their fellow brothers and sisters. Later in the training, George urged the trainees to become involved in local politics, such as *Kudumbashree* (see chapter two), to assert the vitality of the organic farming movement and push back against conventional agricultural methods, and subsidies and policies favoring chemicals. George, convinced that chemical inputs were destroying the health of the people of Kerala, fervently believed that Keralites were sorely lacking in an ecological consciousness – that which Thomas Isaac, Kerala's former Minister of Finance for the reigning Left Democratic Front (LDF),[32] believed it was time to foster in Kerala, in the spirit of Kerala's forefathers, quivering with boiling blood. Both Isaac and George hailed a similar civic and moral responsibility in their appeal for this ecological consciousness.

In this chapter, I explore the historical conditions that led to these invocations by politicians and farmers for an environmental consciousness in Kerala at this particular juncture. Specifically, I introduce the factors that led to the formation of Kerala's contemporary organic farming countermovement: Kerala's "moral economy" of the land, the commodification of Kerala's agrarian environment and the transition towards cash crops, and the subsequent environmental destruction (exemplified in four examples). I pull data from my interviews and observations, and discourse from policy documents, to argue that Kerala's politically-aware populace (historically organized and mobilized by Kerala's Left) and state institutions, responded to Kerala's agrarian crisis by creating an organic farming countermovement in the late twentieth century.

I begin this chapter by presenting a history of Kerala. I then utilize texts from Political Ecology and Economy to explore the contemporary history of Kerala's moral economy. I build upon Herring's (2001) Polanyian analysis of Kerala, as a place that contested "the Great Transformation" through contemporary (1970s) land reforms and the building of institutions that uphold a sense of redistribution and radical politics. Yet, in spite of Kerala's history and politics, the 1990s represented a decade of agrarian crisis for Kerala. I next turn to Kerala's agrarian crisis, and argue that regulating the market continues to be a constant struggle for the Left in Kerala. In fact, I explain how, despite the Left's attempts to protect Kerala from the market, market society's destructive forces manifested itself throughout the state's agricultural arena in

[32] LDF is the contemporary Communist- and Left- coalition in Kerala's parliament.

the 20th century, causing immense ecological transformation within Kerala. I utilize a Polanyian (1944) framework to illustrate that the commodification of the "agrarian environment" (Polanyi's "land")[33] in Kerala led to four key destructive outcomes in Kerala's agricultural environment in the 1990s: suicides, fungal diseases, a deterioration of coffee production, and pesticide poisoning from Endosulfan. All four of these problems are related to intensive chemical use from market-driven agricultural policies.

I argue that these environmentally-destructive outcomes for Kerala's agrarian environment propelled Kerala's farmers, activists, and LDF government into creating an organic agricultural countermovement with an explicit environmental framework. Kerala's political institutions served as the bedrock from which this countermovement was born. Kerala's organic farming countermovement is now building institutions and policies that are attempting to re-embed market-driven agriculture within social and ecological relations, which I will elaborate on in chapters four and five.[34]

3.1 The Early 20th Century: The Forging of Kerala's Left and Contemporary Civil Society

In chapter two, I outlined how Kerala's environmental movement and Kerala's Communist parties became aligned in their political goals in the late twentieth century. In the following sections, I trace the history of Kerala's Left even further back in time, to demonstrate that Kerala's contemporary cultural political life is the outcome of decades of struggle.

The state of Kerala is a new entity, formed only in 1956, seven years after Indian independence from the British Empire. The area that is Kerala today covered three main geographic regions: Malabar, the northernmost region, which experienced direct British rule under the Madras Presidency;[35] and the two southern regions of Travancore and Cochin, which remained independent kingdoms that maintained close ties with the British. The three regions upheld severe feudal caste-relations, until just after independence and Communist-led reforms. For example, upper caste Hindus owned land, while lower caste communities of various backgrounds were barred from land-ownership, government jobs, and even government-funded schooling (Desai 2005).

In Malabar, *janmans*, composed of higher caste Hindu *Nambutiris* and some *Nayars*, owned vast tracts of land that were farmed by *verumpattam* tenants (oftentimes from the *Mappila*, or Muslim communities) with insecure landholdings. The inequalities of this feudal life were

[33] I take a broad reading of Polanyi's (1944) use of the word "land" to mean nature and the environment, including agriculture. As a result, I use the terms environment and land interchangeably throughout this chapter. Additionally, although there is ample evidence regarding the commodification of land (e.g., land markets, spurred by the Land Reform Act of 1963) and labor in Kerala, in this chapter, I focus on a narrow subset of commodified nature and agriculture, primarily agricultural inputs such as seeds. I term this focus on agriculture as "agrarian environment," deliberately in reference to Agrawal and Sivaramakrishnan, K. (2000), who posit that agrarian landscapes are very much a part of nature.

[34] I embark on telling the history of Kerala's organic farming movement in this chapter much like Bacon (2010) reconstructs the history of the Fair Trade movement, for a similar purpose: to illustrate that the contemporary governance structure of organic farming in Kerala is situated and shaped by local history and politics.

[35] The Madras Presidency was an administrative region under the British Empire in South India, from 1858 to independence. The northern region of Kerala, Malabar, fell under the Madras Presidency. The southern regions of Kerala, Tranvancore and Cochin, remained independent from the British Empire (although they maintained political and economic ties with the British).

intensified by the pro-landlord policies pursued by the British in their quest for collaboration with the powerful elites in the area, to access Malabar's timber and spice trade;[36] as a result, taxation and oppression within Malabar's feudal system increased under colonial rule. Around the turn of the twentieth century, many *Mappila* communities revolted, agitating against landlordism and the British. The *Mappilas* gained strength from the pan-India Khilafat movement, and initial support from the Indian National Congress (the national Indian political party, led by Gandhi, that lobbied for Indian independence from colonial rule). In 1921, these revolts culminated with the *Mappila* Rebellion, which led to the arrest and deaths of several Muslims and non-Muslims in Malabar by the British. These revolts left behind an important political legacy, as they spurred the introduction of several land-based reform policies into Malabar and Kerala's nascent government system (Panikkar 1989 and Radhakrishnan 1989).

In Travancore, lower caste communities (such as *Ezheva* Hindus) were disallowed from attending government-run schools and accessing other government services, banned from entering several Hindu temples, and forced to practice many lower caste-pollution rituals (such as leaving breasts uncovered to signal a lower caste status). Even members of Kerala's Christian community, while occupying a higher caste strata than *Ezhevas*, were denied government jobs and access to government-run schools, as these places were reserved entirely for upper caste Hindus (see chapter six). Given these societal restrictions, Hindu reformers such as Sri Naryana Guru, created associations and schools for lower class Hindus like *Ezhevas*, to collectively learn about and organize against Kerala's caste system. In 1936, this lower caste movement culminated with the Temple Entry Proclamation, which abolished the ban on lower caste people entering Hindu temples in Travancore (Sreekumar 2009 and Desai 2005).

According to scholars of Kerala, Kerala's Communist Party of India (CPI) utilized the momentum from these movements to sustain and bring further societal reforms to the entirety of Kerala when elected in 1957 (Desai 2005, Heller 1999, Panikkar 1989, and Radhakrishnan 1989). Specifically, Kerala's Left mobilized and created alliances between poor tenants and landless laborers, and took up the cause of anti-casteism to change economic and societal relations of Kerala's society – that which were feudal – before and after independence (Heller 1999).[37] Kerala's Left, therefore, united Kerala's civil society across caste, class, and religious lines, although such alliance-building was not without extended struggle and dissent from various groups.[38]

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[36] This British conquest was culmination of East India Company's quest to control the Malabar spice trade, which European powers (French, Dutch, and British) had struggled over for almost three centuries. The British used their influence to gain duty free access to pepper, cardamom, and sandalwood, disrupting traditional trade (Radhakrishnan 1989).

[37] Heller (1999) argues that class formation in Kerala occurred *before* Kerala's transition to capitalism, in the 1920s and 1930s, as a result of a conjuncture of political and historic forces: agrarian discontent (e.g., in Malabar with the *Mappilas*), social reform movements (e.g., in Travancore), the strategic intervention of the Communist Party in civil society, whic sought alliances between tenants in Malabar and laborers in Travancore, anti-imperialism, populism, and Indian nationalism. These all translated into the formation of the contemporary Kerala state. In his argument, Heller demonstrates that the state and society are relational – they are mutually constitutive and the mediation between the two is what shaped the impact and dynamics of economic transition in Kerala.

[38] The early years of Kerala's state history were tumultuous. Although a Communist-coalition possessed political power, due to the political agitations between various groups in Kerala (spurred by the Communist-led social reforms), the current Prime Minister at the time, Jawaharlal Nehru, imposed "President's Rule" in Kerala in 1959. The Communist-led government was dismissed, and Kerala came under direct federal rule for a period of time. Herring (1983) aptly describes how Kerala's Leftist coalitions struggled (and compromised) for decades to pass several social reform measures, due to opposition from various communities.

In 1957, E.M.S. Namboodiripad of the Communist Party of India was elected by Keralites to become the first democratically-elected Communist state official. Subsequently, Left-leading coalitions introduced several reform bills into Kerala's parliament, including Kerala's Land Reform Act of 1963. As outlined in chapter two, these redistributive and political reforms also took the shape of decentralization in the 1990s, to provide local communities more control in state budgetary and political matters. While caste and class politics continue to shape the cultural political landscape of Kerala (see chapter six), Kerala's Communist parties successfully and purposefully created new political institutions from Kerala's unique class and caste history.

3.2 The 1960s-80s: The Left Builds Redistribution into State Institutions

While the term and analytic "moral economy" appears in a variety of disciplines and literature, I rely upon a definition of moral economy found in contemporary works of Political Ecology, and that which have been influential to Marxist Political Ecology. Thompson (1990) and Neumann (1998), for example, rely on the concept of moral economy to comprehend how peasants resist new and imposed physical boundaries to formerly common land.[39] Simply, moral economy is a set of social relations that inform the values and ethics of a society. Moral economy can be a springboard for resistance during economic transformations; yet, moral economy is not essential to any group (Watts and Peet 1996). I find moral economy a useful analytic for understanding contemporary motivations, intentions, and politics in everyday peasant life.

Ronald J. Herring (2001) utilizes a Polanyian (1944) perspective – one that analyzes the rise of the market economy and resistance to it (the "double movement") – to describe Kerala's "moral economy." As Herring claims, "the 'defensive-reaction' and 'moral-economy' school of peasant studies is deeply indebted to Polanyi's perspective" (p.240). Herring notes that Kerala's contemporary "institutional innovation [is] a residue from struggles with the market" (*Ibid*). These struggles occurred primarily in the late twentieth century, which Herring describes:

> In Kerala, the decade 1970-80 compressed a remarkable span of history into a short span of years. New property rights were established, old ones extinguished; novel property-like rights and obligations were created, distributed, and then redistributed. In a sense, the transition was from remnants of an almost "feudal" agrarian system to heavily regulated market capitalism. It began with the replacement of the Left-communist-led coalition government and enforcement of its radical land reforms; it ended with the return of that coalition and the announcement that old-age pensions for agricultural laborers would be paid from general revenues, not from farmers' mandatory contributions as stipulated in a law passed only six years before. It was a decade of struggle and institutional change that incorporated into public law key elements of the pre-market moral economy.

In the above excerpt, Herring is recounting the series of reforms undertaken by Kerala's Communist Parties, particularly the land reforms (of the Kerala Land Reforms Act of 1963).

[39] Neumann (1998) examines the reactions of Meru peasants to enclosures happening in and for Arusha National Park in Tanzania in the late twentieth century. Thompson (1990) analyzes Blacking – acts of theft by former commoners – during the withdrawal of the monarch from the forests of England and the development of private property rights and market capitalism around the sixteenth century.

Over one million tenants benefited from these reforms, with over two million acres of land transferred, and an old, feudal class destroyed. Tillers became owners of the land they tilled. As Herring (1983) states: "The Kerala reforms emerged from the organized demands and decades of agitation of the peasantry, articulated through electoral victories of the Communist Party (later parties) in the state" (p.11). After building momentum for land redistribution, one of the Communists' earlier fights, the Communist-coalitions focused on pensions and labor rights for farmworkers. Herring argues that "the residue of these conflicts is an interventionist and welfarist political economy that attempts to keep the market in its place" (p. 240).

Heller (1999), building on Herring's (1983) previous work on Kerala, describes this "welfarist" (Herring's word) outcome in Kerala's politics as "class compromise" – simply, the capitalist class is kept in check by the working class, and the working class limits its demands to make sure capitalists acquiesce. Both Herring (2001 and 1983) and Heller (1999) demonstrate that the state (e.g., institutions, laws, and politics) and society (e.g., the demands of the working class) are relational – they are mutually constitutive and the mediation between the two is what shaped the impact and dynamics of economic transition in Kerala and subsequent outcomes. Now, "Kerala's public moral economy is embodied in institutions produced by these conflicts" (Herring 2001, p. 255). These institutions and institutional structures include civil society organizations such as self-help groups (e.g., *Kudumbashree*, chapter two), local bodies that promote democratic engagement (e.g., *Grama Sabhas*), distributive policies based on laws, etc.

3.2.1 Normative Ideals of Land Use

I find Herring's (2001) analysis of Kerala's moral economy to be a helpful starting place to delineate the origins of Kerala's contemporary organic farming movement. During Kerala's class conflicts of the 1960s-1980s, the groundwork for a moral economy centered on land emerged, influenced by Communist-led mobilizations surrounding land. This moral economy – grounded in an ideal of redistributive politics and how exactly land should be used – is also present in the institutions that Kerala's Left established and assembled.

The struggles around the Kerala Land Reforms Act of 1963 demonstrate how this moral economy surrounding land emerged and is now present in institutions built by Kerala's civil society. To abandon feudalism, yet to curb accumulation, Kerala's Communist parties fought for and finally passed the Kerala Land Reforms Act of 1963 in the Legislative Assembly. This act redistributed over two million acres of land to formerly landless tenants, and imposed land ceilings on land owners, so that households could only possess ten hectares of land (although several plantation crops are exempt from these provisions).[40] The Land Reforms Act, therefore, while completely transforming societal class relations in Kerala, also endorsed a normative ideal of land use and regulation in Kerala. Kerala's revolutionary "land to the tiller" endorsed a society where cultivators could finally become the owners of their land and their agricultural outputs, and ideally obtain self-sufficiency as a community of small, sustainable farmers.

Critics and several scholars have argued that the Land Reforms Act of 1963 and related Leftist policies have led to the economic and agricultural stagnation in Kerala. They contend that fragmented land has made agriculture less productive, which is encouraging farmers to cultivate crops that are not labor-intensive, so that they can avoid paying high labor costs (e.g., Reddy *et al.* 2001). While Heller (1999) argues that restrictions such as land-ceilings have actually benefited the welfare of people in Kerala, and that these land conversions are the result

[40] More details about Kerala's land ceilings can be found on the state government website: http://kerala.gov.in/

of other factors, including changes in foreign and national investment,[41] the amount of cash crop cultivation in Kerala has indeed increased. On the other hand, the production of staple crops, such as rice, decreased in the late twentieth century (Kerala Land Use Board).

Concerned by widespread shrinkage of paddy land and Kerala's decreasing self-sufficiency in rice production, Kerala's Left Democratic Front (LDF) responded, and enacted the Kerala Conservation of Paddy Land and Wetland Act of 2008, "an Act to conserve the paddy land and wetland and to restrict the conversion or reclamation thereof, in order to promote growth in the agricultural sector and to sustain the ecological system, in the State of Kerala." This act builds on legislative reform related to land reform and use from the 1960s and 1970s,[42] as well as ongoing Leftist reforms, particularly the decentralization of the 1990s, aimed at increasing public participation in civil society, the state, and market. The reforms of the 1990s also explicitly tackled and incorporated environmental issues – a first for Kerala's Left (see chapter two).

Today, the language of the Kerala Conservation of Paddy Land and Wetland Act of 2008 exemplifies the discourse about the environment leverages a normative ideal of proper land use in Kerala, sustained by Kerala's Leftist coalitions in various policies since the 1960s, and strengthened in the 1990s through decentralization and related resource-documenting initiatives. As I will elaborate in chapter four, this normativity is sustained by the Kerala "imaginary."

The next section will examine how, despite the existence of a moral economy of the land, present in state institutions, Kerala faced an acute agrarian crisis (eventually leading to the emergence of an ecological countermovement and invocations by leaders for Kerala to create an environmental moral compass). I focus on the 1990s, when Kerala's agricultural sector encountered suicides, devastating fungal diseases, a deteriorating coffee sector, and an intensification of toxic chemical use, all of which were the result of the commodification of the agrarian environment within Kerala.

3.3 The 1990s: Agrarian crisis and the Commodified Agrarian Environment

In *the Great Transformation* (1944), Polanyi is very critical of the commodification of land (nature/environment), labor, and money in capitalist society. According to Polanyi, advocates of the free market persist on subordinating each under market logic – providing them with corresponding "exchange values" (Burawoy 2003);[43] the laws of supply and demand are expected to solely govern the three "fictitious commodities." To Polanyi, the economy and society are intimately intertwined; matters of the economy have always been and should always continue to be "embedded" within social relations.[44] Thus, the separation of the market from the social and political "spheres" is problematic, as is privileging the market sphere over the other two, because unregulated free markets "attack the fabric of society" (p. 136), and result in social ills such as labor exploitation and environmental destruction.

Kerala, particularly as part of a larger nation-state, has not been immune to such crises related to deregulated markets, despite its politics, and unlike the dominant narrative of the "Kerala model" might suggest (outlined in chapter two). In fact, the turn of the century was a

[41] A summary of these debates can be found in Heller (1999).
[42] See Kerala's first Governor's Address in 1957 for a list of legislation and imploration related to food and land use: http://www.firstministry.kerala.gov.in/govadd_57.htm
[43] "Exchange value" refers to the quantity of other commodities and/or labor that can be obtained in exchange for the item in reference, and is usually estimated by a quantity of money – a monetary price.
[44] Polanyi describes how markets have historically been embedded in society in part two of *The Great Transformation*.

period of intense turmoil for Kerala's agrarian community, as a result of the commodification of agriculture. Kerala's agriculture has become tied to liberal economic policies that favor cash crops, yields and profits, and chemical use in agriculture.

3.3.1 Chemicals and Cash Crops

Part of Kerala's agrarian crisis lies with the transformation of its agricultural production towards one that is based in chemicals and cash crops. Kerala's agriculture has become increasingly cash crop based since its land reforms, one reason why the LDF legislated the Kerala Conservation of Paddy Land and Wetland Act of 2008 (section 3.2). Farmers have shifted away from growing staples such as rice and pulses, to grow commodities such as coffee and spices (table 5), for sale on international and national markets. For example, the area under paddy cultivation in Kerala dropped by 65 percent between 1961-1962 and 2006-2007. Scholars debate the reasons for this shift. Kannan (2000b) argues that increasing labor costs prompted farmers to switch to less-labor intensive crops, such as commercial spices. On the other hand, Heller (1999) argues that one driving force behind this change was the Green Revolution (section 3.3.2), which increased production output of rice in India, but therefore lowered prices for paddy grown by individual farmers in Kerala.

Table 5: Changes in Crop Cultivation in Kerala

Sl. No.	Crop	Area (Ha)			Production (Tonnes)		
		1961-62	2006-07	% Variation	1961-62	2006-07	% Variation
1	Paddy !!	753009	263529	-65	988150	641575	-35
2	Tapioca	236776	87128	-63	1618713	2518999	56
3	Coconut *	505035	872943	73	3247	6054	86
4	Pepper	99887	226094	126	26550	64264	142
5	Cashew	55051	70463	28	84449	61680	-27
6	Rubber	133133	502240	277	24589	780405	3074
7	Groundnut	15993	2813	-82	13533	2081	-85
8	Sesamum	11953	732	-94	2539	294	-88
9	Cotton #	9587	1300	-86	23751	1690	-93
10	Pulses	43546	6870	-84	16889	5211	-69
11	Ginger (Dry)	12050	11082	-8	11185	42496	280
12	Turmeric	4847	3917	-19	4267	9980	134
13	Banana	42693	59143	39	55443	463766	736
14	Tobaco	704	31	-96	915	50	-95
15	Total Cereals	766381	266497	-65	999566	643410	-36
16	Arecanut *	56764	102078	80	8091	22470	178
17	Coffee	18807	84571	350	8145	59475	630
18	Tea	37426	35365	-6	37428	53659	43

* Production in million nuts
# Production in bales of 170 Kg.
!! Production in Rice

Image Source: Government of Kerala, Kerala Land Use Board: http://kslub.kerala.gov.in

Another reason Kerala's agricultural production has transformed lies in the policy priorities of Kerala's Left since state formation. Kerala's Left has historically invited the growth of cash crop agriculture, as a part of cautious market transformation within Kerala, to overcome agricultural stagnation stemming from feudal and colonial economic relations, and to align with the Central Government's ideals of export-led development to bolster Gross National Production (GNP).[45] Several of Kerala's Communist leaders even argued that a transition to socialism first necessitated a linear transition from feudalism to capitalism, one major reason why Kerala's Left

[45] The Left's acceptance of privatization and accepting loans with conditionalities has increased in recent years, given the interest rate on loans from the Government of India. Raman (2010) explores the conditionalities attached to the Asian Development Bank loan that Kerala accepted in 2003. These conditionalities included the restructuring of Kerala's power sector, the privatization of water, and reforming environmental and development priorities in the name of 'good governance' (*Ibid*, p. 145). Raman (2010) argues that the acceptance of this watershed loan is likely to lead to a collapse of Kerala's Left.

promoted land reform and the development of land markets in Kerala (Namboodiripad 2010). As such, early Left-dominated coalitions promoted the strengthening and growth of Kerala's cash crop economy after Indian independence:

> In the second plan it is recognised that economic development must be balanced and for this, agricultural production must increase continuously to enable an increased tempo of development in the secondary and tertiary sectors of economic activity. In this connection it has to be recognised that cash crops like cocoanut [sic], cashew, pepper, ginger, tea, cardamom, lemongrass, etc., play a very important part in the State's economy. While they bring substantial incomes to agriculturist in the State, they also strengthen the foreign exchange position of the country (Government of Kerala, Second Five Year Plan, p. 5).

Kerala's Second Five Year Plan, the first five year plan after the unification of Kerala's three regions (Malabar, Cochin, and Travancore), explicitly expresses the importance of cash crop agriculture to Kerala's economy. The Plan then details the necessity of setting up research and production schemes to promote the intensification cash crop agriculture throughout the state. Kerala's policymakers hoped that by improving Kerala's endowments of natural resources through increased agricultural production and output fetching U.S. dollars, the Central Government would look favorably upon it, and share "economic benefits that accrued to the nation" (Government of Kerala, Fourth Five Year Plan, p. 5). Table 6 illustrates that the majority of Kerala's agricultural production is now cash crop based. The minority of Kerala's principle crops are of staples such as rice, pulses, and tapioca.

Bolstering agricultural productivity has been another key element in Kerala's five year plans, many of which have also noted the need for chemical inputs (e.g., Government of Kerala, Fourth Five Year Plan**)**. Kerala is and has been a food deficient state. For instance, Kerala, which has been a net importer of rice, experienced severe food shortages in the 1940s due to a conjuncture of factors that limited foreign and domestic food supplies, including irregular monsoons, a newly-partitioned India in which Pakistan received a larger proportion of land under grain production, the blockage of rice exports from Burma due to a Japanese WWII invasion, and speculation during the Bengal famine (Kannan 2000b, Mooij 2000, Chopra 1988, Varghese 1970, Namboodiripad 1952, and Government of India 1944). Hence, Kerala's state agricultural institutions have been shaped by the mandate to promote high yields with cash crops, utilizing chemical inputs.[46]

[46] Kerala's overall agricultural productivity, however, has been declining since the 1960s and 1970s, which has been documented and extensively debated in scholarly literature (e.g., see several papers published by the Centre for Development Studies in Thiruvananthapuram, Kerala, including Kannan 2000b). In the next section, I attribute this productivity decline partly to the use of chemical inputs.

Table 6: Area under Principal Crops in Kerala, 2008-2010

	2008-09	*2009-10*
Rice	234,265	234,013
Pulses	3,903	4,449
Pepper	153,711	171,489
Ginger	7,421	5,408
Turmeric	2,782	2,438
Cardamom	41,588	41,593
Banana	54,739	51,275
Other Plantains	50,126	47,800
Cashewnut	53,007	48,972
Tapioca	87,241	74,856
Coconut	787,769	778,619
Coffee	84,696	84,796
Tea	36,557	36,840
Rubber	517,475	525,408

2009-10 figures are provisional.
Data Source: Government of Kerala, Kerala Land Use Board, http://kslub.kerala.gov.in

Kerala's agriculture now relies on chemical inputs, which Kerala's Agriculture Department oftentimes subsidizes or gives away for free. One study estimated that farmers in Kerala apply 462.05 metric tons of chemical pesticides, including insecticides, fungicides, weedicides, and rodenticides on annual basis (based on averages from 1995-2008) (Devi 2010). Recall that K.M George, an organic farmer, performed a back of the envelope calculation to guess that in Wayanad District alone, farmers apply 2,500 metric tons of Furadan just to bananas (section 2.0). Regardless of the discrepancy in estimates, many of these chemicals inputs, including Endosulfan, Paraquat, and Furadan, are highly toxic and Persistent Organic Pollutants (POP), banned or intensively regulated in other countries. Devi's (2010) study also found that the overall usage of pesticides in Kerala has been declining, but that the reliance on a small number of highly-toxic chemicals is growing, to control increasingly-virulent pest populations.

Today, Kerala is also the leading producer of several commercial crops, including black pepper (table 7). Kerala has become predominately an export-oriented agricultural economy. Eighty percent of Kerala's agricultural commodities depend on external markets (Jeromi 2007). Kerala's share of commercial crop value (of coffee, rubber, pepper, tea, and cardamom) was 54 percent of the all-India total in 2001-2002 (Joseph and Joseph 2005). Kerala's increasing reliance on the export of coffee, pepper, and cashew, and the environmental effects of producing these commodities with chemicals, are discussed below.

Table 7: Kerala's Share in the Production of Commercial Crops in Metric Tons

	India	*Kerala*	*Kerala's share*
*Coffee**	314,000	68,100	21.69%
*Pepper***	49,997	33,950	67.90%
*Cardamom****	12,975	10,222	78.78%
*Cashew*****	350,000	100,000	28.57%

*2010/2011 data
**2006/2007 data
***2011/2012 data
****2000 data
Data Sources: United Planters Association of South India 2012, Spices Board of India 2010, and International Trade Centre Common Fund for Commodities 2002

Because Kerala's agriculture now revolves around tradable commodities, its agrarian sector is affected by global prices, policy, and trade. On January 1, 1995, India joined the World Trade Organization (WTO), agreeing to the market and export principles of the WTO's Agreement of Agriculture (AOA).[47] The liberalization-led lowering of tariffs and a removal on restrictions on foreign imports have created stiff competition for Kerala's agricultural products – such as coconut oil and pepper – in international and domestic markets (Government of Kerala, Agriculture Department 2001). For example, the reduction of the national import tariff on edible oil led to a fall in the price of coconut (which is used to make coconut oil, a staple in Kerala's cuisine and a source of traditional labor in Kerala).[48] There has even been an import of commodities into Kerala that are customarily grown in Kerala, such as tea (Jeromi 2007, Varghese and Sasankan 2007, and Krishnakumar 2004).

Kerala's left-leaning coalitions (the LDF in recent years) have vehemently opposed the Government of India's participation in free trade agreements, including the most recent Association of Southeast Asian Nations (ASEAN) multilateral trade agreement. Yet, not only has the LDF faced opposition from other political parties within Kerala, such as the Indian National Congress-led coalitions, which have historically contested many of the policies of the Left,[49] but the Government of India has moved forward with negotiating additional free trade arrangements with other countries (Devraj 2009).

I use this data and discourse to emphasize that Kerala was not and is not a place detached from the effects of commodification (e.g., of its agrarian environment). Regulating the market continues to be a constant struggle for the Left in Kerala, and, despite the Left's attempts to protect Kerala's civil society, the market's destructive forces (facilitated by vested interests, both

[47] Even before this landmark event, however, the Government of India had been pursing various economic liberalization policies, such as increased privatization, since the 1980s (Kohli 2006). These reforms of the late twentieth century reflect India's overall "pro-business" stance, have generated increased income and economic inequality within India, and have ushered in a new regime of private accumulation. Furthermore, agriculture has become progressively more export-oriented (Kohli 2006 and Corbridge and Harriss 2000).

[48] Imported coconut and coconut products can be sold at a lower price in Kerala partially due to lower labor costs in nearby Southeast Asian countries. The minimum wage in Kerala is 200 *Rupees*/day for hard agricultural work, but laborers usually command more compensation for additional work (such as picking coconuts), as well as meals. See: http://labour.nic.in/wagecell/Wages/KeralaWages.pdf

[49] Herring (1983) describes the ongoing struggle and tensions between Kerala's parties and within Kerala's politics – a reminder that class compromise (Heller 1999), even in Kerala, is not stagnant, but constantly negotiated.

internal and external, outlined above) manifested itself throughout the state's agricultural arena, beginning in the 1990s. I briefly describe four related (but not exclusive) outcomes of the commodification of Kerala's agrarian environment towards the cash crop sector, and the subsequent market-led ecological destruction from the reliance on chemicals in the next section: farmer suicides, fungal diseases of pepper, the deterioration of the coffee sector, and the poisoning from Endosulfan use.[50]

3.3.2 The Green Revolution and Farmer Suicides

At the turn of the twenty-first century, Kerala had the third highest suicide rate in India (Government of India, National Crime Records Bureau of India 2006). Most of these suicides were committed by small and marginal farmers (with less than one acre of land), and concentrated in agricultural districts such as Wayanad and Idukki. Many farmers killed themselves by ingesting the pesticide Furadan to escape indebtedness and agrarian stress (Shreyas Social Service Centre).

Several activists and scholars now blame the Green Revolution for the concentration of farmer suicides in recent years – over 100,000 in India in 2006 (National Crime Records Bureau of India 2006). In the 1970s, Indian policymakers introduced the Green Revolution, a system of agricultural intensification, to escalate domestic food production. Politicians and scientists hailed the Green Revolution as a miracle for Indian agriculture. Supporters argued that by increasing agricultural outputs through Green Revolution technologies and knowledge, India could develop an international comparative advantage in agriculture and maintain foreign currency reserves through agro-food exports, assert national sovereignty after a history of famines and dependency on food imports such as PL-480,[51] and support a growing wage labor and industry in urban areas. These technologies included irrigation machinery, high-yielding varieties (HYV) of seeds whose subsequent plants did not produce viable seeds, and chemical inputs. The Green Revolution was rolled out by the Rockefeller and Ford Foundations, as well as an Indian scientist with Kerala roots, M.S. Swaminathan (Gupta 2002, Shiva 1998, and Perkins 1997).

Indian agriculture changed, as farming became increasingly market-based, and farming communities became less autonomous. Unlike previous farming technologies and methods, farmers began to buy more and more of these inputs from the market, in the hopes of obtaining higher yields, and as the Indian government subsidized inputs such as fertilizers. Several farmers

[50] I focus on environmental aftermaths and commodified nature because Kerala's organic farming countermovement has predominately been shaped by environmental concerns. I trace this environmental framing through these four outcomes because Kerala had the third highest suicide rate in India (an irony given Kerala's reputation as a "model for development"), is the largest producer of pepper and second largest producer of coffee in India, and became the center of attention regarding Endosulfan use in India, during the 2011 Stockholm Convention Conference of the Parties.

[51] Public Law-480 (PL-480), currently referred to the Food for Peace Act, is a program of food aid by the U.S. government. Harriet Friedman (1982) considers PL-480 to be one of the most defining international aid programs of the mid-twentieth century, as the export of surplus grains by the U.S. influenced the world price of grains, especially in the third world. PL-480 also increased dependency on food imports and promoted agricultural underdevelopment (*Ibid*). Indian farmers continued to lose their self-sufficiency and more-established ways of farming, as cheap grains flooded the domestic markets. In the late 1960s and early 1970s, the PL-480 regime underwent changes; the U.S. government tried to use PL-480 as leverage in India during the Cold War. This, and other factors, promoted the active pursuance of Green Revolution technologies by Indian policymakers and scientists (Gupta 2002, Perkins 1997, Friedmann 1982, and Chopra 1981).

also took out loans from formal and informal lenders to make such purchases, and even went into debt. The economic restructuring of the 1990s, – during which the national government lifted subsidies on fertilizer and other products – while simultaneously opening up India's markets to international competition, exacerbated the debt situation of many of these farmers. Faced with high prices for agricultural inputs, and low prices for their outputs, many smaller farmers found themselves trapped with heavy debt burdens, and committed suicide (Sainath 2008, Patnaik 2006, Harriss-White *et al.* 2004, Gupta 2002, and Shiva 1998).

According to farmers and researchers in Kerala, the Green Revolution came to Kerala several years after the rest of India was experimenting with these new technologies, since early Green Revolution tools and information concentrated on grains. Kerala's farmers were predominately cultivating a mixture of crops, many of which were spices and tubers, at the time. Furthermore, as several farmers observed, Kerala's soil remained fertile in the 1970s, so Kerala's agricultural yields were already high (Chackochan 2011 and Kumar 2011).

Yet, as a result of a variety of investment, land, and labor factors, both real and perceived (mentioned in previous sections), farmers in Kerala began converting entirely to the cultivation of cash crops, particularly in the 1970s and 1980s.[52] Outputs, such as dried coffee beans, became highly dependent on international prices and markets, and formerly self-sufficient farmers and families became wholly dependent on markets for inputs and food purchases as well. As the price of grain and food commodities soared in the 2000s (McMichael 2009), these families became vulnerable to food insecurity.

Simultaneously, like other farmers throughout India, Kerala's farmers took out several kinds of loans from informal and formal moneylenders, and began experimenting with chemicals (George and Krishnapad 2006), which Kerala's policymakers promoted to increase production (e.g., in Kerala's Second Five Year Plan). As such, areas of Kerala such as Wayanad district became extremely reliant on markets and loans for agricultural activities – in fact, George and Krishnapad (2006) found that all of the farmers who committed suicide in one region of Wayanad had outstanding loans. Between 2001 and 2006, 534 farmers took their lives in Wayanad district alone (Patnaik 2006).[53]

After several years of chemical farming, Kerala's agricultural sector became impaired. In an interview, Ezhumavil Raveendranath, a prominent environmental journalist and organic farmer in Kerala, recounted how Green Revolution technologies stimulated Kerala's agrarian crisis in the long run:

> …All the academicians, all these scientists, all these fellows in the agriculture field propagated that the chemical farming will yield more, and [create] more and more income… In the initial stage, actually, they got sufficient income, sufficient money, sufficient comforts, all and all the things…. That – you have to underline that – <u>initially</u>. … Their income doubled or tripled. Their yield doubled or tripled or multiplied. But at the same time, when they got more and more income,…new diseases [were] introduced among this rural agrarian community. It is because of the side effect, or impact of chemical farming.

[52] Worster (2004) also provides an excellent analysis of why American farmers felt and feel impelled to constantly upgrade and invest in agricultural technologies and methods – what he calls an agricultural "treadmill." His analysis is applicable to the Indian context.

[53] George and Krishnapad (2006) explore in greater depth the motivations and livelihoods of distressed farmers, and why certain areas of Kerala have been disproportionately affected by suicides. In chapters five and six, I explain why the district of Wayanad was disproportionately affected by suicides.

Raveendranath was highly critical of the Green Revolution's impact in Kerala. According to him, however, a high farmer suicide rate and indebtedness in Kerala was not the only side effect of the commodification of agricultural inputs and outputs, but diseases.

3.3.3 Fungal Diseases and Foreign Exchange

The massive die-off of black pepper in Kerala is one factor that led to debt and suicides in agricultural districts. Kerala is the largest producer of pepper in India. Up to 90 percent of India's pepper has come from Kerala (Spices Board of India 2010). Black pepper has historically been one of Kerala's major agricultural outputs. Today, Kerala's boosters, politicians, and farmers proudly recount that Kerala's black pepper spice was hungrily sought after by European explorers:

> When Christopher Columbus discovered America, it is said he was disappointed, for the place he was really seeking was this, the coast of Malabar [Kerala] India's fabled spice coast, linked by intricate waterways to a hinterland of unimaginable riches. The Romans and Phoenicians, the Arabs, Chinese, and Europeans all came here in search of ivory, silks, and gold. But most of all, they came for the spices of India: cardamom, ginger, cinnamon, and black pepper – or black gold. And when they returned home, they recounted the wonders they had witnessed. When Marco Polo told the people of Venice what he had seen, they called him a 'liar' and flung him in prison. Then as now, India was a place that stretched the laws of credibility (narration from Incredible !ndia's *Timeless India* video, Government of India, Department of Tourism).

Even black pepper planting guides from commodity boards and agriculture offices repeat and reiterate the historic fame of Kerala's crop. The foreword to the 2009 Black Pepper Guide from India's Directorate of Arecanut and Spices Development of the Agriculture Department states:

> Black pepper or the black gold, the spice of commerce, is one the most important spices, which brought many seafarers to the shores of India from the ancient times. It was one spice, the trade of which has become an important part of history, which lead [sic] to…great adventure, exploration, conquest, and naval rivalry (Gorakh Singh).

Singh's praise of Kerala's black pepper as being a cornerstone for economic development and geopolitical skirmishes is not without basis – European countries and India's maharajas fought over the control of South India's spice trade for three centuries before the British consolidated power in India (Panikkar 1989).

The Kerala government, during both Left-controlled and Congress-led coalitions, continued to promote pepper cultivation throughout Kerala after Indian independence, especially to take advantage of Kerala's historic competitive advantage in pepper production. For example, Kerala's Second Five-Year Plan states:

> Pepper is an important spice crop of the State. It is largely exported and is a good dollar earner. Indian is now subjected to severe competition from some of the South East Asian countries. It is therefore necessary to put the production of pepper in India on solid foundations as to enable it to withstand the growing competition in world markets (Government of Kerala, p. 74).

In other words, Kerala's various governments promoted the commodification of pepper in the hopes of bettering the livelihoods of Kerala's farmers and the economy, and Kerala's economic and political position within India. As a result of ensuing and various pepper support programs, many of which introduced new and HYV pepper vines for farmers to purchase and grow, several farmers began to chiefly rely on pepper as their major source of income. And unlike in previous years, many of these farmers began to obtain and rely on these vines from the Agriculture Department, Agricultural Extension, and Commodity Boards, instead of saving their seeds. Today, most of these farmers are small to medium landholders, with less than two acres of land (Directorate of Arecanut and Spices Development 2009).

In the 1990s, however, Kerala's pepper plants began to "wilt" and die-off in large scale – *Phytophthora*, a fungus affecting pepper roots, caused pepper production to collapse in unprecedented magnitude in several areas of Kerala (Chackochan 2011, Vakkayil 2010, and Anandaraj 2000). According to Z. Francis, Program Officer at the social service organization Shreyas, which conducted a pioneer study of suicides in the Wayanad district of Kerala, many farmers coped with pepper loss by taking their own lives as well. Francis, like Raveendranath, was convinced that the wilt epidemic occurred as a result of the soil's natural equilibrium being destroyed from constant chemical applications, or, as a well-respected scientist from a commodity board explained to me, from the "indiscriminate use of chemicals," which "killed most of the useful organisms in the soil." This scientist argued that pesticide use, which increased with the onset of the Green Revolution in Kerala, exterminated beneficial, soil-dwelling microorganisms such as the fungus *Trichoderma*, a natural enemy to *Phytophthora*, causing "wilt" to proliferate and mushroom without impediment. As a result, Kerala's famed "black gold" declined in output within a few years (Directorate of Arecanut and Spices Development 2009). According to Mandan *et al.* 2005, this loss to *Phytophthora* is equivalent to 2,000 metric tons of pepper per year, valued to be 320 million *Rupees* (Rs.) annually.

Additionally, in the late 1990s to early 2000s, coffee and pepper prices declined worldwide and in India, as free trade agreements promoted pepper production in and trade with other Asian countries, such as Vietnam (*Ibid*). For example, whereas pepper sold for 260 Rs./kg in 2000, it only sold for 78 Rs./kg in 2004 (Vakkayil 2010). Pepper no longer proved to be a viable source of income, and the indebtedness of farmers and crisis in Kerala's countryside deepened, as farmers continued to purchase commodified seeds and other agricultural inputs to desperately save their livelihoods.

3.3.4 A Deteriorating Coffee Sector

In Kerala, farmers frequently intercrop pepper with coffee; pepper grows as a vine on shade-producing trees, and coffee bushes grow underneath (figure 6). Coffee was introduced into Kerala by British planters in the 1800s, commencing Kerala's ties to international commodity markets. While coffee was originally cultivated by the British, Kerala's farmers found that coffee fared well in Kerala's humid climate, and continued to plant it (Kjosavik and

Shanmugaratnam 2007 and Tharakan 1998). The Government of Kerala also encouraged the planting of coffee, and coffee was one of the exceptions to the ceilings of the Kerala Land Reforms Act of 1963, because of the importance of coffee and other plantation crops to Kerala's economy (Kurian 1999)[54]

Due to this exemption, many families and farmers with greater than ten acres have chosen to continue with coffee cultivation despite changes in the international coffee market, to hold onto their land holdings. Yet, most of Kerala's coffee growers own less than ten hectares of land (Upendranadh 2010). Like with pepper, several of Kerala's coffee farmers are small and medium landowners. Kerala is now the second largest producer of coffee in India (after the state of Karnataka, a neighboring state), and specializes in the Robusta variety (Coffee Board 2011).

Around the turn of the century, however, Kerala's coffee yields began to decline in several areas due to pestilence, weakened soils from intensified farming, and other factors (Coffee Board 2011 and Upendranadh 2010). One non-organic farmer calculated that when she first started growing coffee on her husband's land after their marriage, she would obtain 100 sacks (weighing fifty four kilograms, each) from their four acres of land. In 2011, however, she only collected thirty five sacks from the same land and plants. When I inquired about what she planned to do, given her current coffee output situation, she answered:

> **Coffee farmer:** What will we do? That's why we're not putting work into our land. We just take what we can get.
> **Sapna:** Isn't that hard for you?
> **Coffee farmer:** It's hard…we don't get enough coffee from our land to pay the costs for a year...Sprinklers, labor, inputs... We don't get anything to pay for our household costs.

Figure 6: The intercropping of coffee and pepper on a Kerala far. Note: Pepper is growing as a vine on the two tall trees. Young coffee bushes are growing underneath. Photo by the author.

This farmer then proceeded to tell me about how her quality of food consumption had declined, since she, her husband, and son could not afford to consistently buy vegetables anymore; even purchasing rice was a struggle. She continuously apologized for the dilapidated state of her house. She lamented if only outputs and prices were better, she could have a better life. This farmer then also explained that she had reached a state where she could

[54] Kerala's legislators exempt coffee to placate the several, large-scale coffee plantation owners who were bringing in foreign exchange (see Herring 1983 for more details about exemptions). Coffee, like other cash crops, was promoted by Kerala's government to bring in revenue (e.g., see Government of Kerala, Second Five Year Plan).

not afford to maintain her crops or do activities such as prune her coffee, since she could no longer afford to pay several laborers. She equated this neglect to further deterioration in the quality of her land. I then asked:

> **Sapna:** Are you afraid? Your coffee yields are going down, labor costs are higher.
> **Coffee farmer:** What we're scared of is…as the years pass, we're getting old. Already our bodies are weak and becoming weak. I have that hardship, that fear. We might have to sell our land after awhile--
> **Sapna:** Has that idea come to you?
> **Coffee farmer:** I've had that thought, because already, we're getting weak. We're doing all the work on the land. All the work. Now, look at our bodies, our skin. Dry. It's because we've been working in the soil. So, in the future, if we fall sick in bed...I have that fear….

This farmer's fear was compounded by the simultaneous declination of the international price for coffee in the 1990s. Ponte and Daviron (2006) pinpoint the origin of this "coffee crisis": in the collapse of the 1989 International Coffee Agreement (ICA), which regulated stocks and quotas of coffee production in participating countries. As a result of the dissolution of the ICA, coffee production was deregulated, new coffee producers moved into the market, and low-quality coffee flooded the international markets in oversupply. India's share of the international coffee market declined (Upendranadh 2010), particularly with the dissolution of the Rupee-Rouble agreement with the former Soviet Union (Neilson and Pritchard 2009). This situation was exacerbated by various liberalization policies pursued by the Government of India, as cheap coffee entered Indian markets from other regions of the world.

Given the concurrent decline in coffee output and price, Kerala's coffee farmers found themselves receiving little to no returns from their agrarian labor. One farmer disclosed to me that he cut down all of his coffee bushes in frustration, only to then lose his black pepper to wilt (certified organic farmer 2011). Like the above non-organic farmer I interviewed, several other farmers also admitted to neglecting maintenance (e.g., pruning) of their coffee bushes, to avoid labor costs at a time of low returns for commodities. Several laborers and marginal farmers therefore migrated to other areas of India to cope (Nair *et al.* 2007). As with pepper, coffee no longer provided reliable and sustainable income, which jeopardized the livelihoods of Kerala's farmers and laborers.

3.3.5 The Aerial Spraying of Endosulfan in the Western Ghats

Kerala has also historically been the largest producer of cashew nuts in India, and currently remains as one of the biggest producers. Cashews are a significant part of Indian food. Like with other cash crops, the Government of Kerala promoted the commodification of cashew nuts and related inputs, and the cultivation of cashew, after independence. The Second Five Year Plan introduced a state-led scheme to improve production in the state:

> Cashewnut industry is a very important one in southern Kerala and employs several thousands of labourers…. It is therefore proposed to step up the

> production of cashewnut in this country so as to meet the full requirements of this industry.
>
> At the present time, cashewnut is grown in the poorest soils and no attention is devoted to this crop. The scheme envisages the improvement of the cultivation of cashewnut…also by taking the necessary steps for controlling the diseases and pest of cashewnut (Government of Kerala, p. 70).

Important to note is that pest control was a top priority of initial cashew improvement schemes by the government.[55] Early in Kerala's state history, the Central Government and Kerala's Agriculture Department recommended the use of the insecticide Endosulfan to control mosquitos and other pests breeding around or attacking cashews (Thomas 2010). And from 1976 to 2002, the Plantation Corporation of Kerala, a public sector company, aerially sprayed Endosulfan over its cashew plantations and neighboring areas (about 4,500 hectares) in the northern district of Kasaragod, located the Western Ghats biodiversity hotspot (Sridhar 2008). Endosulfan was widely used in other agricultural sectors of Kerala, such as cardamom, to protect the output of crops and maximize returns in agriculture. At one organic farming training that I attended at the M.S. Swaminathan Foundation Centre in Wayanad, Kerala, farmers revealed that they themselves either used, or knew of others in the area that indiscriminately used Endosulfan to prevent crop losses to pest outbreaks. The non-organic coffee farmer I interviewed put it:

> If you want to know my opinion, farmers need pesticides to survive. This Endosulfan, if Kasaragod doesn't get it, there won't be cashews. Here, if a disease comes, and we absolutely need chemicals, then we need it…. Otherwise, farmers need to be given something small, whether it be cash, for the farmers that face losses…we're farming to live, after all.

As the coffee farmer opined, farmers needed chemical inputs like Endosulfan to produce agricultural outputs, especially because crops were becoming more and more vulnerable to pests. Her frame of mind is similar to the Dust Bowl farmers that Worster (1982) examines in the 1940s U.S., who, after the commodification of seeds and mechanization of agriculture, became more and more dependent on inputs while their soil quality worsened, as if on a non-stop treadmill.

In the late 1980s and early 1990s, community members, farmers, and local agricultural officers began noticing a high number of physical birth defects, developmental disabilities, and abnormal deaths among young people in Kasaragod district. These defects were linked to Endosulfan, by then known internationally as a POP, banned in Europe, and being phased out in the United States.[56] Endosulfan residues have been found in the soil, homes, and drinking water of communities in Kasaragod. Research from the Salim Ali Foundation recorded a decrease in aquatic diversity in the area, threatening the biodiversity and endemism found in the Western Ghats biodiversity hotspot (Vijayan 2010). Hence, the use of Endosulfan in Kerala resulted in the poisoning of not only Kerala's agricultural lands, environment, and biodiversity, but of human bodies as well (figure 7).

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[55] The Government of Kerala later exempt cashew plantations from the ceilings of the 1963 Kerala Land Reforms Act, to encourage the cultivation of cashews (Government of Kerala 2002).

[56] The Stockholm Convention on POPs has more details about the history, use, and side effects of Endosulfan: http://chm.pops.int/Home/tabid/2121/mctl/ViewDetails/EventModID/871/EventID/230/xmid/6921/Default.aspx

Figure 7. Newspaper Headlines from India between 2010-2011 detailing fallout from Endosulfan.

3.4 Civil Society Responds: Kerala's Organic Countermovement

In *the Great Transformation*, Polanyi (1944) describes how the commodification of the three fictitious commodities (land, labor, and money) led to devastation in industrializing England, ranging from "the denudation of forests" to "the deterioration of craft standards [and] the disruption of folkways" (p. 139). Polanyi goes on to explain that a countermovement emerged in England to protect land, labor, and money from annihilation. The countermovement is:

> the principle of social protection aiming at the conservation of man and nature as well as productive organization, relying on the varying support of those most immediately affected by the deleterious action of the market – primarily, but not exclusively, the working and the landed classes – and using protective legislation, restrictive methods, and other instruments of intervention as its methods (p. 138-139).

The purpose of the countermovement's "interventionism" was to "check the action of the market," and restrict its destruction and control by re-embedding the market back into society (137). Polanyi found the emergence of countermovements occurring throughout the liberal world in various forms (151); this validated his notion that the prioritization of the market and its destruction was unnatural and fought against.

I argue that the above four environmental tragedies – suicides, the proliferation of fungal diseases, the deterioration of the coffee sector, and Endosulfan poisoning – epitomize the contemporary destruction resulting from the commodification of the agrarian environment, and the move towards chemicals and cash crops in Kerala. I posit that the particular conjuncture of these four deeply influenced the coping strategies of many farmers and social organizations, as Polanyi observes earlier. Polanyi (1944) wrote about how trade unions, various classes, churches, and individuals band together in countermovements to restrict and regulate the free market. In Kerala, while some farmers and laborers migrated or committed suicide, many people, organizations, and institutions came together to create Kerala's organic agriculture countermovement, in direct response to the market destruction of Kerala's agrarian environment. Policy makers like Thomas Isaac and organic farmers like K.M. George were galvanized to act publicly and politically, and reacted to Kerala's agrarian change by calling for an ecological consciousness – that which undergirds this countermovement.

In this chapter, I relied on the concept of "moral economy," and I delineated Kerala's political and institutional history, to underscore that Kerala's civil society had a history of a shared morality and intense political activism surrounding land, before its agrarian crisis took off. Hence, when Kerala's agrarian crisis intensified in the 1990s, Kerala's civil society already had access to formally-organized institutions and political channels – existing structures and frameworks – to respond and react to the destruction of Kerala's agrarian environment. Kerala's organic farming movement, therefore, did not spontaneously emerge, but was stimulated and inspired by Kerala's history of political activism and social reform

While this chapter demarcated the origins and effects of the commodification of Kerala's agrarian environment, chapters four and five will delineate how exactly Kerala's organic agricultural countermovement emerged, was shaped by an environmental framework and Kerala's politics, and is attempting to re-embed market-driven agriculture within social and ecological relations by utilizing existing structures and frameworks, but also creating new ones. I will focus on the institutions and politics of two strands of this countermovement: the 2010 State Organic Farming Policy, Strategy and Action Plan (chapter four) and the Kerala-based, export-oriented value chains of the Indian Organic Farmers Producer Company, Limited and its Internal Control System Organic Wayanad (chapter five).

CHAPTER 4. KERALA'S ORGANIC COUNTERMOVEMENT: SUBORDINATING MARKETS THROUGH KERALA'S 2010 ORGANIC FARMING POLICY

> Many farmers have realized that they are fighting a losing battle with the "high yield variety - fertilizer-pesticide pack" of [the] Green Revolution. They have also realized that the degradation and disruption of the fragile ecosystems of the "God's own country" are the chief culprits for the water scarcity, nutritional insecurity, loss of primary productivity and agrarian crisis being faced by the State.
>
> The farmers in Kerala are convinced that the only way is to return to the traditional sustainable ways of cultivation without harming the ecosystem,…[through] organic farming, a system with the broad principle of "live and let live"…recognized nationally and internationally.
>
> – Preface to the Government of Kerala's 2010 State Organic Farming Policy, Strategy and Action Plan[57]

> …If you look at the biodiversity in general, you will find that the biodiversity loss is the worst in agrobiodiversity…the reason is the Green Revolution and use of chemicals. I have evidence for this, with birds, because I started observing birds from 1969. And in those days, from Palakkad to Thrissur, if you travel[ed] by any ways, you would see on any road or lane, hundreds of Baya nests…Baya. It's a weaver bird. They make their nests with straw, and they make a long spiral thing…it is a tubular nest, very beautiful…hundreds of them you could see from the road. Now you don't see a single one. The whole thing has gone and nobody needs to tell me the reason – it is very clear; it coincides with the use of pesticides, right? It's not only the Baya.… So, my agenda is very clear.
>
> – V.S. Vijayan, former Chairman of the Kerala State Biodiversity Board.

In 2010, Kerala's Chief Minister of Kerala, V.S. Achuthanandan, publically announced and endorsed the final version of the 2010 State Organic Farming Policy, Strategy and Action Plan ("Organic Farming Policy") at a gathering of organic farmers, environmentalists, and Agriculture Department officials in the district of Kozhikode, Kerala. This policy, originally the brainchild of the Kerala State Biodiversity Board ("Biodiversity Board") and first drafted in 2006, took four turbulent years to come to full fruition, and vows that the entirety of Kerala will be organic within ten years.

This chapter builds on chapter three to detail the history and politics behind the making of Kerala's Organic Farming Policy and its subsequent implementation – one facet of Kerala's organic farming countermovement. This chapter also builds on the previous one to show that not only is Kerala's organic farming movement being developed as a reaction to the effects of capitalist markets on the environment, but it is also being developed as an alternative form of state-led development – development that involves the input of civil society and promotes local-level planning. Throughout this chapter, I will show that Kerala's contemporary organic farming movement has taken this shape of state-led development (that prioritizes local-level planning) due to Kerala's particular history of radical politics, which suggests that organic agriculture is

[57] See the Appendix for the full language of the Organic Farming Policy.

likely to develop and evolve differently in other places, contingent on local conditions, cultural specificities, geographic differences, political economy, and history.[58]

In the first part of the chapter, I recount the history of the Biodiversity Board as a state-level institution, to emphasize that the Biodiversity Board, although a recently-formed institution, possesses Kerala's moral economy surrounding land, the latter which I outlined in chapter three. I argue that the Biodiversity Board leveraged Kerala's history of radical politics to forge a coalition of Kerala's civil society (Leftists, environmentalists, agricultural bureaucrats, and farmers), to respond to the commodification of Kerala's agrarian environment, by organizing to create a state-wide Organic Farming Policy (under the umbrella of the Agriculture Department). The Biodiversity Board's concerns are framed around the environmental problems explained in chapter three. This policy is one key component of Kerala's organic farming countermovement, and it has come to dominate discussions of organic farming politics in the state. I then rely on a Gramscian (1971) understanding of "civil society" and Williams' (2008) use of Gramsci for examining Kerala's contemporary politics, to emphasize that institutional structures and political activism were already in place in Kerala to make the forging of this countermovement possible, and to facilitate the opening for further changes in Kerala's agricultural governance.

In the second part of the chapter, I focus on the struggle over governance between the Biodiversity Board (comprised of several card-carrying members of Kerala's Communist Party of India-Marxist, CPI(M)) and Kerala's Agriculture Department, during the development of this state-wide organic agriculture policy.[59] I argue that the debates between the Agriculture Department and the Biodiversity Board signify that organic farming provided a stimulus and opening for meaningful transformation in agricultural governance (e.g., standards and relationships) within Kerala – that which commenced with the Left Democratic Front's (LDF) decentralization reforms of the 1990s, but which was galvanized with an environmental focus after Kerala's agrarian crisis.[60]

These struggles between the Biodiversity Board and the Agriculture Department are illustrative of the dynamism of Kerala's civil society. Furthermore, the struggles demonstrate that the logic of the Green Revolution is deeply entrenched in Kerala's agricultural bureaucracies, despite Kerala's reputation as a "model" for environmental politics (chapter two). Additionally, the back and forth between the Biodiversity Board and the Agriculture Department showcase that questions regarding what the proper form of agriculture should be, is still a decisive debate for Kerala's Left and civil society, fuelled by the Kerala "imaginary" – I elaborate upon this conflict in chapter six.

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[58] I especially note from the outset that this Organic Farming Policy does not hinge on *certified* organic production – that which has been the object of much scholarly criticism (see chapters one and five). The fact that organic production is gaining ground in India in other forms suggests the need for greater and ongoing research into alternative agriculture movements in the developing world.

[59] The Biodiversity Board is predominately an advisory body, set up in 2005, and comprised of a Board of political appointees (see the Appendix for a list of rules that govern the Biodiversity Board), whereas the Agriculture Department regulates and oversees agriculture policy implementation in the state. Most of the implementation happens at the level of district and *panchayat Krishi Bhavans* ("agriculture houses"), which oversee administrative details of policies, subsidies, etc. *Krishi Bhavans*, as the local-level body of the Agriculture Department, also offer advice to farmers about farming methods, technologies, and inputs – much of this information comes from the Kerala Agricultural University (KAU) system, the hub for agriculture research and extension in the state. Kerala's Agriculture Department resides over the KAU system, and most bureaucrats and *Krishi Bhavan* employees earn their degrees from KAU before entering civil service.

[60] E.g., see the excerpt from LDF Finance Minister Thomas Isaac's 2010-2011 budget speech in chapter three.

Finally, in the last part of this chapter, I show that Kerala's Organic Farming Policy is now encouraging greater self-sufficiency of individual producers and communities, especially in input-making, procurement, and food production in the districts of Palakkad and Wayanad. This policy endorses flexible and local-level decision-making about organic methods and practices. Hence, this chapter illustrates that Kerala's 2010 organic policy is now promoting and increasing the civic engagement of organic farmers and NGOs in agricultural governance, and is shaping into a radical form of state-led development with civil society input – unlike the narrative of globalized, conventionalized organic farming would suggest for the global South (as outlined in chapter one).

4.1 Delving into the Agrarian Morass: The Biodiversity Board's Action Plans

By the early 2000s, Kerala's current agrarian crisis was reaching its peak. Several farmers found themselves without substantial income from their pepper and coffee gardens, Kasaragod's Endosulfan-related birth defects were making national news, and NGOs and government officials began investigating the occurrence of farmer suicides. Additionally, the price of staple grains and vegetables began to climb throughout India and the rest of the world (McMichael 2009). Furthermore, in districts in the Western Ghats (such as Wayanad), agricultural land continued to be converted to cash crop farming, particularly for rubber. In 2007, the Kerala State Biodiversity Board, concerned with the increasing amount of cash crop agriculture in Kerala (tables 5 and 6), and the subsequent declining biodiversity in the Western Ghats and throughout Kerala, began to intercede on behalf of agrarian issues as well – particularly to regulate the environmental impact of chemical use in cash crop agriculture.

V.S. Vijayan, a recently retired ornithologist from the Salim Ali Foundation, an organization in Tamil Nadu committed to the conservation of natural resources, was appointed by the LDF to Chair the newly-formed Biodiversity Board. Concerned with the links between pesticide use and environmental- and human-poisoning, he led the Biodiversity Board into making Kerala's Organic Farming Policy, a process which took four years of state-wide consultations from and coalitions with farmers, activists, and government officials. The Biodiversity Board and its allies heralded organic farming as one of the solutions to Kerala's agrarian crisis. By 2011, the Biodiversity Board became one of the prominent celebrity figures on organic agriculture within India (Shiva 2011).

4.1.1 The Kerala Imaginary and Biodiversity

The "imaginary" of Kerala as a fecund and biodiverse place (chapter two) has deeply influenced the Biodiversity Board's interventions. The Biodiversity Board's Kerala State Environment Policy of 2009 describes Kerala as follows:

> Kerala State, with a total area 38,863 km^2, harbours a population of more than 30 million. The long coastline with an intricate system of backwaters along the coast, the tropical moist forests on the Western Ghats, the highly undulating terrain and the tropical monsoon climate make the State a unique geographical and environmental entity. The people have a high level of literacy and are generally conscious of health care practices, nutritional requirements and hygienic practices resulting in high life expectancy, low population growth and low infant

> mortality rate. The undesirable consequences of the development measures carried out without proper environmental considerations have left their indubitable impacts on the environment in Kerala (p. 6).
>
> …Conversion of paddy fields for cash crops, construction and other development activities has made serious erosion in food production in the State. As much as 5 lakh ha have been reclaimed in 30 years since 1971. This, indeed, is alarming. Worse still is that it affects water availability, as paddy fields essentially are water-conserving tanks, replenishing the ground water. Highest priority must, therefore, be given to the protection of paddy fields and revival of paddy cultivation (pp. 6-7).

This excerpt from Kerala's Environment Policy states that Kerala has an educated and politically-aware population, as well as a remarkable landscape – two components of the Kerala "imaginary" (chapter two). The policy also suggests that Kerala's populace must now be mobilized and educated about proper land use in Kerala, a land-use that is less-dependent on cash crops (among other changes), to promote biodiversity conservation. As stated explicitly later in the same policy, one method of achieving this desirable outcome is through organic farming, and the Biodiversity Board emerged as one the key entities under the LDF government in Kerala to lead this charge.

4.1.2 The People's Plan and People's Biodiversity Registers

How was the Biodiversity Board, a non-regulatory authority, able to implement its vision for Kerala? And how did biodiversity and organic farming become embedded within Kerala's state institutions? I argue that Kerala's Biodiversity Board, and its state-specific priorities, are a material outcome of the recent overlap in the Left's decentralization efforts and Kerala's environmental movement (explained in chapter two). Furthermore, the Biodiversity Board became Kerala's torchbearer for regulating the market through organic farming, because of its direct connections to the LDF and Kerala's Communist parties, which have significant political sway in Kerala's civil society and government.

The Government of Kerala set up the Biodiversity Board (now under the Environment Department) in 2005, in response to the requirements of the National Biodiversity Bill of 2002, created by the Government of India to implement the mandates of the International Convention on Biological Diversity (CBD).[61] The Chief Minister of Kerala resides over the Biodiversity Board, and every five years, oversees the appointments of the Chairman, five non-official export advisors to the board, five ex-officio members, and a member secretary, all of whom dictate the direction of the Biodiversity Board.[62] The Biodiversity Board, comprised of and led by political appointees, was therefore in a position to carry out the LDF's ongoing decentralization reforms (the People's Plan) when it returned to power to Kerala's government in 2007. The People's Plan was a series of decentralization reforms initiatives by the LDF in 1996, inspired by the

[61] India ratified the CBD in 1994. As a signatory, India was required to develop a national strategy to promote biodiversity, identify and monitor conservation efforts, and participate in information exchange. The Government of India's subsequent National Biodiversity Bill mandates that each Indian create a State Biodiversity Board to protect biodiversity. Kerala's Biodiversity Board is based in its capital city, Thiruvananthapuram.

[62] See the Appendix for a list of rules that govern the Biodiversity Board.

activities of the Kerala People's Science Movement (*Kerala Shastra Sahitya Parishad*, KSSP), and geared at increasing the participation of Kerala's people in local-level decision-making (see chapter two).

Since its inception, one of the main activities of the Biodiversity Board has been to set up People's Biodiversity Registers (PBR) throughout Kerala, to collect information about the history, uses, and spread of traditional knowledge about plants and animals in Kerala, while fostering "local participation" in government (Chattopadhyay and Franke 2006, p. 244). The People's Plan had already flagged and fancied such an inventory process, to assist people at the local level in environmental management, by gathering, mapping, and providing them with information about natural resources, in partnership with NGOs such as the KSSP.

The current Chairman of the Biodiversity Board, R.V. Varma, explained the process and purpose of the PBRs to me, while showing me one that had been completed for Kasaragod district:

> We have the Herculean task of preparing the biodiversity registries… What we are trying to do is empower… It is all been collected by the people. It is very hard work. This contains information about the crops they grow, what they had earlier, what happened to them.
>
> We have some staff, we have a district coordinator, a panchayat coordinator, junior research fellows. We also employ people locally from each ward and pay their [per diem] and their food. Per panchayat, we must be spending more than a lakh of Rupees for the various activities – crores of Rupees…Some of these things will have a lot of economic importance, so we are going to document this…once we have registered this, nobody can steal it, this is a protection against bio piracy…the panchayat is the custodian of this.

Varma kept emphasizing to me that the purpose of creating and keeping the PBRs was to empower local-level people for managing and protecting their resources – goals that aligned with that of the LDF's redistributive and participatory reforms, and that which received state-level funding.

Given the task of creating PBRs, the Biodiversity Board, despite being a young organization, quickly established partnerships with *panchayats* and NGOs, many of which were significantly involved in decentralized decision making. When the Biodiversity Board's Chairman at the time, Vijayan, – moved by declining biodiversity, pesticide use, and the disappearance of the Baya Weaver in the Western Ghats – decided to pursue his agenda of a state-wide Organic Farming Policy, the Biodiversity Board already had access to networks of NGOs, farmers, and local politicians, who were concerned about conditions in the agricultural sector as well.

One such NGO was and is a Thiruvananthapuram, Kerala-based environmental group, Thanal. Since the early 2000s, Thanal has been heavily involved in anti-Endosulfan and rice-saving campaigns throughout the state, and has developed partnerships with a variety of farmers. In 2007, Vijayan invited Thanal and other organizations to draft the Kerala State Biodiversity Strategy and Action Plan, the parent precursor to the Organic Farming Policy. The Kerala State Biodiversity Strategy and Action Plan is a crucial framing document that is in many ways the bedrock of the Biodiversity Board – it defines the direction of the Biodiversity Board and its policy priorities. During an interview with me, R. Sridhar, an activist at Thanal, explained the

process by which he and other members of Thanal entered into a relationship with the Biodiversity Board to formulate this action plan and the organic policy:

> [Vijayan] sent us a letter, in fact I think he sent Jayan or Shibu a letter…asking us to join on a consultation. And so we were looking at it, this was the time when we were fighting Genetically Modified Crops, we were starting to fight, you know, issues like that. So we thought that should come into the Biodiversity Action Plan. So both me and Usha went [to the Biodiversity Board office]. And we sat there, and then we looked to the Biodiversity Strategy Action Plan, we found that lot of things need to come in there. And Dr. Vijayan was an extremely open person. So he and we gave a huge number of, you know, inputs into that. I still remember, sitting there and reading the draft, both me and Usha, we drafted something like 22 different points that should come in there. I remember that we were because everybody was speaking by giving some 1, 2, 3 inputs, and when came to mine, I just took a paper and said we have, we have a lot of inputs to give... Then Dr. Vijayan said you should give it in writing. Later we were very closely associated with finalizing the Biodiversity Strategy Action Plan, which we proactively took upon ourselves also to help him do it. And then the one of the, one of the strategy action plans in that was…we need an organic farming strategy action plan. Because…you know, agrobiodiversity is a major area…. So we said that then one of the ways to keep pesticide free, to see that biodiversity does, is not impacted by pesticide and chemical use and all that, that is to shift to an organic farming policy. So then the strategy action plan had this component on organic farming policy... Then, interestingly, Dr. Vijayan, he said that we should sit down on organic farming policy discussions.

Sridhar is describing how Vijayan and the Biodiversity Board facilitated an opportunity for civil society to provide greater input on the priorities and direction of agriculture for the state of Kerala – through the creation of the Organic Farming Policy. Sridhar also explained to me that Thanal is very much concerned about safe food for all the people of Kerala – hence its stand against genetically-modified crops and the use of chemical pesticides in food.

Thanal's perspective aligns with Vijayan's, who personally lamented to me that mothers would never poison their babies with milk, so why should Kerala's land poison its people through pesticide use and chemical agriculture? Vijayan also felt that it was the duty of the Biodiversity Board and the government to promote certain ideals of land-use. "The objectives of development should be clear…," Vijayan told me, "developing countries should ensure clean air, clean water, and clean food to the people…." In line with those objectives, one of the major functions of the Biodiversity Board is to advise the state government on the "equitable sharing" of natural resources (the Kerala State Biodiversity Board 2010).

While still a fledgling, the Biodiversity Board is as an example of an institution that upholds Kerala's radical and redistributive politics, as, during its formative years, it received significant directional guidance from the LDF. Additionally, many of the political appointees on the Biodiversity Board are members of the KSSP and card-carrying members of Kerala's Communist parties who were directly involved in decentralization. One member of the Biodiversity Board even openly admitted to me that not only was he heavily involved in party politics, but he was deliberately put on the board by the CPI(M) to protect its party interests in all

matters relating to biodiversity in the state. I consider this recent history, sentiments, political leanings, and activity of the Biodiversity Board as evidence that Kerala's political history propelled the Biodiversity Board – together with and simultaneously a part of civil society – into Kerala's agrarian morass of poisonings, suicides, and death.

4.1.3 Civil Society and the Biodiversity Board

I employ Gramsci (1971) to theorize civil society – a realm of social organization, in which different actors organize to fight for and promote their needs and wants – as more intimately linked to, and shaped by politics (the state) and the market (the economy).[63] Thus, civil society is not separate from a heterogeneous state – "hegemony" is central to this phenomenon. Those who are dominant in a particular society (with more connections to the state) exercise ethical, political, cultural, and economic hegemony in multiple institutions and arenas within civil society and everyday life (e.g., schools, households, religious establishments, and other aspects of cultural organization) to shape people's understandings of their interests, while also working within their common sense perceptions about the world. Civil society, therefore, is intimately connected to the state, because the state's "aim is always that of creating new and higher types of civilization; of adapting the 'civilization' and the morality of the broadest popular masses to the necessities of the continuous development of the economic apparatuses of production…" (Gramsci 1971, p. 242). In other words, the ruling political forces invest in aspects of civil society (e.g., schools) in order to organize consent and hegemony.

In chapters two and three, I outlined that Kerala's contemporary civil society has been produced by a history of class conflict, and has created institutional structures and norms to promote the involvement of civil society in budgetary decisions and local-level planning – matters of the economy and the state. Williams (2008) elaborates more on the details, utilizing Gramsci: According to Williams, Kerala is a place where democratic, emancipatory politics have transformed the state, as a result of the CPI(M)'s "counterhegemonic" politics, which extended civil society into the Kerala state, manifest primarily in the 1996 People's Plan (see chapter two). Williams defines "counter-hegemony as an attempt to set up alternative forms of social organization that break with capitalist hegemonic forms prevalent in society and ultimately seek to subordinate the state and economy to civil society" (p. 38). By contrast, "hegemonic generative politics" is "the subordination of civil society to both the state and the economy organized around particular class interests, invoking Gramsci's classic definition of hegemony" (p. 9). According to Williams, the CPI(M) constructed civil society to have it play a more active role in the state and economy – Kerala's civil society determines the nature of economic activity and state policies. Williams lauds the People's Plan for building effective instruments for this empowerment.

I bring up Williams (2008), and elaborate more upon Kerala's civil society, to again emphasize the particular history and politics of Kerala in my telling of its organic farming countermovement. I underscore that institutional structures, political activism, and an ideological framework (a moral economy) were already in place in Kerala to facilitate the forging of Kerala's organic countermovement, and to create an opening for further changes in Kerala's agricultural governance by civil society.

[63] Most importantly, both Polanyi (1944) and Gramsci (1971) conceptualized civil society as dynamic; this dynamism troubles economistic and deterministic readings of social change, which is also one of my intents in my research on South India's organic farming movement.

Thus, the Biodiversity Board, as both an instrument of the state but also civil society, found itself at a crucial conjuncture during Kerala's agrarian crisis, occurring simultaneously during the Biodiversity Board's own formation period, and was able to create and be a part of an organic countermovement. Sympathizers within the Agriculture Department and various parts of Kerala's agriculture bureaucracy, as well as political leaders, were also crucial to this process. Kerala Organic Farming Policy was eventually finalized after years of negotiation and concession between the Biodiversity Board and agricultural bureaucracy, which contained both allies and critics, as I will elaborate upon in the next section. Hence, Kerala's 2010 Organic Farming Policy has roots not only in Kerala's agrarian crisis, but its historical class and civil society politics as well.

4.2 Changing the Relationship Between "the farmer, and the scientist, and the administrator": The Biodiversity Board Versus the Agriculture Department

After the Biodiversity Board finalized the Biodiversity Strategy and Action Plan, and the state government approved it, Vijayan turned to developing a separate organic policy in 2007. He reached out to Sridhar and S. Usha at Thanal again, for their agricultural expertise. Usha was a former agricultural officer in Kerala, trained at Kerala Agricultural University (KAU), who left her post at a Thrissur district *Krishi Bhavan* to participate in environmental advocacy with Thanal. Sridhar was a former engineer who also joined Thanal to be active in environmental advocacy.[64] Together, Vijayan, Sridhar, and Usha, along with Bhaskaran, an agricultural professor at KAU-Vellayani and informal expert member of the Biodiversity Board, formulated the first draft of the organic policy, which envisioned Kerala's state-wide conversion to organic farming to happen within five years. The Biodiversity Board and Thanal then organized and held a two-day workshop at KAU-Vellayani to discuss this early version. *Krishi Bhavan* officials, NGOs, farmers and farmers' groups, university extension scientists, activists, and Ministers were invited, and the Chief Minister Achuthanandan, presided.

Workshop discussions were intensely heated. Several attendees did not want to pursue a state-wide strategy of organic farming. According to participants I interviewed while in Kerala, the workshop room self-segregated into three sides: farmers, media, and agricultural extension scientists and bureaucrats, the majority of whom were trained at KAU and worked in various branches of Kerala's Agriculture department (including the local-level *Krishi Bhavans*). Sridhar explained one exchange that occurred between the farmers and the scientists at the university and nearby *Krishi Bhavans*:

> At one point, one of these persons...got up and said that it is impossible to convert Kerala into organic…. So then I got up and said that, "tell us the crop, and we will give the answer now…. You tell us a crop, tell us, tell us your problem, and here our farmers are here who can tell you the solutions." And then, then K.V. Dayal [an organic farmer] got up and gave a completely, you know, rooted them down with a, with a classical speech. He said that, "we have been doing this for so many years. We've been experimenting. We know how to trap our pests... And all of the experiments have been in the farmer's field. We do not have a…lab or anything. So, when farmers are suicidal, when they're not getting enough

[64] Usha and Sridhar are also advocates of the LDF, and I would run into them at CPI(M)-organized conferences and events.

> income, when their land is spoiled, when their crops are becoming destroyed, when the climate [is] impacting them, if nothing is bothering you, then why should we have you?"
>
> [Then] I just put in as a partly serious and a partly, you know, challenge is that I told them, " …are you ready to cut down your pay, to 50% and then…you take one acre of land on lease – let every professor, every lecturer, you know, every university person, be given…one acre or two acres of land. 50% of the pay you get now, and rest of the 50% you make from your crop." …Then you know what? Then they'll understand what farmers are, [what] farming is, because they would also become a farmer by then. Then they would know that they wouldn't go and, you know, suggest some stupid idiotic unrealistic suggestions to these farmers. So that is something which, you know, we just threw it. This is all, basically, it's, it's a process of democratizing public research or agriculture research… which means that there has to be a process whereby farmers have to be…consulted, have to be part of a decision-making authority which will decide on research.

Sridhar recounted that this and other debates pivoted around issues of expertise – whether farmers were knowledgeable enough about farming practices, and whether they could farm without the scientific and technical aid of agriculture bureaucrats, *Krishi Bhavans*, and scientists trained at KAU. Many of the attending agriculture department officials and agricultural extension scientists did not believe Kerala's farmers could successfully cultivate without their help, and definitely without the assistance of chemical inputs. For example, George Thomas, a professor and researcher at KAU-Thrissur had many reservations during this workshop, which he shared with me:

> I am seeing this organic farming in a different perspective. So, if more and more people come forward and to do organic farming…that may decrease the whole yield. That is our concern. For a developing nation like India, our population is going to double.... So that means in the next forty years, we have to double food production.

Thomas then added:

> We conduct experiments, then only we will believe. So, if want to prove that an organic product is nutritionally-better, you have to conduct an experiment. We are for scientific methods, scientific thinking, scientific temper…

For opponents like Thomas, trained and employed in agricultural extension in Kerala, organic farming presented a threat to livelihoods, science, and the status quo of prioritizing yield in agricultural research, and relying on chemical inputs to achieve those certain yields – the latter which the Government of Kerala aggressively promoted after independence in annual planning, budgetary considerations, and research (see chapter three).[65] Additionally, many officials from

[65] Thomas' concerns are outlined in a report published by the Teachers' Organization of the Kerala Agricultural University (TOKAU) entitled "Can Organic Agriculture Replace Conventional Agriculture? Reflections on the

the Agriculture Department felt displeased that the Biodiversity Board was venturing into their realm of agriculture, and proposing changes to agricultural priorities of the state (Bhaskaran 2010).

Vijayan recalled Thomas' and others' objections at the workshop, with a memory similar to Sridhar's, which he disclosed to me:

> The agricultural scientists were quite clear that [the policy] will not be successful, in the sense that the production will go down, so we should not adopt a policy like this, they were very clear about it, and there was a big argument, and there was some farmers, organic farmers at that time, so they started arguing with those people, and they said the only service you can do for us (they were telling the agricultural scientists) is that please don't come to our farms, we'll take care of, we don't want your advice, we have had enough of it, you have destroyed our agriculture. These are the words they used, so please don't come, we'll take care. So I was shocked because I did not know all these things. I was really shocked to hear the interactions of these farmers. Some good farmers, good organic farmers were there. And the department was not very keen, but some of people thought this was a good idea, since the minister was here, they all sided with the minister. The minister was all for this, we got a lot of input during the two days discussion and we incorporated all these things.

According to Vijayan, unlike several other government officials, the appointed head of the Agriculture Department, Minister Mullakkara Ratnakaran of the Communist Party of India (CPI), favored organic farming, so many officials, bureaucrats, and scientists conceded to his judgment. Therefore, discussions surrounding the Organic Farming Policy proceeded, in large part due to support from and political deference of bureaucrats to the government-coalition in power, the LDF. Sympathizers and supporters of the policy within KAU and agricultural bureaucracy, like Bhaskaran, facilitated this progress.

The Biodiversity Board revised the policy, to appease the reservations of those involved with agricultural extension and research, and the agriculture department. Bhaskaran called these revisions – including one to prolong the conversion period to ten years – a "dilution," but then pointed out:

> We decided – because there was [sic] a lot of differences in opinion from the scientists' side – we decided that, let us not bulldoze all these things, but let us bring them also together, so that if the policy is formulated, [we'll] require their help also in implementation. [We] never wanted to antagonize those sections of people who had some reservations about the organic farming policy as it was drafted at that time.

The Biodiversity Board conceded on several points because its eventual goal was for the Organic Farming Policy to come under the sanction of the Agriculture Department, as the official body regulating agriculture in the state. Implementation "is their domain," Varma told me. Again,

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Organic Agricultural Policy proposed by the Bio Diversity Board of Kerala." The preface and abstract are in the Appendix; I also quote excerpts from this report in chapter four.

folks like Bhaskaran, with ties to the Biodiversity Board and agricultural extension (KAU), assisted with such negotiation, to move forward with finalizing the policy.

The Biodiversity Board then took this amended policy to various public consultations with farmers and local people around the state, primarily relying upon channels and relationships it had already built while creating PBRs, but also consulting Thanal's network of farmers and farmers' organizations based near Kerala's capital of Thiruvananthapuram. As a result of these local-level stakeholder meetings, the policy came to highlight best practices occurring throughout the state.

Finally, in early 2008, the Biodiversity Board submitted the policy for review and approval by the Cabinet and top officials in the Agriculture Department. In the fall, Kerala's Cabinet approved the policy. Vijayan explained to me what happened next:

> [In] October or so, [the] Cabinet approved…and the Chief Minister made a big statement, so immediately I went to the agricultural minister's office and asked for a copy of the thing which was approved. So [the] minister's personal assistant told me "we have made some changes here and there, but not much…in the introduction some points…otherwise everything is fine, as it was." I took the copy. I just went through it. I wanted to send it to the Prime Minister, saying that this is the model which should be followed in the country. When I read it, my God, what they had done, they had completely changed it. That was a shock to me. Most of the clauses were completely changed or altered. I was so upset, so what I did was I put the original on one side and the other side, the altered version, some of the things were altered and some were replaced. And I went to the agricultural minister I asked him, "sir, who has done this?" He asked me, "what?" I told him what had happened, so he had the shock of his life. He could not answer me.

The policy had been modified to suggest that intensive chemical agriculture was the best and most reliable agriculture available to farmers, while organic farming provided one optional alternative – this message contrasted with that of the Biodiversity Board's vision of upholding organic farming as the only acceptable agricultural practice within the state. Vijayan, Varma, Bhaskaran, Thanal, and their allies protested over this version, and petitioned for revisions to the policy. As a result, over another year and a half, the Biodiversity Board and the Agriculture Department continued to deliberate over and debate the policy, arbitrated by Minister Ratnakaran.

Sridhar described this time as a period of multiple levels of prevarication and delay; while neither he nor other members of the Biodiversity Board felt comfortable elaborating on the details, they did emphasize that certain officials and bureaucrats in the Agriculture Department and agricultural extension passionately disliked the Organic Farming Policy, and were intent on obstructing its approval for as long as possible. Part of this tension stemmed from the sentiment that the Biodiversity Board was overstepping its authority by directing the Agriculture Department on how to advise farmers, plan agriculture, and perform its duties. As one upper level official in the Agriculture Department told me:

> The Agriculture Department [has] the definitive manpower to provide the correct advice to farmers…. It is actually the department [that] is taking care of the

> welfare of the farmers of the state. They are the people who are giving technical support to farmers to raise crops and all this…. I'm an agriculture man who has studied agriculture. Our intention, our main mandate, is to increase production, food production, and [the] agriculture welfare of farmers without harming the environment…. In [the] Agriculture Department, Agriculture University…you can get people who have studied agriculture, scientific agriculture. And the biodiversity man – the Chairman – is not an agriculture man. He is a bird watcher.

The "bird watcher" is in reference to Vijayan, who studied ornithology and researched bird populations at the Salim Ali Foundation, before being appointed to Chairmanship of the Biodiversity Board. Many employed within the Agriculture Department and other agriculture institutions within Kerala shared this official's opinion – that the Biodiversity Board imposed its unfounded and unreasonable ideals upon a department with a longer history and deeper knowledge of agriculture within the state.

When I asked K. Jayakumar, the Additional Chief Secretary and Agricultural Production Commissioner, the second highest post in Kerala's agricultural bureaucracy, why the Agriculture Department demonstrated such reluctance to the Organic Farming Policy, we had the following exchange:

> **Jayakumar:** The policy is good enough. After all, what is a policy? [The] policy is a bundle of pious wishes...it is aspirational in nature, aspirational in nature...but, when it comes to practical reality, how do we encourage farmers to opt for, ah, organic farming? There are two issues. One is the promoters of non-organic products, that is synthetic – what, what is that? – chemical, these pesticides, fertilizers. All these non-organic products. The market push is quite heavy, very strong.
> **Sapna:** Do mean the price is cheap?
> **Jayakumar:** It is highly subsidized. Fertilizers are extremely subsidized by the Government of India. Then all your agricultural practices, encouraged by the universities, are all centered around this kind of interventions, where you have to use, necessarily use practices. You have to necessarily use fertilizers, pesticides, insecticides, everything. And the market, which pushes these things, products, is also extremely strong. So, the many of the programs and policies which have been followed so far, encourage the use of fertilizers and pesticides. That is on the one side. And farmers are also used to it. They know the results. They know, and also they are aware of the immediate benefits...they know the immediate benefits, and they know the ill-effects of not using these things.... Therefore *the farmer, and the scientist, and the administrator* are already convinced about the short-term returns of continuing with the existing practices. Organic comes in as an uninvited guest, if I may say so. (Emphasis mine)

Again, as Jayakumar's words confirm, the Agriculture Department's displeasure centered around the meddling with a status quo – a meddling with its relationships, but also a disruption of the trends towards more and more chemical application in agricultural production. While Kerala uses fewer chemical inputs than other Indian states (Sharma and Thaker 2009), between 2008-09

and 2009-10, the application of chemical fertilizers, insecticides, and fungicides increased in Kerala (Directorate of Agriculture 2011).[66] And, as Jayakumar remarked, the annual Package of Practices, a manual for farmers, published by KAU, and utilized by those in the Agriculture Department for guidance, encourages the use of such chemical inputs in agriculture. The Biodiversity Board's Organic Farming Policy and initiatives therefore upset this order, and interfered with the Agriculture Department's established objectives and relationships between "the farmer, and the scientist, and the administrator." In other words, the Biodiversity Board not only changed the structure of agricultural governance in Kerala, but also propelled changing relations between civil society and government in Kerala.

LDF politicians – the Agriculture Minister Ratnakaran and the Chief Minister Achuthanandan – were left to mediate between the Biodiversity Board and the Agriculture Department. According to Bhaskaran, "the Agricultural Minister, you know, was caught between his office and the biodiversity board and his commitment to organic farming." The upper level official in the Agriculture Department, who previously expressed his displeasure with the Organic Farming Policy and the Biodiversity Board (see quotation, above), even joked with me: "actually the Agriculture Minister is the only man who is giving support to this biodiversity." According to this official, the Agriculture Minister championed the policy throughout the department, and, given his position, succeeded in reverting it back to a document promoting 100 percent organic farming throughout the state within ten years. The official at the Agriculture Department then explained that, despite his reservations about organic farming, as a civil servant, he had no choice but to comply with what was mandated by top elected representatives – in this case, a promotion of organic farming.

Finally, after Vijayan's considerable shock in October 2008, the policy was eventually finalized as an official Agriculture Department policy in early 2010, and allotted 100 *lakhs* under the newly created "Organic Farming Programme."[67] The Biodiversity Board and Thanal were victorious, because not only did the ruling government favor the policy, but the policy had become an officially -sanctioned and -funded Agriculture Department program. Achuthanandan introduced the policy to the world in a media blitz in Kozhikode district on May 17, 2010. Subsequently, he and Ratnakaran commenced an informal publicity tour for the policy, by broadcasting its existence at various events and inaugurations for the remainder of the year throughout the state (Varma 2011).

[66] Although the Government of India decontrolled the price and distribution of potash and phosphate (other inputs were targeted later), as a result of joining the WTO in 1992, the central government still subsidizes the fertilizer production industry. According to the Food and Agriculture Organization (FAO) (2005): "Over the years, the aim in India has been to become and remain self-sufficient in food grain production. Fertilizer is the key input that has made this goal achievable. Historically, the prices of fertilizers have been kept below the cost of production and importation. The prices of fertilizers in India, particularly of urea, are lower than in developed and neighbouring developing countries. The objective behind the low prices is to maintain a favourable input:output ratio. The aim of the Government has been to ensure that the farmer receives a price that makes fertilizer use acceptable and remunerative. The Government provides a fertilizer subsidy to fill the gap between the cost of production/import cost plus distribution of fertilizers, and their retail prices. The objective of the introduction of the fertilizer subsidy was: (i) to provide food grains to the people at affordable prices; (ii) to insulate farmers from variations in production costs and to ensure reasonable returns from fertilizer use; and (iii) to ensure a reasonable return to the fertilizer industry" (35). Given these priorities, the Government of India set maximum prices for decontrolled fertilizers in 1997-1998 (*Ibid*).

[67] See the Agriculture Department Circular in the Appendix.

4.2.1 Changed Agricultural Governance, and Shifts in Power Relations in Civil Society

I summarize this prolonged, several-year struggle between the Biodiversity Board and the Agriculture Department over the Organic Farming Policy as a struggle within Kerala's civil society and government over "governance." While the term "governance" is used in a variety of literatures, I pull from the Global Commodity Chain (GCC) and Global Value Chain (GVC) bodies of work for my analysis. Jennifer Bair (2005), in a review article of GCC and GVC scholarship, recapitulates "governance" as: "which firms in the chain are most able to control various aspects of the production process and how they appropriate and/or distribute the value that is created. Thus, to describe a chain's governance structure is to illuminate the nature of power relations that exist along a chain" (159). Governance refers to relationships between entities within a chain, and standards and rules – what they are and who sets them. While GCC and GVC frameworks typically examine firm behavior, given the increasing need to study the conditions that influence the operation of commodity chains (e.g., Hatanaka and Busch 2008, Bair 2005, and Ponte 2002), I broaden my use of governance to encapsulate the activities of governmental institutions in Kerala.

With the Organic Farming Policy, the Biodiversity Board sought to change Kerala's governance – agricultural standards, rules, and norms – to expand civic engagement within Kerala's agricultural realm and into agricultural policy. The policy advocates further decentralization of agricultural decision-making, and changing relationships within Kerala's agricultural sector so that farmers and farmers' groups can have autonomy over purchasing decisions, input-making, and marketing. The following strategies of the Organic Farming Policy align with principles of the People's Plan, Kerala's decentralization reforms, led by the LDF:

> **Strategies**
> - Ensure seed sovereignty of the farmers and the State
> - Promote a state-wide intensive campaign on organic farming in the form of a popular movement
> - Integrate…various departments, local self-governments and organizations (Government of Kerala 2010b).

The policy also advocates production for domestic consumption, and supports the creation of domestic marketing channels, to break ties that farmers have to international commodity markets, but does not require that producers farm for specific purposes. These are examples of how the Organic Farming Policy has created openings for farmers to subordinate markets back into societal control, so that farmers, farmers groups, and villages can make key decisions about agriculture.

Furthermore, the Organic Farming Policy acknowledges existing certified organic agriculture in the state.[68] Yet, while the policy supports third-party certification, it does not mandate it, instead advocating that such decisions be made at the individual and/or village-level. In fact, the policy remains unspecific regarding *how* to practice organic agriculture, to provide flexibility for local-level decision making. Hence, the Kerala state is not imposing established and international organic standards through its Organic Farming Policy, but creating opportunities for farmers and communities to create and agree upon their own organic farming norms.

[68] See chapter five for an extensive look into certified organic agricultural production in Kerala.

Additionally, Usha of Thanal explained to me that one objective of the organic policy is to reform the Agriculture Department's Centralized Purchasing Policy; according to this policy, a farmer can only buy inputs from accredited state agencies in order to qualify for government subsidies. The Organic Farming Policy instead promotes and subsidizes the communal creation of inputs at the *panchayat* level, such as shared vermicompost tanks and local manure production and distribution. Organizers behind the policy see such reforms as the epitome of *swaraj*, Gandhian and local self-rule. Indeed, the revolutionary potential within the policy rests in the fact that it promotes self-sufficiency in food production and sovereignty in agricultural-decision making – a severing of dependency on external markets while increasing civic engagement and control in agriculture. The policy also disrupts the long-standing but dysfunctional relationship between "the farmer, and the scientist, and the administrator" in India.

The Organic Farming Policy, therefore, represented a catalyst for changing relations within Kerala's agricultural governance, and it upset the power that the Agriculture Department had over farming activities within the state. The Biodiversity Board asserted itself within the Agriculture Department's jurisdiction of implementing agricultural policy, by attempting to reshape the rules and norms around agriculture to exclusively promote organic farming as a solution to Kerala's agrarian problems. The Biodiversity Board received momentum and support for these goals by tapping into existing CPI(M) priorities.

4.2.2 Contextualizing the Struggle: Competing Visions for Agriculture in Kerala

Why, if Kerala's politically-mobilized civil society and decentralized state institutions possessed Kerala's moral economy of the land, did the eventual passage of the Organic Farming Policy take four years, comprised of struggle between the Biodiversity Board and the Agriculture Department? I argue that conflict between the two institutions rested in competing visions for agriculture (and the environment) in Kerala. The technological optimism of Green Revolution's productivity increases have become entrenched even within the "development model's" agricultural bureaucracy, rendering alternative conceptions of agricultural production difficult to fathom in Kerala's institutions. This optimism has had significant traction within Kerala, given Kerala's agricultural history.

The notion that Kerala's agricultural sector is stagnant, or, at least, could be more productive in terms of yields per acre, has been a consistent theme in Kerala's state politics. The state's 5-Year and Annual Plans regularly refer to increasing the productivity of agriculture in Kerala (as outlined in chapter three). The state government – under both the LDF and the United Democratic Front (UDF) parliaments – has therefore promoted the use of chemical inputs to increase agricultural output. And, most importantly, the state has promoted the increased production of cash crop agriculture to revitalize the agrarian economy. Maximizing productivity yields and supporting commercial crops with chemical inputs are a key part of Kerala's existing agricultural institutions, such as KAU (again, see chapter three).

A coalition of scientists and professors within Kerala's agricultural extension offices (Teachers' Organization of Kerala Agricultural University, TOKAU) wrote a rebuttal to the Organic Farming Policy that summarizes the overall opposition to the Policy. Entitled "Can Organic Agriculture Replace Conventional Agriculture? Reflections on the Organic Agricultural Policy proposed by the Bio Diversity Board of Kerala," the report captures the allure the Green Revolution and its associated science and technology has had within Kerala's agricultural bureaucracy, for increasing the productivity of Kerala's agricultural sector:

> …[The Green Revolution's] brilliant success depended on using scientific advances, which had already been made elsewhere in breeding and agronomy of wheat and rice and then adapting them to conditions in Central America and Asia.
>
> In India, the term "Green Revolution" is applied to the period from 1967 to 1978. In fact, green revolution has solved the immediate problem of feeding the ever-increasing population. This kind of modern farming methods came to be called 'green revolution style agriculture'.
>
> According to Norman E. Borlaug, green revolution saved at least ***one billion marginalised people from starvation deaths***. He also argues that Green Revolution also had a dramatic conservation effect. Green revolution saved millions of hectares of forests all over the Third World from being cleared for more low-yield crops. For example, the world's grain output in 1950 was 692 million tonnes from about 600million ha. About 50 years later, the world's farmers used about the same amount of land, but harvested 2.07 billion tonnes, a threefold increase! We would have needed 1.8 billion ha of land, instead of the 600 million ha used, had the global cereal harvest of 1950 prevailed in 2000 using the same conventional farming methods. Instead, that land was saved to leave it in the natural forest and vegetation. In India alone, at least 53 million hectares of land has been spared. Probably, saving of virgin lands, which would have otherwise been cleared for cultivation to meet the food demand of the country, is the most important contribution of modern farming (TOKAU, pp. 8-9, emphasis from original document).

As this passage also reveals, proponents of chemical agriculture within Kerala argue that such "modern" chemical inputs, such as those from the Green Revolution, are necessary to protect the environment from the increasing food needs of a growing population. The authors do acknowledge that chemical inputs and "modern" forms of farming have caused environmental destruction within Kerala; they therefore call for an "*ever*green revolution." As the document states: "It is hoped that we can have an evergreen revolution through the adoption of sustainable agricultural strategies focusing on the food crops grown by millions of people who lack food security" (p. 6). An "evergreen revolution" is one that does take into account modern science and technology, like the Green Revolution did. M.S. Swaminathan, the Indian "father of the Green Revolution" (Perkins 1997) has also been quoted as promoting an "evergreen revolution" (Indian Council of Agricultural Research 2011).

By contrast, the report characterizes the Biodiversity Board's Organic Farming Policy as unscientific, political, and the opposite of "modern" in its motives:

> The philosophical ideas such as ***Lifeboat ethics, Bioregionlism*** [sic], ***Gaia hypothesis, Deep ecology,*** and ***Ecofeminsim*** influenced [the] organic movement. Although these global movements emerged as holistic ideas concerned with pollution and the environment, eventually, these paved for the consolidation of green politics and ecofascism (TOKAU, p. 12, emphasis from original document).

Further along, the report even accuses Kerala's organic farming movement as pandering to the West's desire to control the Third World (p. 12).[69] Organic agriculture, therefore, would undermine Kerala's economic autonomy. Scientific agriculture, on the other hand, would reduce India's reliance on the West for food aid (and associated economic requests attached to the aid), and remains apolitical. To sum, challengers to the Organic Farming Policy characterize organic agriculture and modern agriculture as oppositional.

The claim that "modern" science is apolitical and objective is a fallacy, as critiqued by many scholars. Such an understanding of science and its relationship to agriculture and nature has led to disastrous environmental and political outcomes (Mitchell 2002), creates a fictitious and political with "tradition" (Merchant 1980), delegitimizes the contribution of farmers to agricultural knowledge (Gupta 1998), and overlooks the fact that knowledge about nature is socially-constructed (Braun and Castree 2004, Mitchell 2002, Latour 1991, Haraway 1988, and Shapin and Schafer 1985). Furthermore, the reduction of agriculture to "modern" and "tradition" obfuscates the Biodiversity Board's valid critique of capitalist-based, chemical-laden agriculture. Yet, this "modern" and "tradition" divide is stark and glaring within Kerala's institutions. Not only have many members of Kerala's parliament and Agriculture Department bought into the technological optimism of the Green Revolution as an answer to Kerala's agricultural troubles, but the Biodiversity Board itself has attached particular ideals to its Organic Farming Policy, broadening this divide. As the policy states:

> …Many of these century old systems have disappeared in the wake of post-independent era when the main thrust was, and correctly so, to produce more food for the ever growing human population. The Green Revolution, with a single slogan of **'**grow more food**',** was only a natural outcome of a national challenge to meet the growing food requirements….
>
> However, this development - unmindful of the ecosystem principles so revered and practiced for centuries- led to seemingly irrevocable ecological and environmental catastrophes in the country. The green revolution essentially replaced the traditional varieties with high-yielding ones. These high yielding varieties now recognized as 'high input varieties' needed tonnes of fertilizers, to achieve the target growth. The crops and varieties alien to the soil attracted new pests and diseases and also outbreaks of existing pests. To combat them, came in huge quantities of pesticides. Input of these "exotic" elements into the traditional farming led to multitude of environmental issues….
>
> As a result of all these "modern" techniques, the air, water and the soil were polluted; most food grains and farm products were contaminated by pesticides….
>
> Food crops became non-attractive, while cash crops became more remunerative….
>
> Many farmers have realized that they are fighting a loosing [sic] battle with the "high yield variety - fertilizer-pesticide pack" of Green Revolution. They have also realized that the degradation and disruption of the fragile ecosystems of the 'God's own country' are the chief culprits for the water scarcity, nutritional

[69] This sentiment is likely in reference to Public Law-480 (PL-480), a program of food aid by the U.S. government for developing countries that was tied to economic and political conditions (Gupta 2002, Perkins 1997, Friedmann 1982, and Chopra 1981).

> insecurity, loss of primary productivity and agrarian crisis being faced by the State.
>
> The farmers in Kerala are convinced that the only way is to return to the traditional sustainable ways of cultivation without harming the ecosystem (Government of Kerala 2010b, pp. 1-3).

Within the Organic Farming Policy, the Biodiversity Board explicitly positions organic farming as "traditional," in contrast to "modern" farming, and hails the "imaginary" of the "Kerala model" ("God's own country") to support this idealization. This idealization purports to be correct and objective.

Ultimately, despite the ensconcing of Green Revolution technologies and ideals within Kerala's institutions, the Biodiversity Board prevailed in changing Kerala's agricultural governance structures and the links between "the farmer, and the scientist, and the administrator." Kerala's civil society and moral economy were key elements in this transformation. The Biodiversity Board's success in this regard illustrates that civil society continues to be extended into the state particularly when the LDF is in power. Middlemen like Bhaskaran and Ratnakaran were crucial sympathizers in this transformation.

Yet, this struggle complicates Williams' (2008) assessment of Kerala as a place of "counterhegemonic generative politics" (due to the role of political parties) and Heller's (1999) assertion of Kerala as a place that has achieved class compromise. It also troubles the romanticization of Kerala as a "model," as a place of environmental and social perfection (e.g., Franke and Chasin 1994). The tension between the Biodiversity Board and the Agriculture Department confirms that regulating the market and market-interests (which are deeply tied to issues of science, ideas of nature, the Kerala "imaginary," and Kerala's agricultural history) continues to be an ongoing difficulty for Kerala's Left (despite the extension of civil society into the state, as Williams (2008) claims). The environment is a contested territory in Kerala. I will explore how these tensions articulate with Kerala's historical and agrarian political economy in chapter six.

4.3 Implementation and outcomes: Re-Embedding Markets Through Civic Engagement in Palakkad and Wayanad Districts

While the Agriculture Department and extension was scrutinizing the Organic Farming Policy in dilatory fashion, the Biodiversity Board went ahead and separately funded an "agro-biodiversity enhancement programme" in Padeyetti village of Erimayur *panchayat* in the central Palakkad district in 2008. This program involved assisting the conversion of sixty six rice-growing families with 100 acres to organic farming through the purchase of *nadan pashu* ("native cows") for manure production, the setting up of vermicompost tanks, creation of vegetable gardens, building of compost pits, paddy procurement, marketing assistance, trainings in alternative methods of pest control, and the provision of other organic inputs. The Biodiversity Board, in partnerships with local universities such as the Cochin University of Science and Technology, monitors the agrobiodiversity in the area, by regularly testing the amount of nutrients, minerals, and benthic fauna in the soil.

Thanal was heavily involved in site selection, as Usha, a former agricultural officer at a local *Krishi Bhavan*, used her networks to identify Padeyetti – although according to one researcher who took me to the village, Padeyetti was chosen to be a model organic farming village because

"Vijayan is a *paka* Communist."[70] Palakkad has historically been a stronghold for the CPI and CPI(M) parties (figure 8). While this was a side comment, it illustrates the implicit progressive political leanings rhizomatous in the organic efforts of the Biodiversity Board. Certainly, Thanal's past ties to the area through Usha's earlier work in the agricultural bureaucracy, and its contemporary alliance with the Biodiversity Board, showcase the complexity of Kerala's civil society, as a part of the state, and as a product of political struggles (à la Gramsci (1977) and Williams (2008)).

Figure 8: A CPI(M) political poster pasted onto a tree in front of a paddy field in Padeyetti, Palakkad. Photo by the author.

Thanal currently provides field support to Padeyetti, and even has staff based in the village. Thanal's field organizer toured me around the village and I met with several of the farmers and their families, as well as the leaders of the *Padakshera Samithi*,[71] who were actively involved in promoting and planning the organic farming project. Thanal's organizer marveled at the change he had witnessed over the years. According to him, many of the fields were left fallow before, or filled with various cash crops. In 2010, the 100 acres produced enough organic rice to feed the sixty six families, with excess that was sold to local markets. Around 9,130 kilograms of organic vegetables were also cultivated in homes and the margins of the paddy fields – an increase from the five tons the year before that. Over 2.7 metric tons – surplus vegetables – were sold on local markets for a combined total of 85,000 Rs. Thanal's organizer noted that this was extra cash for the families, who were not growing their own vegetables before the start of the Biodiversity Board's project, but were purchasing the majority of their foodstuffs from the market. The organizer also proudly shared that from the twenty vermicompost tanks that the Biodiversity Board subsidized (figure 9), thirteen produced eleven tons of vermicompost.

Figure 9: A vermicompost tank subsidized by the Biodiversity Board. Photo by the author.

To the Biodiversity Board and Thanal, the agrobiodiversity project at Padeyetti, despite a number of setbacks, exemplified their ideal of what agriculture should look like in Kerala; they upheld it as a model of successful "local self-government" during ongoing policy discussions with the Agriculture Department (Varma 2011). Thanal and the Biodiversity Board also used Padeyetti to concretely illustrate that organic farming offered self-sufficiency for individual farmers and communities, especially in input-making, procurement, and food production, and broke the reliance of farmers on markets for

[70] *Paka* is slang for "authentic."

[71] *Padakshera Samithi's* are existing farmers groups created by the LDF government in the late 1980s to encourage effective and joint management of financial, natural, and human resources. During decentralization, the LDF relied on these groups to foster local self-government, in collaboration with the Agriculture Department.

their basic nutritional needs – a change in how agriculture is planned and done within Kerala. Furthermore, Thanal and the Biodiversity Board worked with and through the local *Padakshera Samithi* so that farmers were actively making decisions about the entire organic farming process – from plow to plate. In a 2011 meeting in with the *Padakshera Samithi*, the Biodiversity Board even decided to lessen its involvement and presence in the area, so that farmers could be wholly in charge of marketing and farming. The Biodiversity Board and Thanal believed that their efforts upheld the values embodied in decentralization (as in the People's Plan), an LDF priority.

Since the Organic Farming Policy was finalized in 2010, I also had the opportunity to visit with farmers groups in the northern district of Wayanad who were direct recipients of subsidies and aid that fell under the aegis of the Agriculture Department's "Organic Farming Programme," the implementation scheme of the organic policy. The Government of Kerala allotted 100 *lakhs* Rs. to the Organic Farming Programme in 2010, to be divided by twenty *block panchayats* in each of the fourteen districts for training, promotional activities, and organic inputs.[72] Under the scheme, the Agriculture Department expected each *block panchayat* to convert forty-five contiguous hectares to organic farming through group farming activities, so that by 2011, 900 hectares would be completely organic in Kerala (Government of Kerala 2010a, Agriculture Department Circular). Padeyetti's decision-making structure was upheld as an example for the local-level decision-making to be promoted under the Organic Farming Programme, and several district-level *Krishi Bhavan* officers visited Padeyetti during state-level trainings for *Krishi* officers that occurred after the Programme was created (Usha 2011).

Wayanad received 14.55 *lakhs* Rs. for three *block panchayats*,[73] for use in however way the local *Krishi Bhavans* and farmers groups saw as appropriate (anonymous informant in the Agriculture Department 2011). In 2010, farmers within the three *block panchayats* of Wayanad decided to utilize the assistance from the Organic Farming Programme differently. Kanyiambetta, one of the three *blocks*, for example, dispersed its funds to subsidize organic paddy cultivation alone, through the provision of organic inputs, for 135 farmers. According to Kanyiambetta's *Krishi* Officer, when the Organic Farming Programme's funds became available, the *Krishi Bhavan* facilitated meetings of local *Padakshera Samithis*, and at these gatherings, the farmers decided what inputs were necessary for organic paddy farming. The *Krishi Bhavan* then supplied these inputs to a nearby *godown*. The *Krishi Bhavan* also selected a farmer to preside over and monitor the other farmers participating in the scheme. By contract, in Wayanad's Nenmeni *block panchayat*, after five meetings, the local *Krishi Bhavan* and *Padakshera Samithi* decided to give both direct cash (6,000 Rs./hectare) and inputs (worth 4,000 Rs./hectare) to about 250 farmers, to support organic rice *and* vegetable cultivation. Nenmeni also held organic farming trainings, so that farmers could learn to create their own inputs with cow manure and vermicompost.

For trainings and advice, Nenmeni's *Krishi* Officers and the officers at other *panchayats* relied upon the newly-minted *Jaiva Krishi Sahai* and the KAU's *Ad-Hoc Package of Practices, Recommendations for Organic Farming* – two written documents detailing best practices for organic farming production, published by the Agriculture Department and KAU by organic farming advocates within the state. According to Sridhar, these advisory materials were

[72] See the Agriculture Department Circular in the Appendix.

[73] Each *block panchayat* was distributed 35,000 Rs. under the 2010 Organic Farming Programme; however, certain districts had a greater share of *block panchayat*s chosen by administrators in the Agriculture Department to receive money. For example. Idukki received 24.25 *lakhs* Rs. When I asked a representative in the Agriculture Department why Idukki and Wayanad districts received a larger share of funds, she replied they were given more money because of the high amount spice exports based in both areas (anonymous informant in the Agriculture Department 2011).

completely new resources coming from the historically pesticide-friendly agricultural bureaucracy, and the result of changing norms within KAU and the Agriculture Department, initiated by the debate and discussions or the organic policy.

Each *Krishi Bhavan* also assisted farmers in marketing their surplus rice to local markets – some at a price premium, and some of which was directly claimed by interested consumers before harvest. At one meeting of farmers that I attended in Wayanad, farmers discussed ways in which direct and local procurement and marketing could be promoted even further, without the presence of any middlemen. During this meeting, the local *Krishi* Officer also brainstormed techniques and means by which farmers could obtain (and then preserve) quality seeds, without having to buy them. In Wayanad, therefore, the Organic Farming Programme promoted the active engagement of farmers in agricultural production chains and agricultural governance, as they made decisions about how to utilize Agriculture Department funds, and practiced the principles of decentralization and group farming.[74] The Programme also furthered self-sufficiency and an engagement of farmers in the various market-based processes of agriculture (such as input purchasing).

4.3.1 Conclusion: Changed State-Level Priorities in Agriculture

I consider these changes in Wayanad district and Padeyetti village, resulting from the Organic Farming Policy, as an increase in control by farmers over agricultural production, and a Polanyian re-embedding of markets into civil society and the environment (a "countermovement"). Kerala's 2010 Organic Farming Policy, therefore, far from just a pronouncement, represents shifts in Kerala's agricultural governance to engage organic farmers, local and state officials, and NGOs, as well as shifts in norms and standards of agriculture that once prioritized yields and chemicals.

In another bold move endorsing the Organic Farming Policy, the Agriculture Department issued an order to ban all red ("extremely toxic") and yellow ("highly toxic") chemical pesticides in the state in 2011.[75][76] This ban was upheld even after the LDF lost power in Kerala's state parliamentary elections and after a Congress-led coalition took over in May 2011, a testament to and the infiltration of Kerala's radical politics into its institutions and state policies. The

[74] One beneficiary of the Organic Farming Programme in Wayanad revealed to me that he was glad that the Agriculture Department had created this sort of subsidy. Before receiving support for organic farming from his nearby *Krishi Bhavan*, this farmer had already been farming the majority of his crops organically, with the exception of his rice fields, located in a valley next to the fields of others. He had previously been dissuaded from cultivating organic rice because his neighbors were not applying organic inputs; this farmer had worried that during periods of flooding (natural for paddy fields), his rice area would become contaminated with chemicals, making his rice ineligible for organic status. He therefore felt it was futile and worthless to attempt farming rice organically, a practice that he felt was a more labor-intensive and reduced yields, and did not come with benefits typically associated with organic commodities. As a result of the Organic Farming Programme, which required contiguous conversion of areas and group farming, as well as regular meetings of farmers regarding the scheme, this farmer felt more confident that he could trust the farming methods of his neighbors.

[75] See the Agriculture Department's Pesticide Order in the Appendix.

[76] A description of the colored labels on pesticides in India can be found on the "Insecticides Rules, 1971," website of the Central Insecticide Board: http://cibrc.nic.in/

Biodiversity Board's and Thanal's continuing lobbying, as well as increasing international attention on Endosulfan,[77] are bolstering the ongoing implementation of the policy.

In this chapter, I argued that one facet of Kerala's organic countermovement – its 2010 Organic Farming Policy – tempers the commodification of Kerala's agrarian environment (chapter three), and is re-embedding market-driven agriculture ecologically and socially in Kerala, by altering agricultural governance within the state to change power relations and norms so that local-level communities and farmers can more easily participate in economic decisions regarding agriculture. The Organic Farming Policy is now promoting and increasing civic engagement of small farmers through the Agriculture Department's Organic Farming Programme, which has currently been scaled up.[78] This Programme and the Organic Farming Policy were the outcomes of Kerala's radical politics, and a prolonged struggle between the Biodiversity Board and the Agriculture Department.

I also consider the policy to also be an example of how, through Kerala's historic class politics and decentralization, civil society has been extended into the state to monitor matters of the economy and the state. In fact, Kerala's civil society continues to be heavily involved with the state (and vice versus), due to state-wide consultations with NGOs and farmers by institutions such as the Biodiversity Board, which act as torchbearers for the LDF's priority of decentralized governance. Hence, I also consider Kerala's Organic Farming Policy to be an example of an alternative form of state-led development – development that involves the input of civil society and promotes local-level planning (in this case, with regard to agriculture).

In the next chapter, I will explore governance and civil society from another angle, by presenting another branch of Kerala's organic farming countermovement – the export-led certified organic agriculture effort.

[77] In 2011, Stockholm Convention on Persistent Organic Pollutants Conference of the Parties added Endosulfan to Annex A, banning the use of Endosulfan by its signatories. Kasaragod's experience with Endosulfan was often cited as cause for the ban (Mathew, *the Hindu* 2011) (see chapter three).

[78] In 2011 and 2012, the Government of Kerala budgeted 500 *lakhs* (annually) for the Organic Farming Programme, an increase of 400 *lakhs* from 2010 (Government of Kerala 2012 and 2011).

CHAPTER 5. KERALA'S ORGANIC COUNTERMOVEMENT: RETHINKING NORTH-SOUTH RELATIONS IN THIRD PARTY ORGANIC CERTIFICATION THROUGH LOCALLY-BASED INSTITUTIONS

> …The social…conditions, and the conditions of farmers, impressed me. And [the] social teaching of the Church inspired me; the last few Popes inspired me. So, I took to agriculture …I consider myself a real product of Vatican II, change in the Church. …That has influenced my social outlook, my theological outlook, and all that formation.
>
> …Fukuoka: that's a big name…. He was a scientist – university scientist – and a professor, who gave up everything and came back to be a farmer, yes. So that inspired many groups in the South, especially in the South, first. And that was, he was an inspiration, especially…through one of his books, *One Straw Revolution*.... And I…got the confidence I can work, I can go, anybody can go the organic way.
>
> – Father Joseph Varghese Peringarapillil, president of Indocert, IOFPCL Board Member, and leader of Infam-Karnataka

As we sat in an Indian Organic Farmers Producer Company, Limited (IOFPCL) meeting room in Wayanad district of Kerala, Father Joseph, switching effortlessly between Malayalam and English, delineated some of the global sources that inspired his involvement in organic farming in South India, from Vatican II in the Catholic Church to Masanobu Fukuoka, a Japanese farmer. Joseph, born in Kerala, and fluent in many languages, including Italian, English, Malayalam, and several other South Indian and European languages, explained to me that he considered himself to have a healthy "exposure" to other cultures, which he credited as the inspiration for facilitating his support for the growth of certified organic agriculture in Kerala. Certified organic agriculture, he believed, held the key to farmer empowerment in South India. Yet, he also emphasized that this empowerment came from the fact that Keralites, to access foreign markets for value-added exports, no longer had to rely on European certifiers that required "posh hotels" when visiting India – due to his and others' efforts, they had created Indian-based certification, which Joseph considered "revolutionary" and "something popular, for the people, for the ordinary."[79]

In this chapter, I shift my focus to another facet of Kerala's organic countermovement: third-party certified organic agriculture, that which has been the primary form of organic agriculture scrutinized by scholars (chapter one). Researchers that have studied the governance structure of certification schemes have argued that power relations among stakeholders participating within these schemes are unequal; specifically, that firms, retailers, and interests located in the North manipulate and dictate production decisions within third party certification arrangements. These power imbalances have led to increased costs for smaller firms and producers, altered self-

[79] Upon hearing Joseph's language to explain organic certification in India, and his reference to the Second Vatican Council (which departed from literal interpretations of Catholic theological texts), I asked Joseph what his political affiliations were. He did not answer, and hedged, replying that as a Church leader, he could not pick a political party. He did, however, express his appreciation for the fact that the Communist parties of Kerala "took care of the…working class…while the Church failed in its duty." Joseph indicated that Kerala's politics and the Church now had to strategize about farm labor.

determination within local communities as they accommodate Northern norms and certification requirements, and have reproduced North-South inequalities (Jaffee and Howard 2010, Raynolds 2008, Getz and Shreck 2006, Mutersbaugh 2006, Klooster 2005, Ponte and Gibbon 2005, Tovar *et al.*, 2005, Raynolds 2004, Mutersbaugh 2002, and Hughes 2001). Mutersbaugh (2006) has even called organic certification as a form of "neocolonialism," due to the standards and restrictions that constrain and produce tensions for organic producers and their communities.

Much of this scholarship has utilized key analytics (such as "upgrading" and "governance") from Global Value Chain and Global Commodity Chain frameworks for its arguments (section 5.2). Yet, given the increasing call to study the conditions that influence the operation of commodity chains (e.g., Hatanaka and Busch 2008, Bair 2005, and Ponte 2002), I suggest an alternative reading of the governance of certified organic farming standards , which sees it as dynamic and dialectical in formation, and shaped by cultural, historic, and local factors. I use this chapter to argue that Indian farmers, NGOs, and activists formed Indian-based certification bodies (including a Kerala-based third party certifier) to favorably participate in certified and globalized organic production. Furthermore, Kerala's civil society (explained in chapter four), together with its historical and contemporary global connections, purposely facilitated the development and growth of certified organic agriculture within Kerala as a mitigation response to its agrarian crisis – a parallel process to the formation of Kerala's Organic Farming Policy (chapter five).

In the first half of this chapter, I present a history of Kerala's certified organic movement. I illustrate how politicized farmers and activists responded to Kerala's agrarian crises to build momentum for organic farming by creating several institutions to assist with certified organic agriculture: Indocert, a Kerala-based nationally-accredited body for organic certification, and IOFPCL, a producer-owned company, to support with the marketing of certified organic foods. I also focus on my experiences with a group of Christian farmers and activists of Organic Wayanad, an Internal Control System (ICS) based in Wayanad district of Kerala, a member of IOFPCL, and certified organic by Indocert. Key Christian organizations and leaders – particularly those of the Syro-Malabar rite of the Catholic Church, such as Joseph of the Indian Farmers Movement (Infam) – were pivotal in the formation and establishment of Indian-based organic certification. My story revolves around the Christian settlers of Wayanad district of Kerala, with whom and where many of these organizations have roots. I explore the significance of Wayanad as a place that exemplifies tensions within Kerala's organic farming countermovement in chapter six.

In the second half of this chapter, I examine the governance of Kerala's organic certification scene to demonstrate that organic agriculture is providing Kerala's farmers and activists openings for subordinating markets (in the Polanyian sense, chapter three) with international ties – that is, opportunities for increased civic engagement within globalized commodity chains and localized agricultural production. I will concretely illustrate this claim by focusing on a 2010 German coffee order for IOFPCL, whose farmers are certified organic by Indocert. Based on my experiences and conversations with the farmers of Organic Wayanad, a group shareholder of IOFPCL who worked to fill the coffee order, I will explain how this organic chain is providing increased prices and more negotiation power for farmers through direct marketing opportunities, as well as promoting the formation of farmers groups that collaborate on and determine production practices – this also represents a successful form of "upgrading" in the GVC and GCC sense. My findings suggest that as a phenomenon, certified organic agriculture does not necessarily involve a one-way imposition of Northern or buyer expectations on farmers in the

developing world, and is not necessarily captured by market-led and neoliberal processes, but is instead more negotiated, and can indeed be a force for subordinating markets in specific places and at certain moments.

5.1 Out of Agrarian Crisis (in Wayanad), Establishing Indian-Based Certification

Certified organic farming in Kerala has most of its roots in Wayanad, one of the northernmost districts of Kerala (figure 10).Wayanad is a rural district, accessible only by narrow, oftentimes one-lane, windy roads up mountainsides that regularly experience landslides during heavy monsoon rains. Historically, Wayanad's remote natural resources and plantations made it "the scene of the 'wildest, maddest, and grossest speculation'" under British colonialism, especially as the region faced competition from the commercialization of raw materials from around the world (Nair 2000(1911), p. 6). As part of the Madras Presidency under the British Empire, Wayanad and its vast forests and newly-created plantations contributed to British economic power, trade, and infrastructure (Philip 2003). Additionally, large-scale teak, coffee, tea, and rubber plantations were created and controlled by British investors and planters in the area, commencing in the mid-nineteenth century (Kjosavik and Shanmugaratnam 2007 and Jacob 2006), and resettlements of local people were extensively pursued by the British, to turn them from "profligate natives" on wastelands (Drayton 2000) to productive workers on plantations and farms (Pandian 2009 and Philip 2003).

Figure 10: Districts of Kerala. Wayanad is towards the top right. Thiruvanathapuram district, the home of Kerala's state capital, Thiruvananthapuram city, is in the South. Source: Kerala State Wide Area Network, http://www.kswan.gov.in/

After decolonization, the newly-formed Kerala state government continued to promote the extensive cultivation of cash crops in Wayanad, by exempting many of the existing plantations from land reform ceilings (see chapter three). Additionally, several other political and historical events – such as the national-level "Grow More Food Campaign," which encouraged cultivation on land classified as "wastelands" to increase domestic food production – stimulated extensive agricultural development in Wayanad because of its sparse population density. The district experienced several waves of migration of new settlers interested in agricultural livelihoods throughout the twentieth century, particularly with the creation of a land market from land reform, cheap land prices in isolated areas of Wayanad, and food shortages after WWII. Many of these settlers were Syrian Christian Keralites from the

south of Kerala, who had little access to farm land as a result of historical caste and political economic relations (see chapters three and six).[80] In many ways, Wayanad has been emblematic of a resource frontier – an unregulated space overflowing with remarkable "imaginaries" (Tsing 2005) of riches and spices, and limitless fecundity. The "imaginary" of Kerala is articulated in Wayanad in particular ways, which I will examine in the proceeding chapter.

Despite the frequent migrations to Wayanad, it is the least populous district of Kerala (Government of Kerala and Centre for Development Studies 2005). Yes, in spite of its low population, the highest number of farmers committed suicide in the first five years of the century in Wayanad: 534 between 2001 and 2006, largely as a result of agrarian distress (Patnaik 2006). Ninety percent of Wayanad's current residents depend on agriculture for sustenance. Eighty percent of Kerala's coffee, for example, is sourced from Wayanad (Krishnaprasad 2004). Wayanad has experienced Kerala's agrarian crisis severely (chapter three), with its high suicide rate and extraordinary dependence on cash crops and chemicals, compared to other districts (table 8). As Department of Economic and Statistics of the Government of Kerala says: "the back bone of the economy of this district is plantation crops."

Additionally, Wayanad ranks below average and towards the bottom of Kerala's fourteen districts with regard to human development indicators (table 9). Several studies have argued that Wayanad's remote geographic location has only exacerbated the outcomes from commodified agriculture. For example, organizations monitoring suicides in Wayanad claim that many of Wayanad's recent settlers have been socially-isolated. According to one: "a considerable number of suicides have taken place where the person had no social and political involvement in any…organizations. This has limited their opportunity for sharing and ventilation. In most cases the reason may be that they are alienated from the society" (Shreyas, p. 17).

Wayanad has acutely felt Kerala's agrarian crisis, because of its geography, geopolitical history, and political economy. Wayanad has therefore been a place that has been the subject of several development and agricultural interventions in the past decade, such as pepper productivity improvement schemes by the Agriculture Department. Certified organic farming is one intervention – a facet of an organic countermovement – detailed below. I explore the significance of Wayanad as a setting that showcases tensions in Kerala's organic farming countermovement in chapter six.

[80] Syrian Christians are part of the Eastern Rites of the Roman Catholic Church. Several religious leaders claim that the Syrian Christian lineage commenced with the baptism of Indian families in South India by the Apostle Thomas, shortly after the death of Christ. While the exact origins of Christianity in Kerala are debated, about 20 percent of Kerala's population is currently Christian (Government of Kerala 2006). A detailed analysis of the Syrian Christian Church in South India can be found in *Kerala Christian sainthood: collisions of culture and worldview in South India* by Corinne G. Dempsey. A history of Christian migrations and Christian land-relations in Southern Kerala can be found in K.V. Joseph's *Migrations and Economic Development of Kerala*.

Table 8: Production of Crops in Kerala's Districts in Metric Tons, 2006-7

	Coffee	*Tea*	*Pepper*	*Cured Ginger*	*Cured Turmeric*	*Processed Cardamom*
Thiruvananthapuram		213	1,450	247	51	
Kollam		227	3,158	1,525	510	
Pathanamthitta			1,434	1,797	174	8
Alappuzha			232	163	21	
Kottayam	1,105	39	1,754	645	401	19
Idukki	7,045	36,229	35,299	2,753	730	7,894
Eranakulam			1,133	1,322	1,874	
Thrissur		1,922	1,006	221	206	
Palakkad	2,325	2,124	1,447	8,651	2,856	260
Malappuram			1,114	288	459	3
Kozhikode			1,313	536	1,046	1
Wayanad	**49,000**	**12,905**	**9,828**	**23,385**	**996**	**359**
Kannur			3,139	697	570	
Kasaragod			1,957	266	86	1

Idukki, a district with a significant output of spices, is over twice the size of Wayanad in area.
Data Sources: Government of Kerala, Centre for Development Studies 2005 and Government of Kerala, Kerala Land Use Board: http://kslub.kerala.gov.in

Table 9: HDI Ranking of Kerala's Districts

District	*Rank*
Thiruvananthapuram	9
Kollam	6
Pathanamthitta	3
Alappuzha	4
Kottayam	2
Idukki	12
Ernakulam	1
Thrissur	5
Palakkad	10
Malappuram	14
Kozhikode	8
Wayanad	**13**
Kannur	7
Kasaragod	11

The Human Development Indicator (HDI) is a composite number measuring life expectancy, education, and income. Wayanad ranks below average compared to other districts in Kerala.
Data Source: Government of Kerala and Centre for Development Studies 2005

5.1.1 INDIAN FARMERS MOVEMENT (INFAM)

In response to the suicides and agricultural hardships in Wayanad, many of which were affecting the recently-settled Christian groups,[81] several religious leaders and activists of the Catholic church came together to form another feature of Kerala's organic farming countermovement, specifically, the Indian Farmers' Movement (Infam) in 2000 (table 10). The website of Infam, hosted on the Kerala Catholic Bishop's Council (KCBC) site, states:

> The membership of Infam is extended to all farmers, irrespective of cast[sic], creed or political affiliation. Women are also fully involved in this movement. The new movement enables the farmers to improve their agricultural methods, to demand reasonable prices for their products, and to fight together against injustice, bribery and exploitation. It promotes also communal harmony and understanding among the people (KCBC 2008).

Although Infam professes to be inclusive of all farmers, it was originally a Wayanad-based movement populated by mostly Syrian Christian producers who were concerned about crop die-off, declining prices, suicides, and agricultural poisoning.[82] Leadership positions are held by Catholic priests, and Infam is organized by committees of elected officials at the Diocesan, district, and *panchayat* levels. These officials guide local-level meetings of Infam members. Oftentimes, meetings are held on Church grounds or after Catholic Mass.

Table 10: Key Third-Party Certification Institutions in Kerala

Infam - Indian Farmers' Movement
Indocert - Indian Organic Certification Agency, third-party organic certifier based in Kerala
IOFPCL - Indian Organic Farmers Producer Company Limited, marketing company
Organic Wayanad - Internal Control System (organic farmers' group) in Wayanad, Kerala

On behalf of farmers and agricultural issues, Infam has engaged in several agitations and actions against government leaders and banks, fielded candidates for political offices, organized seminars and trainings, set up self-help and support groups for communities, and developed crisis hotlines – common activities among political groups in Kerala (as noted by Franke and Chasin 1994). Several Catholic priests involved in organic farming in Kerala also admitted to me their admiration for Kerala's history of progressive politics in the realm of labor. Hence, while not officially affiliated with a political party, Infam's membership and organizational aims received momentum from previous social movements and reforms within Kerala.

One of Infam's priority project areas, however, is organic farming, and deviating from chemical-intensive agriculture. As written on Infam's website:

- Infam promotes eco-friendly farming habits, bio-diversity and diffusion of folk wisdom related to farming.

[81] For instance, a study by Shreyas, a Catholic NGO based in Wayanad, found that forty percent of the suicide victims in Wayanad were Christian.

[82] Several people from Wayanad were particularly concerned about the unofficial boycott of Wayanad bananas by stores and consumers, due to fears about the high level of chemical content within them (Jacob 2006).

- We take care to mobilize and co-ordinate Governmental helps to the benefit of farmers and to provide them with legal advice and assistance.
- We also provide the farmers with region-specific advice regarding seeds, manure, and crops and about the marketing of agricultural produce.
- We encourage the farmers to adopt the best farming techniques from various parts of the world and popularize natural food and medicine (KCBC 2008).

One certified organic farmer and member of Infam said to me that the emphasis on organic farming was so strong in Infam around its inception, that Infam leaders told their members they *must* convert to organic farming because chemical farming had contaminated the land, water, and soil. According to this farmer, Catholic priests also insisted that the farmers in Wayanad – already tied into international markets with cash crop agriculture (because of the political ecological history recounted in section 5.1) – could earn more money from European and American markets if *certified* organic.

This insistence on receiving third-party organic certification, held by ranking members in Infam, led several of them to explore the establishment of Indian-based certification. These leaders believed that certified organic production, as opposed to organic production without any certification, could provide a competitive edge for Indian farmers in foreign markets through value-addition. According to Joseph, organic certification represented "ample opportunity for growing and marketing, and farmers' condition [would] become better." When I asked Joseph how he learned about the certification process, he credited his time in Europe for learning about the growing demand for organic consumption (certified organic, for European consumers). Around the same time, the Indian government had also started considering national organic farming standards, and the Spices Board of India started to subsidize conversions of cash crops to organic farming in Wayanad through other organizations. Several farmers had begun experimenting with certification in Wayanad; however, this funding was limited (Jose 2011).

Infam began to promote third-party certification, to ensure the organic quality of production and increase the competitiveness of Kerala's farmers in international markets. P.J. Chackochan, a Catholic farmer involved in Infam and friend of Joseph's, was encouraged by Infam to pursue certification. Chackochan had been farming medicinal plants, vegetables, and cash crops organically since 1991, after being haunted by a memory for several years – a young cousin of his had accidentally mixed a bag of the pesticide Ecalex into a fish pond, leading to the death of the fish. He then explained his initial inquiry into third-party certification, through IMO (the Institute for Marketecology), a Swiss based inspection and certification agency. Chackochan recollected the certification and inspection fees he was quoted in the year 2000: over 200,000 Rs./year as an individual farmer in addition to inspection fees – too high for him to pay on an annual basis.

Other international agencies had similar pricing schemes; according to one staff person at Indocert, some international entities would charge more than the annual salary of an Indian farmer for one day of inspection[83] (anonymous informant at Indocert 2011). Joseph felt that such fees were unscrupulous: "some of the clever Western…certification bodies were exploiting…farmers. And the corporates, in a big way, like, like, they used to get a remuneration of $500 per day, and a posh star hotel…for certification…. And the corporates could afford

[83] Recall from chapter three that the minimum wage in Kerala for hard agricultural labor is 200 Rs./day – significantly better than neighboring states, but far too little to meet international annual certification fees if farm wages alone are used a metric to measure personal income.

[it]…." In other words, Indian farmers could not manage the cost of having a third-party entity guaranteeing the authenticity of their farms as organic.

5.1.2 Indian Organic Certification (Indocert)

To circumvent hefty fees, Joseph and others began to investigate other options to obtain certification. With financial assistance from the Syro-Malabar Catholic Church in Kerala, Joseph and Mathew Sebastian, a congregant, attended an International Federation of Organic Agriculture movements (IFOAM) meeting in Switzerland in 2000 – a trip with which Joseph felt comfortable, due to his years of studying and living in Rome and Europe. During this trip, they encountered members of Organic Agriculture Certification Thailand (ACT), a Thai-based organic certification agency, whom they credit as inspiration for setting up Indian certification. They also met with a German staff member of IFOAM who had traveled to Kerala before, and enjoyed his experiences in Kerala so much, he facilitated an introduction of the two Keralites to the Swiss State Secretariat for Economic Affairs (SECO) under the Swiss Ministry of Commerce, which invested in development activities in countries like India (Peringarapillil 2011).

After several rounds of discussion, SECO funded the Research Institute of Organic Agriculture (FiBL), an organic agriculture research organization, and Bio.Inspecta, a Swiss certifier, to set up an Indian pilot certification body, based in Aluva, Kerala: the Indian Organic Certification Agency (Indocert). In 2002, Indocert received accreditation from DAKKS, a German organization, and the Agriculture and Food Products Export Development Authority (APEDA) of India's Ministry of Commerce.[84] Indocert then certified its first organic farmer under the requirements of the Indian National Programme on Organic Production (NPOP): Chackochan, in Wayanad. And, according to a staff person at Indocert, the Ministry of Commerce also upheld Indocert as a model for replication for new and future Indian certification bodies.[85] FiBL continued to fund Indocert and train staff in organic certification, inspection, quality control, and accreditation until 2008. Joseph is now the president of Indocert, and Mathew Sebastian is its executive director (anonymous informant at Indocert 2011, FiBL 2011, Peringarapillil 2011, and Vakkayil 2010).

5.1.3 Organic Wayanad: An Internal Control System (ICS)

Indocert's annual certification fee for an organic farmer in India as of 2011 is 14,625 Rs. (excluding inspection and travel fees[86]), and even less for farmers participating in group certification through an Internal Control System (ICS). ICS's are official certified organic farming groups. IFOAM (2009b) defines an ICS as:

[84] Since 2002, Indocert has also been accredited by several other organizations as well, as listed on its website: http://www.indocert.org/accreditations.html According to the site, Indocert pursues various accreditations "to establish our credibility and competence" (Indocert 2012).

[85] Simultaneously, like "providence," according to Joseph, the Central Government started pursing the codification of national, Indian standards. India's organic standards are recognized by the U.S. and EU (see chapter two). Indocert is now "well respected" by Europeans, according to a staff member at Indocert. Indocert bases its organic certification along the stipulations and conditions of the NPOP.

[86] Indocert's annual certification fees are listed in the Appendix.

> A documented quality assurance system that allows an external certification body to delegate the annual inspection of individual group members to an identified body/unit within the certified operator. This means in practice that a growers group basically controls all farmers for compliance with organic production rules according to defined procedures. The organic certification body then mainly evaluates whether the Internal Control System is working well and efficiently. The evaluation is done by checking the ICS documentation system and staff qualifications and re-inspecting some farmers.

Because many Indian farmers struggled with paying Indocert's annual fee, despite its lower cost, Indocert began advising groups of farmers to form ICS's (anonymous informant at Indocert 2011).

The recognition of ICS's are relatively novel. In 2000, IFOAM vigorously began exploring systemizing certified organic group farming, as a result of the high number of small farmers it found unable to participate in certified organic farming as individuals alone – mostly due to certification costs. The history of ICS recognition is detailed on IFOAM's website:

> In 1994, IFOAM achieved the first step towards ICS harmonization by including a paragraph on group certification in its Accreditation Criteria. At the same time, it provided internationally recognized guidelines on ICS requirements for group certification.
>
> In 2000, IFOAM continued these harmonization efforts by initiating a process aimed at setting clearer definitions and practical recommendations for the implementation of the Accreditation Criteria guidelines. The process brought together certifiers, producers and certifying authorities during 3 workshops (2001-2003) and led to the production of the document on "Smallholder Group Certification: Compilation of Results". The document details collectively agreed elements of ICSs [sic] such as documentation requirements, evaluation protocols, appropriate re-inspection rates and risk assessment tools. As a result of this process, the EU commission adopted in November 2003 the agreed upon results in its "Guidance Document for the Evaluation of the Equivalence of Organic Producer Group Certification Schemes Applied in Developing Countries".
>
> In 2001, an estimated number of 150,000 smallholders around the developing world were organized under 350 groups for export certification. This number has even grown since then, even though estimations are lacking for recent years (IFOAM 2009c).

One of those three workshops was held in Bangalore, India, less than a day's drive from Wayanad district. Jose, an organic farmer and member of the organic farming ICS Haritha, based in Wayanad, went to this workshop, along with other farmers with connections to Infam and social organizations of the Catholic Church. Jose swears that the smallholder ICS manual ("IFOAM Training Manual for Organic Agriculture in the Tropics"[87]) that IFOAM prepared is based on the experiences of group farming in Wayanad. Jose argued that Kerala's organic farmers played a pivotal role in shaping global organic group-farming standards.

[87] This IFOAM ICS manual is in the Appendix.

Farmers of the ICS Organic Wayanad pay 300 Rs./acre on an annual basis for organic certification. Currently, the Kerala State Horticultural Mission (SHM) of Kerala's Agriculture Department subsidizes 150 Rs./acre for each farmer during each year of the three-year conversion period.[88] Organic Wayanad is an Infam entity: In 2003, Infam declared 2003 as an "Organic Year," and conducted over 800 trainings and twenty four conventions to disseminate information about organic cultivation. That year, Infam also created the ICS Organic Wayanad, to assist small landowners with organic group certification. Organic Wayanad is comprised of about eighty percent of farmers involved with Infam, and was the first ICS to be certified by Indocert. Currently, 389 households are in Organic Wayanad, with a total of 1,200 acres of certified land (George 2011).

Organic Wayanad is split up into several smaller groups that are anchored in geographic areas, such as *panchayats*. These groups meet regularly, from once a month to once every two months, to share information about new and available government subsidies for agricultural production, communicate difficulties, pass on advice, debate how profits from organic production should be allotted and used, etc. At one Organic Wayanad meeting, Chackochan informed attending members about a new organic banana subsidy from the *Krishi Bhavan*, the local branch of the Agriculture Department. It was also at an Organic Wayanad meeting that K.M. George, organic farmer and Co-Ordinator of Organic Wayanad, encouraged farmers to become involved in local politics to advocate for organic agriculture (see chapter three). At several meetings I attended, I witnessed farmers make arrangements with each other to pick up seeds from the houses of their colleagues, and invite others over to observe new methods of cultivation. These ICS meetings, therefore, serve as crucial networking and knowledge-transfer opportunities for like-minded farmers – that which did not previously exist in organized form.

5.1.4 The Indian Organic Farmers Producer Company, Limited (IOFPCL)

Finally, Infam was also fundamental in setting up one more organization: The Indian Organic Farmers Producer Company, Limited (IOFPCL). Registered in 2004 under the Indian Companies Act of 1956, IOFPCL is a marketing and procurement entity of organic products, and acts as a liaison between its organic shareholders and buyers. As of 2010, IOFPCL had 603 organic farming shareholders from South India (although IOFPCL is headquartered in Kerala). All members are certified by Indocert. Shares cost a one-time fee of 1,000 Rs., but can be purchased by ICS's – the minimum membership requirement is ten shares. Joseph is a Board member, as is Chackochan, who was also a founder of IOFPCL and a member of Organic Wayanad. Organic Wayanad is a shareholder as well.[89]

IOFPCL facilitates the pooling of agricultural commodities by small farmers and shareholders for export so that farmers can avoid middlemen. IOFPCL, with assistance from the Spices Board of India, also attends international and national trade fairs to directly negotiate with buyers. In the next section, I will detail the experiences of IOFPCL and one of its members, Organic Wayanad, in filling an organic coffee order for export to Germany.

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[88] In order to receive organic certification and the associated price premiums, farmers are required to wait a three-year conversion period during which they must pay certification and inspection fees.

[89] Due to structural limitations imposed by ISO harmonization (that aim to reduce the conflict of interest between parties, to ensure the proper certification of products) (Mutersbaugh 2006), IOFPCL, Indocert, and Organic Wayanad are completely separate entities and have different functions. Indocert is a certification agency, IOFPCL's purpose is to market, and Organic Wayanad is an ICS.

5.2 Increased Farmer Engagement In Organic Food Chains and Agricultural Production – A Case Study of a German Coffee Order from Kerala

In September 2010, a horrific story of food contamination broke in Kerala: Twenty three people died after drinking toddy (coconut liquor) laced with methyl bromide in the northern district of Malappuram. Six months later, newspapers ran stories with headlines such as "Flagrant use of chemicals to ripen fruits on the rise," (*the Hindu* 2011a), warning consumers that the irritant calcium carbide was frequently utilized to quickly ripen fruits in Kerala markets. According to Chackochan, Indocert's first certified organic farmer, founder of IOFPCL, and member of Organic Wayanad, such stories of food adulteration and chemical contamination were not uncommon in India. He noted that even Wayanad district's own bananas were the object of such scares; consumers and stores unofficially boycotted bananas from Wayanad due to fears of excessive Furadan (a pesticide) residue in and on the fruits (see chapter three). Chackochan also shared with me that while at Biofach (an annual global organic trade fair in Germany), representing IOFPCL and Kerala's farmers the year before, European buyers had approached him and expressed their reluctance to purchase Indian organic products due to worries about chemical contamination and food adulteration.

Chackochan believed that organic certification would ameliorate such concerns both within and outside of India, given the adulteration-ridden landscape of India, particularly in light of India's lax food safety regulations. Third-party organic certification held the key to gaining the trust of consumers and buyers, and building a dependable and niche reputation, alleged Chackochan. He also impressed upon me that such a reputation hinged on the existence of IOFPCL, to assist with the pooling and marketing of commodities from honest, hardworking, small farmers, which ICS's like Organic Wayanad and Indocert would screen. Organic certification, therefore, represented a successful form of "upgrading" for the farmers of IOFPCL.

5.2.1 Global Commodity and Value Chain Literatures – Governance and Upgrading

Global Value Chain (GVC) and Global Commodity Chain (GCC) literatures provide analytics for studying the various nodes and steps of increasingly globalized production processes of commodities (known as global value/commodity chains) (Gereffi 1994). "Upgrading" is a key concept in GCC and GVC analyses. Local firms improve their positions in commodity chains by upgrading; that is, by increasing their competitiveness and capturing greater value-added processes in production (Bair 2005). In the case of IOFPCL, shareholders have obtained better financial returns by changing their production practices to receive organic certification, a value-addition to their commodities (table 11).

"Governance," another analytic, typically refers to standards – what they are and who sets them. In GVC and GCC scholarship, governance typically refers to relationships between firms along a production chain.[90] For example, Ziegler (2007) claims that middlemen influence the

[90] In a seminal paper, Gereffi (1944) presented two typologies for governance structures in GCC: producer-driven commodity chains and buyer-driven commodity chains. The former "refer to those industries in which transnational corporations or other large integrated industrial enterprises play the central role in controlling the production system. This is most characteristic of capital- and technology-intensive industries like automobiles…. The control [is] exercise by the administrative headquarters of transnational corporations." The latter "refer to those industries in which large retailers, brand-named merchandisers, and trading companies play to pivotal role in setting up decentralized production networks in a variety of exporting countries, typically located in the in the 3rd World. This

governance structure of the cut flower chain in North America; utilizing contemporary methods of communication and working within existing political economic structures, these middlemen shape alliances, and production and consumption dynamics along the chain. Dolan (2005) focuses on supermarkets to assert that the governance structure of the European fresh vegetable chain is influenced by big supermarkets, which maintain greater economic power and control over growers and suppliers in developing countries. Gibbon and Ponte (2005) look at the effect of agricultural economic restructuring and liberalization for African firms to conclude that agricultural restructuring has not necessarily bettered the economic prospects of African countries and businesses. Gibbon and Ponte argue that African firms are instead "trading down" (becoming marginalized in commodity chains and losing out on market share, as opposed to "upgrading"), because participation in the World Trade Organization has eroded their preferential access to EU markets, the reciprocity of trade is not being followed by the U.S. and EU with regard to agriculture, and the rules of the game (governance conventions) are being set by European and American norms and common law.[91]

Table 11: Average Price Premium Received for Certified Organic Commodities for IOFPCL Farmers from 2010-2011 (as Reported by IOFPCL)

Product	*Conventional Price (rs./kg)*	*Organic Price (rs./kg)*	*% Difference in Price*	*Quantity sold (kg)*
Black Pepper	150	180	20	1,300
White Pepper	200	350	75	101
Cardamom	1,000	1,300	30	135
Coffee	52	55	5.77	57,555
Vanilla	1,000	2,000	100	329
Fresh Coconut	14	18	28.57	8,573
Fresh Turmeric	20	25	25	2,500
Fresh Ginger	20	40	100	500
Fresh Chili	50	300	500	500

Analytics such as "upgrading" and "governance" can help illuminate the nature of relationships and power structures along and within chains of production (Ziegler 2007, Dolan

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[is] common in labor-intensive, consumer good industries such as garments…. The specifications are supplied by the buyers and branded companies that design the goods." Barriers to entry have driven the emergence of these forms of governance, as the former is capital-intensive, and the latter is labor-intensive – only a few firms can and do control these resources. Profitability is greatest where there are high barriers to entry. In this chapter, I do not examine barriers to entry, or the relationship between firms, but I instead use governance to evaluate the level of control farmers have in commodity chains through certification.

[91] Similarly, Daviron and Ponte (2006) use GVC to explain the so-called "coffee paradox" of the 1990s: the rise of coffee consumption in developed countries (a coffee boom), and the decrease in prices that coffee producers get and the share they have in the overall price of coffee (a coffee crisis). As the authors argue, the paradox exists because what the producers sell and what the consumers buy are two different things – consumers also pay for symbolic quality and in-person services, value-added (and non-material) attributes that added onto the coffee later in the coffee commodity chain, after the coffee has left producers. These value-added processes are happening in Northern countries, controlled by coffee roasters.

2005, and Gibbon and Ponte 2005). Many scholars have argued that the governance structure of third party certification is filled with unequal power relations; specifically, that firms, retailers, and interests located in the North manipulate and dictate production decisions within certification arrangements. These power imbalances have led to increased costs for smaller firms and producers, altered self-determination within local communities as they accommodate Northern norms and certification requirements, and have reproduced North-South inequalities (Jaffee and Howard 2010, Raynolds 2008, Getz and Shreck 2006, Mutersbaugh 2006, Klooster 2005, Tovar *et al.* 2005, Raynolds 2004, Mutersbaugh 2002, and Hughes 2001). Mutersbaugh (2006) has even called organic certification as a form of "neocolonialism," due to the standards and restrictions that constrain and produce tensions for organic producers and their communities.

However, as geographers and political economists have pointed out, the utility of GVC and GCC tools are lost if they are not situated in broader political economy (Bair 2005 and Hughes and Reimer 2004). Given the increasing call to study the conditions that influence the operation of commodity chains (e.g., Hatanaka and Busch 2008, Bair 2005, and Ponte 2002), I now turn to a case study in Kerala.

In the next section, I paint a more complicated picture of organic farming governance. Specifically, I look at the governance of a 2011 organic coffee commodity chain of Organic Wayanad and IOFPCL, with a focus on the interaction and relationships between and within producers and the institutions of IOFPCL and Organic Wayanad in Kerala. My aim is not to produce a picture of the entire value chain of this coffee order,[92] but to instead show, relying primarily on 2011 interviews with Chackochan and K.M. George, as well as observations at Organic Wayanad trainings and meetings, that organic certification can provide opportunities for the increased engagement of farmers with distant buyers in globalized commodity chains, and increase their (farmers') own political power in their regional areas of agricultural production. In Kerala, certified organic farming is creating more negotiation power for farmers through direct marketing prospects, and is facilitating the formation of several farmers groups (e.g., the ICS Organic Wayanad) that collaborate on and dictate production (as outlined earlier in this chapter).

5.2.2 The 2010-2011 Coffee Crop for Organic Wayanad

Various farmers have grown coffee in Kerala for over a century. Seventy percent of India's coffee is now grown for export, yet India's share in global coffee production is less than 3.5 percent (Central Coffee Research Institute 2006). Kerala is one of the largest producers of coffee in India (chapter three). However, most of Kerala's coffee is of the Robusta variety, typically viewed as inferior in quality (compared to the Arabica variety), and predominately used in blends. Prior to joining Organic Wayanad, members sold the entirety of their coffee crop to local and regional agents and shops. Most of this coffee would end up in blends sold by national and multinational corporations such as Nestle India, Tata Coffee, and Hindustan Level (Neilson and Pritchard 2009). Therefore, before to the introduction of organic certification, Kerala was not known for high-value coffee, and did not trade directly with international buyers.

[92] In fact, a more detailed layout of Kerala's coffee value chains, including their territoriality and input-output structures can be found in Jeff Neilson's and Bill Pritchard's (2009) *Value Chain Struggles, Institutions and Governance in the Plantation districts of South India*. The latter chapters of this book discuss organic production as well.

In 2011, however, Organic Wayanad shipped eighteen metric tons of certified organic coffee to a buyer located in Germany,[93] with the assistance of IOFPCL, which, as a marketing entity, arranged the initial connection (figure 11).[94] This order was the second annual one from this particular buyer, whom Chackochan had met at Biofach, a global exhibition of organic products, organized by IFOAM and other partners, held annually in Germany.[95] At the annual Biofach gatherings, Chackochan, literate and able to speak in English, met directly with various buyers interested in organic products from Kerala. Chackochan has subsequently conversed with several of these buyers via phone and email. A few interested buyers have even come to visit him in Kerala.

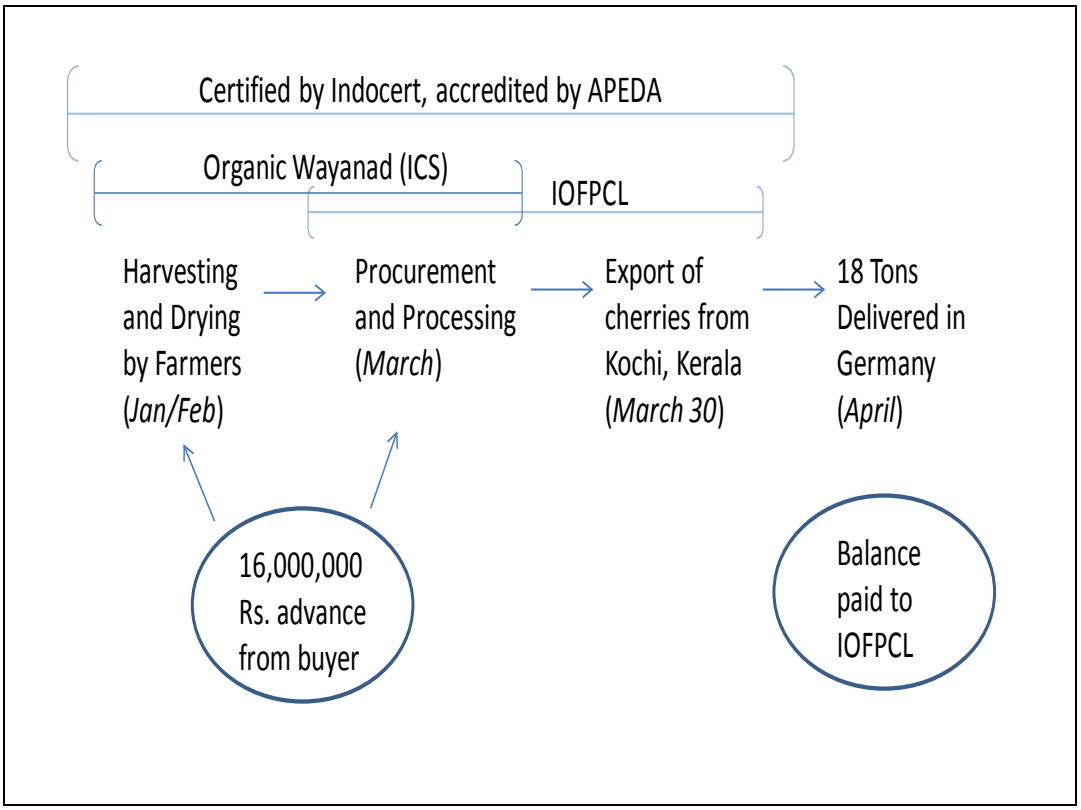

Figure 11: 2010-2011 Coffee Order from Organic Wayanad/IOFPCL to Germany

[93] I have chosen not to reveal the name of this buyer to protect farmers who shared their opinions candidly with me.
[94] This coffee was in the form of dried, husked, and graded green coffee (what coffee is called before it is roasted), processes IOFPCL paid for and arranged once it procured the coffee from farmers in Organic Wayanad (N.B. the coffee was not roasted in India). Farmers had the option of dropping off their coffee cherries (what coffee is called before it is hulled) at the IOFPCL office in Wayanad or the processing center, or working with member farmers and Organic Wayanad to rent a vehicle to have their coffee picked up and dropped off at the IOFPCL office or the processing center. While IOFPCL has member farmers throughout Kerala and South India who produce coffee, it decided to procure the majority of it from Organic Wayanad, since IOFPCL members in Wayanad have a greater quantity of coffee in production. Furthermore, the capital of Wayanad district has a processing center where IOFPCL can dehusk and grade coffee in bulk.
[95] The Spices Board subsidizes attendance to Biofach (up to fifty percent for flights and the conference in 2010), and provides a free stall for Indian organic representatives to use. Each year, IOFPCL must apply for this subsidy. IOFPCL has been attending Biofach since 2007.

Because of these connections made at Biofach, IOFPCL has been exporting several organic commodities to European and American buyers through the port of Kochi, in Kerala, since 2007. Before receiving actual bulk orders, however, IOFPCL had to ship several samples of products to interested buyers, who would then test the samples for chemical residues and contamination. Chackochan described this relationship-building time-period as nerve-wracking, but proudly stated IOFPCL now had a trusted reputation within European organic circles.[96] He also delightedly reported that the 2011 coffee buyer had only high praise for the organic coffee it had received from Kerala, both in sample form, and in its first order (in 2010).

Typically, buyers agree upon a purchase price with IOFPCL, and only pay IOFPCL in full after they have received their products. The time span between arrival in Europe/America and the harvesting of a commodity like coffee (which happens in January/February) is several months, due to the processes of drying, hulling, and grading of coffee, and then shipment via boat. Farmers in Organic Wayanad complained in several ICS meetings I attended that such a wait was too long for them.

Because of such repeated complaints from member farmers, IOFPCL negotiated an advance payment with its 2011 coffee buyer: in November 2010, the buyer agreed to pay Organic Wayanad's farmers 51 Rs./kg for dried coffee, with an advance to provide for processing costs, and to pay a portion to farmers at the time of procurement.[97] The market rate for non-organic coffee at the time the agreement was drafted was 38 Rs./kg.

However, between the end of 2010 and January 2011, at the time of harvesting and processing, the price of dried green conventional (non-organic) coffee rose to over 52 Rs./kg – one Rupee above the agreed-upon price for farmers by the buyer. George, of Organic Wayanad, explained how Organic Wayanad as an organization coped with the situation to me in an interview:

> **George**: When the price was 38 [*Rupees*/kg], we made an agreement to buy at 51. In January, the price of coffee went to 52 here. Now, can we change an agreement? We made an agreement and they gave us an advance. So, can we change the agreement? Anyway, we mailed a request.
> **Sapna**: Ok, so you wrote a letter….
> **George**: Yeah, we wrote saying that a problem happened, the price went up…so think about it. So, they made calculations…they reversed and gave to us 55….
> **Sapna**: So, you wrote the letter, and the buyer said it'll do 55.
> **George**: Yeah. We asked 60 *Rupees*. We need 60 *Rupees*. But they increased to 55….

[96] Additionally, as business improved, through public and private loans, Chackochan helped build a testing and processing facility for his organic medicinal plants business (called Vanamoolika), which IOFPCL uses. Chackochan and IOFPCL now test several of their own procured commodities from farmers for chemical residues, and moisture and microbial content.

[97] A staff member of IOFPCL requested that I not share the full details of the total amount that IOFPCL received for this order, due to proprietary reasons. However, this advance was the equivalent of sixteen *lakhs* Rs. In a meeting, members of Organic Wayanad agreed that small farmers (who supplied less than 100 kilograms for the order) would receive 100 percent payment at the time of procurement. Farmers who supplied greater than 100 kilograms of cherries received fifty percent of their share of the advance. Because Organic Wayanad is also a certified Fair Trade organization, three percent of the entire premium went to Organic Wayanad's Fair Trade activities, which includes scholarships for the children of farmers (Chackochan 2011 and anonymous informant at IOFPCL 2010).

Sapna: Do you know, when you wrote the letter, did the buyer get angry? Did the buyer understand?
George: They understood the situation, because we wrote the letter….I think they understood, because we sent the letter along with [news]paper cuttings. So, they must have understood.
Sapna: Then, how many weeks, months, did it take for the buyers to respond?
George: We wrote in January, and in February--
Sapna: Oh, in one month?
George: In one month, they decided.

As George described, Organic Wayanad, with IOFPCL's help, not only bargained an advance from its coffee buyer in 2010, but successfully and quickly persuaded the buyer to increase its payment to farmers in 2011 to 55 Rs./kg (table 12) – this type of bargaining is uncommon, particularly in conventional coffee markets. Organic Wayanad's organic certification and IOFPCL's assistance with marketing created this opportunity for direct negotiation.

Table 12: Market Rate versus Negotiated Rate for Organic Wayanad's 2011 Organic Coffee Order

	Market-rate for non-organic coffee (Rs./kg)	*Negotiated price for Organic Wayanad's coffee (Rs./kg)*
November 2010	38	51
January 2011	52	55
Percent Increase	*36.84*	*7.84*

I asked Chackochan how he felt about IOFPCL's and Organic Wayanad's relationship to this coffee buyer, especially given the fact that not only did the buyer originally distrust Kerala's farmers enough to request a sample for testing in European laboratories (in spite of Organic Wayanad's certified status), before committing to a purchase, but also because of the fact that this buyer's payment for Organic Wayanad's coffee was not far off from the price in the conventional market. George, for instance, had admitted that some of Organic Wayanad's farmers were disappointed that the buyer would not give them more money per kilogram of coffee, given the current market rate of 52 Rs./kg. Chackochan, on the other hand, remained convinced that IOFPCL and Organic Wayanad were establishing a long-term and dependable relationship with this buyer, which would provide income security and stability to farmers in Organic Wayanad. Chackochan admitted that relationship-building with buyers was time-consuming and stressful, but he proudly stated that IOFPCL now had a trusted reputation within European organic circles; this was, after all, the second order of coffee from this particular buyer.

"Doesn't this mean that Europeans and Americans are still the ones setting standards and controlling things?" I asked Chackochan candidly one evening, after learning about the certified coffee order. He repudiated my statement. "Organic standards say 'no chemicals,'" he responded, "and we don't use chemicals." Chackochan iterated he had already been farming

organically before he receiving certification; certification now enabled him to access competitive markets while he engaged in the same practices of production.

"But," I continued, "isn't it difficult to learn all the rules and read about all the standards in the NPOP?" Chackochan responded that to help farmers learn about national standards, Organic Wayanad held frequent trainings, with help from the Malayalam speakers from Indocert – and indeed, a two-week one that I attended laboriously defined the key organic institutions, how inspections worked, how to fill out necessary forms, etc. Joseph also pointed out during a separate interview that most farmers in Kerala already knew how to read and write; and with the advent of Indocert and the hiring of Keralite inspectors to explain guidelines and the inspection process to farmers in Kerala, certification did not involve cumbersome standards to decipher and understand.[98] Indocert's certification process was friendly to Keralite culture and language, insisted Chackochan and George.

Another farmer of Organic Wayanad conveyed similar points to me during another interview, and also reminded me that any of Organic Wayanad's member farmers could sell to whomever whenever they wanted, and were not bound by standards dictating the entirety of their decisions. This farmer himself, for example, sold his organic coconuts on the conventional market in his town in 2011; he, too, was farming without chemicals before he pursued certification. Several other farmers I spoke with informally during regular Organic Wayanad meetings and trainings also shared that prior to certification, they were farming organically, or without pesticides, or with minimal chemical use – certification merely rewarded these existing practices.

Chackochan also emphasized that IOFPCL and Organic Wayanad had now earned the reputation as being veritable organic farmers in northern Kerala – which certification guaranteed, and was a necessity for concerned Indian consumers. At a monthly meeting of Organic Wayanad farmers that I observed, Chackochan announced that several consumer groups and outlets in nearby cities had heard about the organic farming activities of Organic Wayanad, and had approached him and George to develop the equivalent of Community Supported Agriculture (CSA), weekly produce boxes,[99] through Organic Wayanad. "We can now decide which crops to grow," Chackochan declared, because of the financial flexibility these increased marketing opportunities would bring, and because many of these consumers were looking for a variety of seasonal vegetables and fruits from their local farmers. Chackochan encouraged members to help him develop these local consumer-farmer connections.

These ICS meetings of Organic Wayanad, therefore, serve as crucial networking and knowledge-transfer opportunities, which did not previously exist in organized form in districts such as Wayanad.[100] Chackochan used such examples to prove that he and others in Organic Wayanad were not farming for just for Northern markets, or according to European and American standards alone. Instead, certified organic farming created opportunities for like-

[98] I pushed these points with Chackochan on a few occasions, recalling that even the use of certain additives in organic farming was contested in places like the U.S. He would relent on some days about the difficulty of organic farming, but only on the point of processing and value-addition activities – Chackochan wished it were easier for Indians to process foods, as opposed to simply being suppliers of raw materials. "Processing standards are difficult," he admitted, and then stated that even if IOFPCL had access to processing facilities for commodities, the prices for the outputs would make them unaffordable for most Indian consumers.

[99] Community Support Agriculture, also known as weekly produce boxes directly from farmers.

[100] Part of the reason there has been a lack of organized social groups (regarding farming) in Wayanad has to do with its historical remoteness, sparse population, and significant influx of migrants (to be discussed in chapter six). Certification systems, such as ICS's, therefore, provided an opportunity to organize farmers into groups interested in sustainable agriculture for the first time.

minded groups of farmers to discuss how they could better their own farming practices and livelihoods through organic farming.

Chackochan also used such examples to prove that he and others in Organic Wayanad were not farming for just for Northern markets, or according to European and American standards alone. He and several other farmers instead compared their organic farming practices to what their fathers and forefathers used to do, with older, Indian technologies and traditions that pre-dated the Green Revolution. At an organic farming training of Organic Wayanad, this point – that organic farming was the farming of previous generations – was emphasized again and again. Moreover, George, who led the training, pointed out the following: today's *certified* organic farming was more flexible, technologically-savvy, and open, unlike the farming of yesteryear, because certified organic farming encompassed zero-budget farming, natural farming, Vedic farming, biodynamic farming, and more.[101]

And more often than not, though, at these Organic Wayanad meetings, trainers and farmers often invoked God and Christianity to continue with organic farming and certification. In a conversation about standards with me, Chackochan brought up Jesus Christ and the "Golden Rule": "Do onto others – brothers and sisters – as you would do to yourself," Chackochan stated. Utilizing parallel logic that George hailed to lambaste the use of Furadan in bananas (chapter three), Chackochan argued that as a farmer, he would not want to eat fruits and vegetables with chemicals, so why would he produce products with chemicals for others? To him, certified organic standards represented the practice of the teachings of Syro-Malabar Church, and due to the actions of Joseph and leaders in setting up Indian certification, living the Gospels had been made easier for him.

5.3 Complicating the North-South Dualism of Organic Farming Scholarship

I bring up the opinions and background of many of the farmers of Organic Wayanad to use them as a starting points to trouble the notion that organic certification, especially as it has globalized, creates burdensome requirements for farmers in the South as they try to comply with Northern standards. I question these boundaries between the North and the South in organic farming scholarship, pulling from Gupta's (1998) work on agriculture in India:

> Such situations, in which contradictory logics and incommensurable discourses are intermingled with one another, have, for the most part, evaded sustained analytic attention in the ethnographic literature. Anthropologists have become acutely aware that "difference" need not take the form of a "system" of otherness. Yet the question remains of how to deal with such redoublings and border crossings not as humourous asides but as a central analytic challenge. How does one conceptualize impure, hybrid, incommensurable modes of thinking and being without filtering them of their messiness? (pp. 5-6)

Gupta was trying to make sense of why and how farmers "switch codes," in contemporary India, speaking in a "system of indigenous agronomy" and a "system of bioscience" to explain

[101] These are all various methods of farming without chemicals. George's point was that farmers could pick from any one of the following organic production methods as they saw suitable to their lifestyles, and still be certified organic for export. At the Organic Wayanad training, George and other trainers went through the various methods in detail.

agricultural practices after the Green Revolution (p. 5). He argued that this switching did correspond with a dichotomy of tradition-modern.

Likewise, in Kerala, I argue that the experiences of farmers in Kerala do not fit neatly into North-South boundaries or even buyer-seller dualisms of inequality and burden. Instead, certified organic agriculture in Kerala arose out of meaningful global connections, relationships, and ongoing dialogue – such as Joseph's Christian friendships in Europe and influence from Fukuoka's writings, and direct conversations Chackochan has had at and maintained from Biofach. Such cross-cultural encounters and influences are not novel to Kerala, as Grove (1995) has documented that the knowledge collected from Keralites by Europeans during pre-colonial and colonial expeditions greatly influenced botanical texts and the classification of species – resources relied upon today by naturalists and scientists. Kerala has historically maintained such diverse international connections due to several factors, such as its high Syro-Malabar Christian population (Dempsey 2001) and coastal trading ports (Parayil 2000). Some theorists have even gone as far to suggest that Kerala's quality of life achievements and political movements may even be the result of its historical cosmopolitan nature and interactions with other countries and cultures (Franke and Chasin 2000).

My aim with this chapter, however, was not to romanticize certified organic farming in Kerala, or to gloss over postcolonial and economic inequalities that are being reproduced in global trading arrangements (and exacerbated under liberalization policies). For example, IOFPCL faced large debt in 2010, and failed to market enough of its procured products at a price premium, disgruntling farmers who hoped certification would provide them with immediate competitive access to foreign markets. Even Chackochan himself has taken out several loans to support fledgling certification projects in Kerala. This situation indicates that (voluntary) certification alone may not be a long-term and stable solution for poverty alleviation, sustainable farming, and Kerala's agrarian crisis.[102]

My objective with this chapter instead has been to showcase the meaningful experiences and feelings of farmers participating in certified organic production in Kerala, to argue that organic farming involves a more complex set of social relations in the South, that certified organic farming has promoted the engagement of farmers in organic production and global commodity chains (and has allowed for Keralites to even negotiate terms of trade, to an extent), and that the governance of certified organic farming chains has even been influenced by the experiences of organic farmers in Kerala (e.g., the creation of IFOAM's ICS handbook and the influence of Indocert during the development of the NPOP). Therefore, in the Polanyian sense, certified organic agriculture is helping to re-embed market-driven agriculture (as a countermovement) into social relations in Kerala, as farmers gain greater agency to participate in globalized commodity chains through certification (compared to conventional agricultural production and trade).

I emphasize that Kerala's particular political and cultural history – as evidenced by the high literacy rate of Kerala's farmers (see chapter three) and Joseph's use of revolutionary discourse to describe organic certification and his participating in Infam – has been crucial in facilitating these developments, even though the certification facet of Kerala's organic countermovement occurs largely outside the scope of state regulation. Kerala's educated and organized populace was in a political economic position to benefit from certification, perhaps unlike other communities in the global South. These claims align with scholarship that has called attention to the fact that standards (and certification) do not create uniform effects for landscapes and

[102] I elaborate upon these points in chapters six and seven.

communities (Bingen and Busch 2006 and Dunn 2003). In the next chapter, I examine in more detail how Kerala's historical and agrarian cultural politics shapes the relationship between the two facets of Kerala organic farming countermovement.

CHAPTER 6. DEBATES AND DIVISIONS: IMAGINING THE IDEAL ORGANIC FARM OF THE "KERALA DEVELOPMENT MODEL"

> …If organic farming is [done] for export purposes, it will be polluted. It will be destroyed…. A certificate – a mere paper – cannot declare that it is an organic product. The human being who is involved in that farming must be having the mentality that [farming] should not affect the earth…
>
> – K.V. Dayal, Organic Farmer

At the recommendation of several organic farming advocates with whom I spent time, I went to visit a prominent organic farmer, educator, and activist, K.V. Dayal, in 2011. He welcomed my husband and me into his home for a chat, and while his wife prepared tea for us, Dayal and I spoke about Kerala's organic farming politics in his living room. He kept insisting that organic farming would only come about through a change in the mindset of farmers, that which was unlikely if farmers cultivated for export. I asked Dayal to clarify:

> **Sapna:** So, there has to be a mental change?
> **Dayal:** I have…declared that…organic farming can be implemented if you can put [an] idea in the mind first….
> **Sapna:** Do you think it is in the mind of those doing for export?
> **Dayal:** No, no, no. They, those who are in the organic farming movement for export,…their mind has not changed. Whenever they get the chance, the will put chemical pesticides or chemicals, whenever they can, whenever they are in a problem. Because I know that. There is an organic farmer in Idukki [district] – he's doing organic farming in cardamom... But when the price has gone up, he has introduced pesticides – because of that money, that money he gets. He didn't care about organic farming…[just] money from that product, which is not a change. The human being has to be changed. The thinking has to be changed…the 'export variable thinking,' that by exporting so much, money will come. He cannot be considered as an organic farmer. ….*[Only] an organic man can do organic farming.* [Emphasis mine.]

Dayal's comments suggested that an organic farmer's character was reflected in his[103] practices on a farm – and a real organic farmer conducted agriculture in a particular way. This way was not for export. As Dayal stated specifically, those who farm for export do not have the essential and inherent qualities of a true organic farmer.

Dayal is considered a champion of organic farming within certain Kerala circles. He was present at several of the discussions regarding the 2010 State Organic Farming Policy, Strategy and Action Plan ("Organic Farming Policy"), where he publicly confronted several agricultural scientists when they equivocated on the subject of Kerala's farmers (see chapter four). Thanal, the environmental non-profit that provides support to the Kerala State Biodiversity Board (Biodiversity Board) on its numerous policies (chapter four), features Dayal at many events, and considers him to be one of the first organic farmers in the state, true to ecological principles.

[103] The division of labor in farming is gendered in Kerala. Men typically cultivate large-scale cash crops, while women tend to vegetables and gardens intended for home consumption.

And yet, others, like farmers certified organic for export in districts like Wayanad, would shrug Dayal and his opinions off dismissively. Hence, during my time in India, I observed a cleavage in Kerala's organic farming movement regarding how an ideal organic farm should look like.

In this penultimate chapter, I bring together the two facets of Kerala's organic farming countermovement for a preliminary exploration into *how* and *why* it is bifurcating, especially between those who are certified organic for export (chapter five), and those who advocate for organic farming as a state-led development project that primarily emphasizes local food security and the production of staples such as rice (chapter four). With my research to date, I found that this divide could not simply be explained by hailing certified organic farming for export as another form of commodification (e.g., as the "conventionalization thesis" from chapter two might imply), with the Organic Farming Policy standing in contrast. I also found that claiming that certain farmers had inherent organic farming qualities within them as individuals (as Dayal claimed above) to be an inadequate explanation as well. Yet, I underscore that this chapter is an early assessment about the rifts in Kerala's organic farming movement, and is an area in need of greater study, which I will elaborate on in the final chapter.

This chapter is one that responds to the need to critically examine the ideal of the "Kerala model" (Kabir 2010, Steur 2010 and 2009, Lukose 2009, Sreekumar 2009, and Devika 2007 and 2006); to this literature, I bring in an analysis of Kerala's nature and agriculture. I return to themes from chapter two to trouble the "imaginary" of Kerala and its environment more explicitly. Utilizing discourse analysis and anecdotes and observations from my fieldwork, I also explore how an "imaginary" of Kerala's environment is contributing to the struggle over what "organic agriculture" should be in practice in Kerala. This "imaginary" intersects with contested policy priorities of Kerala's Left, and existing political economic and agrarian cultural divides to produce a countermovement bifurcating between proponents of the 2010 Organic Farming Policy, and proponents of certified organic agriculture for export. This division illustrates that organic agriculture (and Kerala's organic countermovement), as a phenomenon, occurs on a terrain with history. This divide also provides evidence that Polanyian countermovements are not monolithic or homogenous in constitution.

I first begin this chapter by basing my explorations in recent Political Ecological literature that utilizes "cultural politics" as an analytic for studying environmental conflicts. Next, I review the scholarship on the Kerala "development model" and the cultural politics implicit within this ideal of Kerala. I reflect on these two bodies of literature in the geographic setting of Wayanad district, where certified organic farming has much of its roots (chapter five). I suggest why Wayanad is one location where the tensions within Kerala's organic farming movement are manifesting themselves – Wayanad's physical geography and political history are key factors.

I then list how each facet of Kerala's organic farming countermovement encourages different practices and methods of organic farming; how each side defines organic farming is different. I dispute the notion that these practices are inherent and "natural" to either side. Instead, I argue that Kerala's organic farming countermovement has taken its specific form at this point in time because of Kerala's cultural, political, and economic history intertwined with an "imaginary" of Kerala as biodiverse and in need of environmental protection.

6.1 The Cultural Politics of Nature

Much traditional political economic work, such as that of Polanyi (1944), does not provide the tools to answer why there are tensions and struggles within and between environmental

movements. Scholars that have utilized a cultural politics of nature approach in research, on the other hand, have shed new light on how forms of difference (constructed by a variety of factors, such as political economic and geopolitical history), have shaped and contributed to resource conflicts – materially and symbolically – throughout the world. For instance, in his analysis of environmental struggles over national parkland in Zimbabwe, Moore (1996) found that "differing cultural understandings of the meanings of land were central to these resource conflicts" (p. 128). Specifically:

> Peasants' historical understandings of 'suffering for the land' fused the material experiences of forced colonial evictions…with a symbolic understanding of ancestral claims and entitlements shaped by a century's struggles over access…to land. The simultaneity of symbolic and material conflicts is made manifest through particular interventions in the landscape (p. 139).

According to Moore, contemporary disputes over land use in Eastern Zimbabwe represented decades of antagonistic land-relations between white settlers (initially through colonialism) and native communities (many of whom were dispossessed). These Political Ecological explanations of land-use struggles depart from traditionally-accepted interpretations that have located sources of conflict in developing countries in overpopulation, ignorance of natives in resource management, etc.

Such normative judgments about proper land use fundamentally represent what is called the "cultural politics of nature," a branch of Political Ecology which highlights that our understandings about nature are imbued with cultural meanings, meanings which are shaped by our experiences with race, gender, history, and every day, material circumstances. Our knowledge about nature, therefore, is socially-constructed (Kosek 2006, Watts 2005, Braun and Castree 2004, Moore *et al.* 2003, Latour 1991, and Williams 1980). Such theorizing does not presume nature is passive or just a backdrop. Timothy Mitchell's (2002) essay, for example, about how mosquitos and malaria subverted development projects in Egypt, is a good reminder that nature can influence social outcomes – there is a world outside of, but connected to, human rationality.

In the Indian context, scholars like Pandian (2009), Baviskar (2005 and 1995), and Agarwal (1992) also question notions that there are "essential" qualities to certain groups of people. Baviskar (1995) and Agarwal (1992) specifically contest the ideological constructions that depict *Adiavasis*[104] and women in India as being innate environmentalists – these representations overlook politics and power dynamics within groups, as well as gloss over reactionary and conservative politics of movements.

Baviskar (2005) also claims that in India, different ideas about how nature should be used, and by whom, have a class dimension, where the middle and upper classes support protecting pristine places in other parts of India (such as rural India), ignoring the dynamics of environmental destruction in cities and between the urban and rural landscapes under the capitalist mode of production. Similarly, Pandian (2009) illustrates the intimate connections between race and nature in shaping the identities of the *Kallar* caste in Tamil Nadu. Pandian shows that under colonialism, through Tamil traditions, and with contemporary policies, particular qualities have been and continue to be attributed to the *Kallar* caste (as a caste of thieves) – these qualities have come to be seen both by the *Kallars* and others as natural and

[104] *Adiavasi* translates into "original" or "tribal" inhabitant, and tend to be lower caste.

essential. *Kallars* became associated with thievery because they did not engage directly with cultivation, considered to embody to ideals of progress and moral virtues under colonial and Hindu traditions. Pandian (2009), Baviskar (2005 and 1995), and Agarwal (1992) thus illuminate the importance of cultural politics in India's environmental movements.

6.1.1 A Cultural Political Review of the Kerala "Development Model"

In the late part of the twentieth century, new scholarship emerged about the Kerala "development model" that asked difficult questions about Kerala's politics from radical feminist and race perspectives (Raman 2010). I consider this body of scholarship as one that utilizes a cultural politics approach for understanding politics and life in contemporary Kerala. Specifically, Kabir (2010), Steur (2010 and 2009), Lukose (2009), Sreekumar (2009), and Devika (2007 and 2006) trouble Kerala's policies and politics (that which have been central to conceptions of the "Kerala model," as I explained in chapter two) by presenting that pre-existing notions of gender and Hindu superiority in caste hierarchies shaped and continue to influence the civil society and politics that the Left in Kerala envisions and promotes, despite the insistence by the Communist parties that they organize solely based on class-politics (Steur 2010).

In the celebrated "Kerala model", claim scholars, a paternalistic order and the conception of the ideal Kerala citizen as upper caste, upper class, and well-educated, has become common sense (*Ibid*) (in the Gramscian (1971) sense). Other groups are therefore marginalized in Kerala, which has influenced how exactly communities of women and *Adiavasis* (for example) do or do not participate in Kerala's political system and everyday life in Kerala. For these reasons, the "Kerala model," and even Kerala's Leftist politics, have neglected, antagonized, and vexed groups of people – and not because of class politics alone, but because of cultural politics. Despite the Left's impressive activity around building a politically-mobilized civil society (chapter three), Kerala's civil society contains splinters.

I contend that such claims and scholarship about friction within Kerala's civil society are very relevant to Kerala's current organic farming debates. The 2010 Organic Farming Policy, after all, came out of Leftist decentralization and a Left Democratic Front (LDF) government. Hence, I rely on the claims of Lukose (2009), Sreekumar (2009), and Devika (2007 and 2006) to examine how agrarian cultural politics is at work within the politics and policies surrounding Kerala's organic farming countermovement. I merge an analysis of nature and organic farming with the existing cultural political critiques of the Kerala "model."

6.1.2 Vaille Nad, Vazha Nad, or Vana Nad? Land Use Change in Wayanad, in the Western Ghats Hotspot

I have presented a synopsis of the cultural politics of nature and critiques of the "Kerala model" because I bring such analysis to Kerala's organic farming movement, to understand why there are disagreements about land use between groups of organic farmers and advocates within Kerala. Much of my analysis revolves around Wayanad, a place that serves as one foundation for Kerala's certified organic farming movement, and where half of my field research was based. In this section, I briefly summarize the Political Ecological history of Wayanad to contextualize how it became a "biodiversity hotspot," and an area dominated by commercial cash crop farming by Syrian Christian farmers. Today, Wayanad is a site of agricultural experimentation and large-scale biodiversity conservation.

Wayanad has historically been seen as a wild jungle, but also as cultivable and profitable with its natural resources. Pre-colonialism, the area that is known as Wayanad today was populated by tribal communities, and extensively fought over by local kingdoms for forest resources and spices. During the British colonial era, under the Madras Presidency, colonial officers and policies introduced plantation agriculture to the region, while promoting heavy use of the forest for economic and recreational purposes (from logging to hunting).[105] Around independence, several settlers – the equivalent of American homesteaders – promised land from the government in return for cultivation (for foreign exchange, food security, and turning wastelands into productive fields – see chapters three and five), migrated to the area from Southern Kerala.

Many migrants to Wayanad were from Kerala's Syrian Christian communities in Travancore, who were historically denied land ownership and government jobs under caste norms, but accumulated wealth in other occupations. This capital accumulation by Christians facilitated their purchase of cheap land in rural areas such as Wayanad, especially after land reform. Many Christian families also encroached on Wayanad's "wastelands" during national campaigns such as the "Grow More Food Campaign" (see chapter five). Additionally, as commercial traders, Christians from Travancore specialized in crops such as pepper and other spices. Many British planters also relied heavily on Christian farmers to manage plantations of cash crops such as tea, due to shared religious beliefs. Hence, Christian farmers came to specialize in non-paddy agriculture, and dominate the cash crop for export landscape of Kerala (Joseph 2003, John 1991, Mathew 1989, Joseph 1988, Tharakan 1984, and Varghese 1970). Wayanad is now populated predominately by Christian communities (Government of Kerala and Centre for Development Studies 2005).

In the late twentieth century, Wayanad entered into the international environmental spotlight with the demarcation of the area and nearby environs as the "Western Ghats Biodiversity Hotspot" (figure 12) by World Wildlife Fund (WWF) and Conservation International (CI).[106] Conservation biologists have come up with several approaches to identify and preserve key areas of biodiversity, including that of the "hotspot" (Mittermeier *et al*. 1998). According to proponents, about fifty percent of the world's biodiversity is found in these hotspots (*Ibid*). However, as environmental organizations pitch, what makes these areas even more critical for intervention is that this endemism is threatened by human activities – nearly seventy percent of the species found in

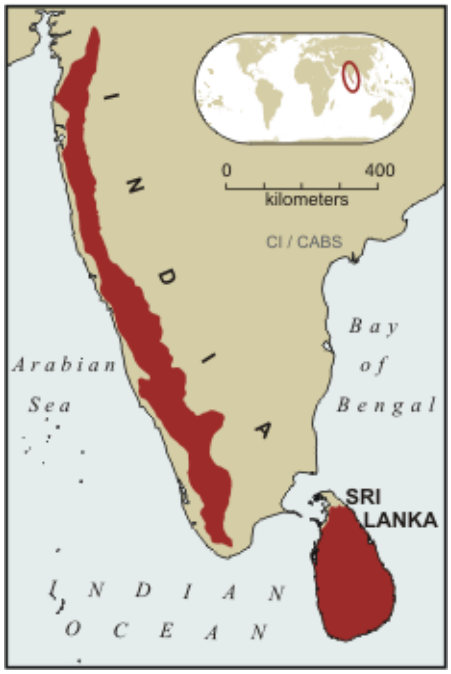

Figure 12: The Western Ghats. Source: Conservation International 2007.

[105] Kjosavik and Shanmugaratnam (2007) provide a more detailed pre-colonial and colonial history of Wayanad.

[106] The biodiversity hotspot is a large-scale approach to biodiversity conservation that was identified using plants as indicators of species richness. Pioneered by the biologist Norman Myers in the late 1980s, hotspots rely heavily on the concept of endemism. The hotspot approach to biodiversity conservation was adopted by CI, the MacArthur Foundation, and WWF in the early 1990s (Mittermeier *et al*. 1998). The Western Ghats has been identified by Norman Myers as one of the world's twentyfive hotspots, as well as a priority ecoregion for WWF, containing of several Important Bird Areas for Birdlife International, and nominated to be a UNESCO World Heritage Site. The Western Ghats is home to many large-scale fauna, including Asian elephants and Indian tigers.

these areas are critically endangered or almost extinct (CI 2007). Wayanad's land and resources are now therefore scrutinized not just economically, but environmentally as well.

Early in my field research, when I would notify informants in Kerala that I was planning to spend many months in Wayanad, I would receive an assortment of reactions. One woman with whom I grew close while in Thiruvananthapuram, at the opposite geographic location of Kerala (figure 11), gasped when I told her I planned to live in Wayanad, and she commented that while it was beautiful, it was still just a jungle. Several organic farming activists lamented that Wayanad was historically *Vaille Nad* – the land of paddy; now, however, due to the profligate behavior of the recent settlers, it had become *Vazha Nad* – the land of cash crop bananas (e.g., figure 6). Environmental organizations like the Thiruvananthapuram-based Thanal have become so concerned with Wayanad's land transformation into *Vazha Nad*, that it has acquired land within the district, to set aside for conservation. Historical documents, on the other hand, translate the name "Wayanad" into "*Vana Nad*," the land of forests (Nair 2000(1911)). So, was Wayanad a jungle now, or entirely a banana plantation? Did it used to be a jungle, or full of paddy fields?

Figure 13: Experimental Plot at *Krishi Vigyan Kendra* in Ambalavayal, Wayanad. Photo by the author.

As cultural political literature illuminates, implicit in this example of debates about the definition of Wayanad are questions about what is "real" nature, what is the right form of land use, and what relationship humans should have with the environment. For some people and groups, Wayanad is merely a jungle. For others, it should be the land of paddy fields; and still for others, Wayanad needs to be protected for biodiversity.

Land resources in Wayanad have been contested for centuries. Since the formation of Kerala in 1956, however, the state government has been promoting cash crop agriculture throughout the district, to develop the area economically. For example, in 1984, Kerala Agriculture University set up a research station (called *Krishi Vigyan Kendra*, KVK) in Ambalavayal, Wayanad, with funding from various sources, including the Indian Council on Agricultural Research (ICAR). ICAR, a national institution, played a pivotal role in disseminating Green Revolution knowledge and technologies throughout India (Perkins 1997). The M.S. Swaminathan Research Foundation, a non-profit established by the Indian "father" of the Green Revolution (*Ibid*), also has a research outpost in Puthoorvayal, Wayanad.[107]

Wayanad has therefore served, and is serving, as a place of technological experimentation for agriculture and productivity, which Kerala's agriculture department and parliaments have encouraged (chapter two). Today, KVK is a place where farmers can purchase hybrid seeds for commercial crops, pesticides, and other farming technologies. KVK also provides subsidies for growing various crops, and has several experimental plots on its campus (figure 13). In 2010,

[107] Swaminathan's family is originally from Kerala, and owned land in Wayanad. This research outpost is partly on family land.

the Left Democratic Front (LDF) rolled-out a "pepper revival package" for Wayanad through the *Krishi Bhavans* and agricultural extension in Wayanad, to boost pepper production (Government of Kerala 2011). The largest portion of Wayanad's GDP is now based in agriculture (table 13), and as I laid out in chapter five, much of this agriculture is of cash crops. As several informants from Kerala's agricultural bureaucracy also informed me, Kerala's Agriculture Department, through the State Horticultural Mission and other government institutions, have also explicitly promoted certified organic farming in Wayanad, to boost the competitiveness of Wayanad's crops in international markets.

Table 13: Distribution of Gross State Domestic Product in Wayanad at Factor Cost by Industry of Origin for the year 2009-10 (at Constant Prices)

Industry	*Amount (in lakhs)*
Agriculture and Allied Activities	**68,686**
Forestry and Logging	7,274
Fishing	79
Mining and Quarrying	887
Manufacturing	14,249
Electricity, Gas, and Water Supply	1,895
Construction	22,960
Transportation, Storage, and Communication	29,513
Trade, Hotel, and Restaurants	57,412
Banking and Insurance	28,285
Real estate ownership, business, and legal	52,404
Public Administration	43,701
Other Services	8,906
Data Source: Kerala State Planning Board, Department of Economics and Statistics, http://www.ecostat.kerala.gov.in/	

I argue that the state government's promotion of chemical-based cash crop agriculture is coming into conflict with the "imaginary" of the Western Ghats and Kerala as biodiverse, an "imaginary" that emerged in the 1980s with the convergence of the KSSP's momentum and the worldwide environmental movement (chapter two). It was also during this time that the Western Ghats was designated by conservationists as a "biodiversity hotspot" (Mittermeier *et al*. 1998). On its website, WWF claims that agriculture is one of the biggest threats to biodiversity in the Western Ghats: "The Western Ghats were once covered in dense forests. Today, a large part of the range has been logged or converted to agricultural land for tea, coffee, rubber and oil palm, or cleared for livestock grazing, reservoirs and roads."

The Biodiversity Board, created to protect the biodiversity of the state, also attributes biodiversity decline (particularly in the Western Ghats) to agriculture; this is why it has been the champion for organic farming in Kerala (chapter four). Wayanad, entirely encompassed by the Western Ghats "hotspot," has been an area of increasing worry for the Biodiversity Board (Varma 2011). The former chairman of the Biodiversity Board, V.S. Vijayan, expressed to me his concern that genetically modified crops (GMOs) were making their way into the Western Ghats, as a result of agricultural experiments and improper farming by farmers – he found this to be a threat to the biodiversity of the region. These activities compromise the region's natural resources, going against the normative ideals of the Kerala "imaginary." Hence, the Biodiversity Board does not support certain forms of farming (e.g., with GMOs) over others.

Given Wayanad's geography and history, it has become a place that exemplifies the tensions regarding proper organic agricultural practices in Kerala's organic farming countermovement. Hence, the claims for this chapter are based primarily upon my ethnographic research in Wayanad. I found that ideas regarding what the proper form of agriculture should be is a decisive debate for civil society, fuelled by the Kerala "imaginary" – I elaborate upon this conflict more in the following sections.

6.2 Debating Organic Agriculture: The Organic Farming Policy versus Certified Organic Farming for Export

When Kerala's LDF government finalized and presented the Organic Farming Policy, some estimates claim that around 9,000 farmers in Kerala were already certified organic for export just the year before (Yadav 2009). The policy itself does not encourage that Kerala's farmers pursue certification; it just states the existence of organic certification:

> Currently there are a number of certified organic farmers in the state, those cultivating *cash crops* such as spices, tea, and coffee, mainly targeting [the] export market and also *non-certified organic farmers who focus on food crops and biodiversity*. All of them, whether certified or not, focus clearly on soil health improvement. Kerala also has an accredited organic certifying agency catering to the needs of the farmers.
> …Currently, about 7,000 farmers practice organic farming in the State as per NPOP standards, covering a total area of 5750 ha. But non-certified organic cultivation area, assessments of which have not been done, is expected to be much more than this (Government of Kerala 2010b, pp. 4-5, emphasis mine).[108]

The above are the only phrases that mention *certified* organic farming *for export* in the policy, but what is noteworthy is what is explicitly written: the fact that certified organic agriculture for export is *not* focused on food crops (like rice) and biodiversity. Certification and export merely represent cash crops, like spices, coffee, tea, and bananas. Organic farming that is *not* certified for export, on the other hand, protects biodiversity and cultivates food – the latter which people in India can eat for sustenance. This is a discursive example of practices and priorities dividing aspects of Kerala's organic farming movement – perceived and real.

[108] The full text of the Organic Farming Policy is in the Appendix.

In this section, I analyze written materials, observations, and interview excerpts to extract discernible patterns in the practices of organic farming that each side of Kerala's organic farming countermovement advocates. I start from the basic premise that ideas about organic farming in Kerala are not apolitical, much like the United States Department of Agriculture's (USDA) standards surrounding organic farming have been rife with controversies and disagreements (Guthman 2004).

6.2.1 The 2010 Organic Farming Policy: Staple Crops for Domestic Consumption

While I argued in chapter four that the 2010 Organic Farming Policy has been purposefully written broadly – not just to appease a variety of stakeholders, but to encourage flexible and local-level decision-making about agriculture – there are a few places in the policy where certain prescriptions come through, especially with regard to the promotion of non-cash crop agriculture for domestic purposes. For example, to guide with implementation, twenty four "strategies" are included in the Organic Farming Policy; the sixteenth one is:

> **16. Develop diverse channels for marketing of organic produce**
> **Action**
> **16.1** Set up separate markets / facilities for organic produce certified by the PGS process through the existing channels of marketing of Agriculture products such as the Supplyco, Horti-corp, Haritha and People's Market.
> **16.2** Encourage direct marketing / linkages by farmers groups with end user institutions such as schools, hostels, hotels, hospitals, Ayurveda centres, SHG's [self-help groups] making food products and food-based industries in the State.
> **16.3** Encourage institutions such as schools, hostels, hospitals and government institutions to procure local organic produce following rules and specific guidelines.
> **16.4** Disallow large private retail corporations through suitable legislations.
> **16.5** Encourage existing vegetable, fruits and grocery vendors to promote organic products
> **16.6** Facilitate the establishment of organic farm produce outlets in all the districts, with the help of Governmental and Non governmental organizations
> **16.7** Ensure that the Tourism industry through the Responsible Tourism Initiative, source organic produce from local producers as much as possible for their hotels and resorts (Government of Kerala 2010b, p. 15).

In strategy sixteen, which focuses on marketing and developing marketing support for Kerala's organic farmers, export is not mentioned. Certification is referred to (16.1), but by the "PGS process" only. As defined by IFOAM (2011b), "Participatory Guarantee Systems (PGS) are verification systems alternative and complementary to ISO-type independent third-party certification." PGS schemes are similar to the small groups that micro-loans have been targeting – members police and guide one another to fulfill agreed-upon practices. Such group-monitoring is what guarantees that crops from these farmers are of a certain quality (and without chemicals). PGS groups are not certified, like Internal Control Systems (chapter five), and currently, there

are no official and regulated PGS standards in India.[109] Groups that are participating in PGS would be unable to export crops as organic.

Figure 14: Organic paddy fields in Wayanad district (a few weeks after harvest), funded by the Agriculture Department's Organic Farming Programme in 2010-2011. Photo by the author.

The Organic Farming Policy, therefore, heralds the superiority of growing for specific markets (domestic over export) and of specific types of crops (vegetables, fruits, and staples such as rice). This priority is even reflected in the funding under the policy: the Agriculture Department's Organic Farming Programme only covers the cultivation of paddy, tubers, and vegetables (figure 14). The Biodiversity Board's pilot project and model cultivation area in Padeyetti is also of paddy fields and vegetables alone, and the Biodiversity Board is facilitating procurement by local businesses (see chapter four). Certification is not funded.

In personal conversations with me, organizers behind the Organic Farming Policy strongly admonished certified organic agriculture for export. They argued that such farming practices were for generating money alone, promoting cash crop agriculture over necessary staple food items like rice, and did not benefit the people of Kerala, who must import non-organic staples for food security. A prominent figure behind the policy and member of Kerala's LDF government shared with me:

> Some people in Kerala, even some farmers, their interest is to make money, in the sense if it organic, they will get more money. Let us not bother about people in America or Europe. Let us be concerned about our own people in Kerala. Let us produce and give it to our own people so that the health of our people is not affected. There are many fruits that come from outside of Kerala are selling here…[they are] all full of pesticides and fungicides. India is a vast country, we have no control on some of the things.

This informant did not believe that certified organic agriculture for export benefited the Kerala populace as a whole. Furthermore, as the quotations from Dayal at the beginning of this chapter also affirm, many proponents of the 2010 Organic Farming Policy perceive farmers growing crops for export to be concerned about individual profit alone as opposed to the greater good – these farmers were not real organic farmers, because they most likely would not maintain sustainable soil practices in the long-run.

One young laborer and CPI(M) party member with whom I spent some time justified his similar opinions by pointing out that the numbers of certified organic farmers in Wayanad

[109] However, the National Centre of Organic Farming (NCOF) in India and IFOAM have created several guidance documents on PGS (Braganza and John 2010).

district and throughout India were decreasing.[110] According to him, these farmers left organic agriculture once the prices of certain commodities on conventional markets skyrocketed – and to make money fast, farmers abandoned organic practices. This laborer also alleged that certification agencies were competing with each other in districts like Wayanad, and would "lower" standards of soil conservation and biodiversity protection to collect annual fees more easily from farmers. Certified organic farming for export was a corrupt system in India, he believed.

According to another anonymous informant and staff at Thanal, the unreliability of certified organic farming for export is what led to the demise of an earlier organic farming policy, devised under the Congress-led United Democratic Front (UDF) government in 2002. According to Usha (2011), a staff member at Thanal and LDF-supporter, this first policy "catered to certification, larger farmers or groups, and centralized purchasing" – the very opposite of the current policy. The anonymous informant revealed that the groups participating in the early stages of the former policy also struggled to fulfill orders for commodities, because member farmers wanted higher prices for their organic products and were unhappy with the party politics involved.

To sum, the organic farming practices that proponents of the 2010 Organic Farming Policy generally advocate are: agriculture for domestic consumption, and vegetable and staple-crop production over cash crop agriculture, and not certification. Certified organic agriculture for export is considered unreliable, unsustainable, and even corrupt. Those who pursue certified organic agriculture for export farm for individual gain, and not for the greater good of Kerala's population (and its health) or environment. The ideal Malayalee organic farm of the Organic Farming Policy is one comprised of rice and vegetables, grown without chemicals, for domestic consumption Most importantly this way of farming is a return back to India's "glorious" history, based in "tradition" (Government of Kerala 2010b and chapter four).

6.2.2 Certified Organic Farming: Cash Crops for Export

In December 2010, Kerala's State Horticultural Mission (a branch of the Kerala Agriculture Department), hosted an International Horticultural Expo in Thiruvananthapuram, Kerala. The reigning Chief Minister, LDF's V.S. Achuthanandan, delivered an inaugural speech that extoled the virtues of organic farming. In attendance were several vendors and farmers, selling and advertising their products and activities. I ran into P.J. Chackochan, Board member of Indocert, founder of the Indian Organic Farmers Producer Company, Limited (IOFPCL), and member of Organic Wayanad (chapter five); he, along with IOFPCL staff, had come down to Thiruvananthapuram to showcase their exportable and organic (and Fair Trade) black pepper, coffee beans, and medicinal products at the Expo. I had just finished an interview with an organizer behind the Organic Farming Policy, who had decried organic agriculture for export, so I brought up this topic in conversation with Chackochan. I was curious about how he would reply.

"There seems to be a division among organic farmers here," I mentioned. "A division between those who think it's ok to export organic products, like you, and those who believe farmers should only do agriculture for domestic consumption."

[110] A decrease in the number of certified organic farmers throughout India is officially documented (see table 1 in chapter two).

Chackochan agreed that there was truth to my observation. He said he knew of people who advocated organic farming in Kerala for Keralites only, and that he disapproved. "We need to think about the world as a whole," he said, and continued: "We should import stuff from America, and vice versa. No one in Kerala wants to eat all this pepper that we're growing, so what are farmers to do? Whereas if they export, at least they get a premium." This outlook harkened back to Chackochan's insistence on following the Golden Rule, as I outlined in chapter five – *do onto others as you would want them to do onto you*. Kerala's farmers should export chemical-free food, just as Keralites should (ideally) import chemical-free food, believed Chackochan.

Chackochan's comments echoed other opinions I heard justifying export: that Kerala's farmers should think of the world holistically, especially given Kerala's extended history of maritime and Silk Road trading. Chackochan had expounded on a related point as well: Kerala's farmers had been cultivating several of these spices, like pepper, for centuries, and trading them as well, for centuries, since one could only eat so much pepper within Kerala.[111]

For certified organic producers and Syrian Christians like Chackochan, export represented a method for sustaining the livelihoods of farmers who had, for generations, grown various spices and cash crops. Furthermore, although Chackochan and other certified organic farmers welcomed government support and subsidies for organic farming, they did not appreciate being told what and how to farm – especially by the LDF government. I asked several certified organic farmers why they did not like the government. Said one certified organic farmer to me in response:

> *Krishi* officers often want bribes from me. I'm not part of a party because the government is all the same, like cobras, even [LDF Chief Minister] Achuthanandan. Communists are hypocrites because they first wanted to promote migration to Wayanad, and now they're against it because of biodiversity.

This farmer was complaining that Kerala's government officials (regardless of their political affiliation) often expected bribes, and that Communist Party members disliked how new migrant settlers (usually Syrian Christians), in districts like Wayanad, were farming cash crops and spices over paddy. Many certified organic farmers deemed the government as corrupt and inefficient, and insisted that the Organic Farming Policy would likely lose steam.

Many of the Syrian Christian organic farmers in Wayanad that I interviewed and observed actually brushed off the Organic Farming Policy, when I asked them for their opinions about it. Some had not even heard of the policy, and claimed they were not invited to the state-wide policy discussions. Many of these farmers were also self-identified Congress-party supporters,[112] vehemently anti-Communist, and politically-opposed to the LDF government.

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[111] Scholars trace the origins of black pepper to South India (see chapter three). For interesting primary accounts of European trading with Keralites, I recommend the travel writings of Duarte Barbosa, Nicolò Conti, Vasco Da Gama, John D. Marignolli, and Marco Polo.

[112] In Kerala, political alliances and governments vacillate between the Congress-led UDF and the Communist-led LDF. The Indian National Congress ("Congress") party is colloquially-known as the party of independence – the party of many of the national leaders that promoted and negotiated Indian independence from the British Empire. In Kerala, there are several factions of the Congress party, and Kerala's Congress parties have a reputation for being more economically-conservative. Syrian Christians have tended to vote for the Congress party, given the Communist-led support behind various policy-matters, including the reform of private Catholic schools to accept state-regulated appointments of teachers, and ceilings on land holdings after land reforms.

Over dinner one evening, one Christian farmer and Congress-party member revealed why he would never vote for a Communist: In 1959, he was recruited by a Catholic priest to protest the reforms the Communists (then in power in Kerala) were proposing to Kerala's educational system. These reforms included giving the state more power to appoint and pay teachers, which disgruntled many in the Christian private-school sector.[113] During one violent protest against the Communist government, this farmer was jailed for ten days, a time during which his father passed away. This farmer has since never forgiven the Communist parties of India, which he claimed made fun of the Pope, the head of the Catholic Church in Rome.

Chackochan and other certified organic farmers did not have one, united vision of an ideal organic farmer, as leaders like Chackochan and K.M. George (of the certified group, Organic Wayanad) believed that "organic agriculture" simply meant farming without chemicals (see chapter five). Therefore, the organic farming practices that proponents of certified organic farming for export generally advocated are more general: Good farming keeps the whole world in mind, not just people in Kerala (since Keralites rely on imports as well); and government should supportive, but should not dictate what and how to grow, given its corruption. An ideal organic farm could be based in cash crop agriculture for export.

6.3 Agrarian Cultural Political Divides of Kerala's Organic Countermovement

I have thus far illustrated there is a division in Kerala's organic farming countermovement, involving how organic farming should be practiced; this schism is very perceptible in Wayanad. In my research in Wayanad and Thiruvananthapuram Districts, I found that this divide arguably has an agrarian cultural political underpinning, loosely correlating along religious and political lines, fueled by the Kerala "imaginary," and policies of land use in Wayanad. For example, in places like Wayanad, supporters of certified organic farming for export that I interviewed tended to vote for the Congress Party (one of the more economically-conservative parties in Kerala), and identified as Syrian Christian. Proponents of the Organic Farming Policy, on the other hand, disapproved of cash crop farming for export, tended to be Hindu, and identified as members of Kerala's Communist Parties.

Part of this division can be explained by the fact that many LDF policies, as scholars have argued, reproduce a certain ideal of a Malayalee: a Hindu, ideally upper caste (e.g., Sreekumar 2009 and Devika 2007 and 2006) For instance, the Organic Farming Policy backs its support of paddy cultivation and other practices by invoking a particular past. As the policy opens:

> India has a glorious history of farming, starting probably from the 6th millennium BC in the Indus Valley, harnessing the annual floods and the subsequent alluvial deposits. The Indus Valley Civilization was founded on sustainable farming practices. Subsequently, our culture and ethos became reflections of the agricultural practices and it became mutually inseparable till recently. Harvest of the main crops is celebrated through out the country.

[113] The early years of Kerala's state history were tumultuous. Although a Communist-coalition possessed political power, due to the political agitations between various groups in Kerala (spurred by the Communist-led social reforms), the current Prime Minister at the time, Jawaharlal Nehru, imposed "President's Rule" in Kerala in 1959. The Communist-led government was dismissed, and Kerala came under direct federal rule for a period of time.

> …The once flourished *Pokkali* cultivation in the coastal districts and the *Kaipad* farming system in Kannur district [systems of paddy cultivation] are testimonials to man's ingenuity in harnessing the natural events for farming, that too integrated farming, without affecting the natural ecological processes and without even any external inputs (Government of Kerala 2010b, p. 1).

The introduction to the policy pinpoints the origins of Indian civilization in the Indus Valley, a curious reference given Kerala's own long history and diverse populations that have migrated from various places (Chattopadhyay and Franke 2006). The reference is also odd given the cultural, scholarly, and national debates about the Indus Valley; one prevailing narrative about the Indus Valley civilization (originally populated by Hindus), is that it was flourishing until the arrival of the Muslim Mughals, upon which Indian civilization declined in economic and geopolitical power (Metcalf and Metcalf 2002).[114] Such a purposeful reference is analogous to the reimaging of older, Hindu traditions by Hindu elites as a form of rational, Western-like (but superior to Western-based) science around independence (Prakash 1999). These re-imaginings, however, relegate the contributions of other groups to Indian society to the periphery, or erase or disparage them.[115] Recall that Kerala's population is almost fifty percent non-Hindu (chapters two and five).

In the Organic Farming Policy, the form of farming that is celebrated carries these undertones that elevate Hindu mythology and cultural practices. For example, until Kerala's land reforms of the last quarter of the twentieth century, much of Kerala's large-scale paddy cultivation in places like present-day Wayanad was overseen by upper caste Hindu *Nambutiri* and *Nayar* families. Lower caste people performed the actual agricultural labor, as insecure *verumpattam* tenants. These tenants were usually Muslims (*Mappilas*) and other lower caste people. One upper caste Hindu farmer – whose land was doled out during land reforms – told me in an interview that land reform did not benefit environmental conversation, because paddy lands, which he insisted were Kerala's traditional form of wetlands, were broken up and disseminated among laborers (many of whom were previously insecure *verumpattam* tenants) and farmers who subsequently began filling in the wetlands for cash crop farming. In other words, this farmer was suggesting that feudal farming, under which upper caste families possessed high economic and cultural status, but kept vast areas of land under rice cultivation, was better for Kerala's ecosystems and biodiversity. He lamented the demise of older land arrangements under upper caste Hindus, and disapproved of how Christians were now farming the land, with cash crops.

There is a conservative element to the Organic Farming Policy, a variant of that disapproves of the land use change towards cash crops, which many Syrian Christian farmers in districts like Wayanad have partaken – these changes were ironically accelerated by the demolition of feudalism, supported by the Left (chapters two and three). This condemnation receives foundational support from the "imaginary" of Kerala as biodiverse – as a place that should be kept *as is*, protected from certain forms of human agricultural activity. The "imaginary" fuels

[114] As Metcalf and Metcalf (2002) note, this declensionist trope "has been tenaciously persistent as unrecognized 'common sense' in historical writing; and…it is treated as fact in Hindu nationalist ideologies" (p. 3).

[115] According to Prakash (1999) Hinduism was reformulated by elites to fit into an authority of science that Westerners possessed, to provide legitimacy for the idea of an Indian nation state and to give India the claim the cultural universality. Abraham (1998) argues that the Indian elite's preoccupation with rational science (specifically, nuclear research) is the result of India's postcolonial condition as an independent nation, and India's need to assert its place in the context of the Cold War, neo-Malthusianism, development, and modernity.

the conservatism in the Organic Farming Policy, and shapes the Policy's vision surrounding an ideal (and static) human-environment relationship in Kerala. The Kerala "imaginary" has only grown more powerful in recent years, with the increasing momentum of its environmental movement (see chapter two).

The conservatism is also buttressed by a mainstream sentiment within Kerala that Syrian Christians are "entrepreneurial" by nature, whose livelihoods are driven primarily by a profit motive, and the fact that many Syrian Christians tend to vote for Congress parties (e.g., Joseph 2003). The Organic Farming Policy articulates that Kerala's land use change was fueled by "modern" practices (such as the Green Revolution) supported by the newly-independent nation state (Government of Kerala 2010b and chapter five). The alternative to "modern," through, is a particular "tradition" – one that normalizes and elevates the practices of a dominant group, that which is upper caste Hindu.[116] To sum, the Organic Farming Policy reads as a document antagonistic to cash crop agriculture, like the kind practiced predominately by Syrian Christians in Wayanad District.

6.4 Conclusion: Forty Years After Kerala's Land Reforms, How Should Agriculture Look?

Kerala's agrarian sector is struggling (chapter three). Organic farming emerged as a countermovement to tackle the problems within Kerala's agriculture. Yet, there is no consensus in Kerala about *how* organic farming should look in theory and practice.

Kerala's Left has traditionally prioritized redistribution and welfarist policies. However, as environmental issues gain traction within Kerala's Communist Parties (e.g., as evidenced by Isaac's "Red and Green budget," chapter four), it remains unclear how the Left and Kerala's other political parties will tackle the complex human-environment relationship in the context of redistribution and welfarist politics. Meanwhile, the Kerala "imaginary" holds significant sway in institutions like the Biodiversity Board and among activists in Kerala (chapter two), yet obfuscates critical thinking around the dynamism of the human-environment relationship.

Rather than argue that the bifurcation of Kerala's organic farming countermovement is a natural outcome, representing inherent interests of communities like Syrian Christians and Hindus, or that the bifurcation is the result of certified organic farming being another form of commodification, I conclude that this tension in Kerala's organic farming countermovement has historical and political economic roots. This cleavage also draws attention to the fact that Kerala's Left remains conflicted about how to regulate land use (especially with regard to various cultural groups) within Kerala. As I have shown, "modern" agriculture was actually

[116] The emphasis on "tradition" also fuels a sort of "defensive localism" (Winter 2003). In recent years, there has been a surge in interest in eating more locally throughout the world (DuPuis and Goodman 2005). Much of this momentum has come from a strong sense of attachment to local economies as farmers have experienced negative economic changes, and a reactive positioning of the rural sourcing of foodstuffs as the ultimate good – "defensive localism" (Winter 2003). However, some of this positioning has been *reactionary*, and even conservative. For example, throughout Europe, local farming is painted as that which is rooted in national traditions, and "local" has come to mean "trust and care" (DuPuis and Goodman 2005, p. 361). Yet, as Doreen Massey (1994) points out, romanticizing the "local" as a bounded, static, and homogenous place is "a recrudescence of some very problematical senses of place, from reactionary nationalisms, to competitive localism, to introverted obsessions with 'heritage'" (p. 151). The elevation of the local as the ideal space for food production neglects many complex issues such as interconnectedness with global economic processes, politics, power, and environmental degradation (Born and Purcell 2006, DuPuis and Goodman 2005, and Hinrichs 2003).

promoted by Leftist coalitions in Kerala's parliament, to increase agricultural production and scale-up revenue for the state, after land reforms. Syrian Christians in Wayanad, however, have been among the major recipients. Through this marriage of various policies and political economic changes in Wayanad (such as colonization and settlement), land use change in Wayanad since the 1960s has been primarily towards the increased cultivation of cash crops with chemical inputs. I find that the divide in Kerala's organic farming movement illustrates that regulating the market remains an ongoing challenge for Kerala's Left, that which is intensified in an era of ongoing economic liberalization and privatization within India (Raman 2010). How the Left ought to face these economic challenges going forward – such as by promoting sustainable agriculture – is further complicated by Kerala's multifaceted civil society and political history.

The Organic Farming Policy, unfortunately, does not address these cultural political aspects and political pressures within Kerala's landscape. The use of terms such as "modern" and "tradition" instead obfuscate the complexities of Kerala's agrarian landscape and its relationship to historic changes, various cultural groups, and political economy, in places such as Wayanad. As such, my findings align with the cultural political critiques of the "Kerala model."

In this chapter, I presented that Kerala's Left is actually more conflicted about how to deal with the environment than discourse around the "Kerala model" suggests. I also briefly and superficially examined the cultural political roots of Kerala's bifurcating organic farming countermovement, to trouble prevailing narratives about organic farming, and to deepen my Polanyian analysis. Such a bifurcation of Kerala's organic farming countermovement could have a deleterious effect on the commendable aspiration within the policy to convert the entirety of Kerala to chemical-free agriculture within ten years. This is an area in need of more research, especially with regard to the relationship between caste, religion, class, party politics, and sustainable agriculture throughout the entirety of Kerala. I will expand upon future research potentials in the last chapter.

CHAPTER 7. CONCLUSION: CHALLENGES AND CHANGE WITHIN PLACES OF ORGANIC PRODUCTION

In October 2010, a professor from Kerala Agricultural University (KAU), A.K. Sherief, invited me to participate in an organic training module five of his undergraduate students were involved in. Sherief and I had met over a year earlier, during my first research-based visit to Kerala in 2009, and he had been extremely forthcoming over his excitement over my American interest in India's organic farming research and development.

Over three days, Sherief's students and I visited with an organic farmer in neighboring Kollam district, observing and learning about his organic farming methods. The organic farmer proudly showed us a document verifying his certified status with Indocert, since 2005. He gave us a tour of his vegetable "van" as well – a vehicle he bought with a government loan, to help with the transport and direct-selling of fresh organic produce in the nearest town. This farmer then shared that he was worried about the erratic seasonal rains, high labor costs, and yield output.[117] "I'm telling you all of this," he said to the students at the end of the training, "because you're probably going to become *Krishi* Officers one day, and you need to know what farmers are thinking and doing."[118]

This sort of training and farmer-educator/student interface is relatively new in Kerala, and was developed by Sherief, who was an original commenter on and supporter of the 2010 State Organic Farming Policy, Strategy and Action Plan ("Organic Farming Policy") at KAU (see chapter four). Sherief believed that it was important to train students coming through KAU – those who were likely to go into professional and governmental agricultural positions – in organic methods and practices, which had not previously been done at KAU. In conversations, he told me that change was coming to KAU and agricultural offices in Kerala in general – people talked more about organic farming as a real, viable agricultural method, and were interested in researching it in depth and with vigor. Sherief himself was developing an organic farming curriculum at KAU when we last spoke in the spring of 2011. He planned to use the newly released *Ad-Hoc Package of Practices, Recommendations for Organic Farming* (which several professors at KAU had developed, out of the Organic Farming Policy discussions) as a guidance manual, and hoped to invite guest-lecturers from around the world to participate.

In this final chapter, I return to my original and broad framing question (from section 1.1): *how does globalized organics articulate with grassroots Kerala?* Throughout this dissertation, I have utilized evidence, such as my experience with Sherief's educational experiments, to argue that Kerala's organic farming movement, led by an assortment of farmers, activists, and government leaders, many of whom have global connections, is making great strides in improving the livelihoods of farmers. In contrast to much recent Political Ecological work surrounding alternative food systems, I contend that the global organic farming movement, therefore, cannot be characterized as simply corporate-led, top-down, or North-South – or destined to become so. Kerala's 2010 Organic Farming Policy, for example, has contributed to changing governance in Kerala's agricultural governance, to prioritize local-level decision-making in agriculture and chemical-free farming.

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[117] There is growing amount of evidence that supports the fact that transitioning to organic agriculture can be difficult, especially with initial drop in yields (Lubell *et al.* 2011, Kuminoff and Wossink 2010, Brodt *et al.* 2009, and Rodriguez *et al.* 2008) and higher labor costs (Sheahan *et al.* 2012 and Greene *et al.* 2009).

[118] When I separately asked the students what their career aspirations were, most were indeed leaning towards becoming *Krishi* Officers.

Kerala's experience with organic farming illustrates that the development and evolution of alternative agricultural movements (and countermovements more broadly) are more complex phenomena, shaped by conjunctures of local histories, geographies, and politics. My exploration into the dynamics of Kerala's ecological countermovement therefore offers insights into understanding how and why countermovements work and take on certain shapes and trajectories.

7.1 Revisiting My Arguments

My empirical study of organic farming provided specific details about the geographic context in which alternative food movements emerge, exist, and evolve over time, which the current Political Ecological literature has been in need of (Goodman *et. al* 2011 and Neilson and Pritchard 2009). Utilizing tools from Political Ecology (such as "agrarian question" in chapter one and "moral economy" in chapter three), Polanyi's "double movement" (chapter two), and Global Value Chain and Global Commodity Chain analytics (chapters four and five), to analyze social change, my research demonstrated that organic agriculture is not simply a repackaging of environmentally- and socially- degrading forms of conventional agriculture, but that it contains possibilities for transforming market-society relations. These findings conform to a consensus that has emerged between scholars that debate the "agrarian question" – the development of capitalism is an uneven phenomenon (chapter one).

As I highlighted in chapters three, four, and five, through the development of the Organic Farming Policy and Kerala-based certification institutions, Kerala's government and members of Kerala's civil society are aggressively promoting the growth of organic farming in the state as a response to the market-based destruction of the commodification of agriculture. Organic farming has created political openings to subordinate the market back into society – Kerala's farmers are now more actively involved in agricultural governance in Kerala and along long commodity chains. As my conversations with scholars like Sherief and his enthusiasm for organic agriculture also confirm, there are substantial changes within Kerala's institutional thinking with regard to agricultural production and education.

In chapters two and three, I provided historical and geographic background explaining the conditions which led to the emergence of Kerala's organic farming countermovement, utilizing analytics from the discipline of Political Ecology (such as the "agrarian question" in chapter one and "moral economy" in chapter three), and relying on Polanyi (1944). Decades of political struggle between the Left, feudal interests, and the Right in Kerala, laid the groundwork for creating an environment where redistributive reforms and decentralizing planning are prioritized by the government, and where an educated populace is ready for political mobilizations. Hence, when agrarian crisis (manifest in ways such as Endosulfan poisonings and farmer suicides) hit Kerala in the 1990s, an organic countermovement materialized from the legacies of these struggles, and took its particular shape, which I outlined in chapters four and five.

In chapter four, specifically, I elaborated upon how Kerala's Organic Farming Policy is an example of an alternative form of state-led development – development that involves the input of civil society and promotes local-level planning. This policy has roots in Kerala's decentralization and Leftist politics of the 1990s (the People's Plan), and is altering agricultural governance within the state to change power relations and norms so that local-level communities and farmers can more easily participate in economic decisions regarding agriculture.

In chapter five, I explicitly illustrated that the organic certification and export bodies based in Kerala have facilitated dialogue between Northern and Southern participants of globalized

commodity chains. Kerala's certified organic farmers, through institutions such as the Indian Organic Farmers Producer Company Limited (IOFPCL), are now negotiating terms of trade, and influencing the evolution of Indian certification.

Chapter six complicated chapters four and five, as I referenced agrarian cultural political tensions complicating Kerala's organic farming countermovement. This chapter questioned the "Kerala model" imaginary, while also pinpointing areas in need of further research.

7.2 Rethinking Social Change in Political Ecology

In recent years, Political Ecology has tended to be dismissive of organic farming, resting on the notion that organic agriculture does not radically transform the economic system, but instead represents another frontier (a "spatial fix," to use David Harvey's terminology) for the commodification of nature and to resolve problems of overaccumulation. Organic agriculture, therefore, remains another item contributing to the inevitable crises and contradictions of capitalism. I use evidence from Kerala to dissent and complicate this traditional and simplistic analysis of social change within Political Ecology, and to do this, I return to Marx and the "agrarian question" (chapter one).

Conversation and exchange around the agrarian question highlight how agriculture and nature confound simplistic understandings of capitalism. As debates around the agrarian question illuminate, capitalism constantly encounters barriers to its functioning. Nature and human labor (itself a part of nature), with their complexities (and sentience), are full of obstacles that thwart the smooth functioning of capitalism. These obstacles are crucial for understanding where the possibilities for social change and resistance can occur. Because Marxist analysis is fundamental to Political Ecology, I borrow from Foster's (2000) ecological reading of Marx to further convey my point:

> Marx's general argument commences with the swerve or the declination of the atom from the straight line…. Epicurus' swerve – a serve that was a slight deviation – created the realm of chance (in the sense of contingency) and hence possibility free from determinism. It made the world itself possible… (p. 54).

The possibility of this "swerve" even *within* established forms and structures is an empowering concept that recognizes neither nature nor capitalism are static. As contemporary ecological thinking even posits, change is the norm, "without any determinable direction and goes on forever, never reaching a point of stability" (Worster 2008, p. 378). Whereas some scholars have come to terms with this dynamism of capitalism by arguing it will always find another spatial, temporal, or technological fix to stave off crises, I take the view that the "swerve" illustrates that there is no predestined or linear way for economic systems to evolve. This evolution does not happen in a vacuum, but encounters people, governments, social movements, and nature. I find this "swerve" an emboldening concept for organizing a society to repair the "metabolic rift"[119] that has occurred between humans and nature under capitalism. This "swerve" provides me

[119] The metabolic rift first involves the alienation of labor from nature (a severing of the human relationship with the soil through primitive accumulation), and secondly involves the increasing division between the countryside and the city, as the newly displaced move to cities and became wage workers. Foster (2000) utilizes this term to expound on Marx's theory of the metabolism of nature and society.

pause to pay attention to the everyday material conditions in the lives of people – material realities that inform social action, as Marx himself argued.

In Kerala, capitalism is encountering a legacy of radical politics built into state institutions by decades of political struggle; as a result, organic farming in Kerala is not simply another form of commodification, but an expression of resistance against a liberal economic system dependent on chemicals to maximize output and profits, and an economic system that has led to severe environmental degradation within Kerala. Kerala's organic farming movement – that which emerged as a dialectical response to environmental change – is attempting to redress for the ecological injuries that result from "the second contradiction of capitalism."[120] Organic agriculture has now become embedded in institutions embarking upon social reform in Kerala. Hence, important social transformations are taking place in the realm of organic agriculture, a representation of the reprioritization of human health and the environment within Kerala's society.

Whereas most Political Ecological research has endeavored to answer whether organic farming is a true Polanyian countermovement, and has suggested that organic farming ultimately becomes "conventionalized" (chapter one), I used Polanyian analytics and evidence from Kerala to illustrate that that organic agricultural movements acquire different forms, contingent on cultural politics, geography, history, political economy, and a variety of other local and global factors and dynamics. With this empirical evidence, and my ecological reading of Marx, I show that organic farming movements do not have predestined outcomes, but that they can take a variety of trajectories that can even be valid critiques of chemical-dependent capitalist agriculture.

The fact that Kerala's organic countermovement can evolve in multiple directions is evident once cultural political analyses are added to Polanyi (chapter six). Polanyi does not elaborate upon divides and tensions within countermovements, but utilizing cultural political understandings about nature, I illustrated that Kerala's organic farming countermovement is bifurcating. Hence, I went beyond Polanyian analyses to add more depth to understandings about the inner-tensions within countermovements. I contend that only by understanding these inner dynamics and circumstances of countermovements can scholars then speculate why certain countermovements fail or take certain shapes – and in the politics of these countermovements lie the possibilities for social change, and the radical and practical potential of Political Ecology.

7.2.1 The "Kerala Model"

But, is Kerala not the exception, because of its unique politics, scholars may ask? My overarching goal with this research was not to reproduce the abstraction of the "Kerala model," or to replicate fantasies of development policies regarding agriculture, but to rather highlight social transformations that I believe do not have predetermined trajectories. In fact, my research unearthed that Kerala's Left is actually more conflicted about how to deal with the environment than discourse around the "Kerala model" suggests. Yet, Kerala illustrates that opportunities for meaningful social changes that immediately impact (and better) the lives of people exist around us. Kerala should not be placed on a pedestal as a model that other developing countries should emulate. Instead, what I believe researchers can glean from Kerala is that it helps elucidate that

[120] Capitalism destroys the very material conditions (e.g., natural resources) upon which it relies – this is the second contradiction of capitalism, according the O'Connor (1996). The first is the problem of effective demand.

organic farming standards and policy have complex origins, and result in different and uneven geographic outcomes in the world.

7.3 Looking Ahead: The Future of Kerala's Organic Countermovement?

How Kerala's Organic Farming Policy will look with regards to enforcement in the time to come, the exact effects this policy will have on mitigating the effects of Kerala's agrarian crisis (e.g., its suicides), and the future relationship the policy and certified organic farming for export will have, were outside the scope of my research. However, despite a change in the state government leadership (the Congress-led United Democratic Front (UDF) government was elected back into parliamentary power in April 2011), the UDF has already maintained its commitment to organic farming (see chapter four). It has upheld the Left Democratic Front's (LDF) pesticide ban, for example, and UDF leaders, including the new Agriculture Minister, K.P. Mohanan, frequently herald the merits of organic agriculture at various public events (e.g., at a June 2011 State-Level Workshop on Animal Husbandry in Wayanad, Kerala). At present, therefore, Kerala's government remains committed to alternative agriculture and the 2010 Organic Farming Policy.

7.3.1 Alliance-Building and Embedding Markets in the Era of Anna Hazare

On April 5, 2011, Anna Hazare, a 70+ year old national social activist and self-described Gandhian, launched a hunger strike in the capital of India, New Delhi. His strike was stimulated by a series of corruption scandals that had recently befallen the Congress-led Central Government. These scandals ranged from the illegal selling of mobile phone frequency licenses by the Telecommunications Minister, to the disorganization surrounding the 2010 Commonwealth Games, and horrid reports of land-grabbing by government leaders for personal use and business gain. Hazare insisted that he would not end his fast until the government created stringent anti-corruption legislation. He also demanded that these laws include the creation of an anti-corruption ombudsman who would investigate allegations of fraud and perversion, and uphold virtues of anti-corruption. Hazare's fast mobilized students and protestors across the country, and made headlines in most papers. A few days later, the Central Government acquiesced to his demands, and created a committee to look into such legislation.

Hazare frequently came up in discussions I had with informants, especially because Kerala's state elections took place in April 2011.[121] As K.V. Dayal, an organic farming activist, jokingly told me during an interview: "[The] government system is not properly working because…government staff are only salary-taking machines – salary taking machines, ATMs."[122] Dayal's and other comments signaled to me that Kerala's organic farming movement was constantly ruminating about the place (and morality) of government.

Despite the bifurcation of Kerala organic farming movement, there is overlap in the long-term aims and goals of the Organic Farming Policy supporters and certified organic farming leaders. Both sides advocate for greater government involvement in developing and promoting organic markets; both side are proponents of what I consider Polanyi's (1944) protective countermovement, which aims to subordinate markets back into societal and ecological relations ("embeddedness"). For example, P.A. Jose from the Organic Farming group Wayanad Social

[121] The election was very close, and the UDF only won with a margin of four seats.
[122] Recall that Dayal is an immense supporter of the Organic Farming Policy (chapters three and six).

Service Society (WSSS), which assists farmers with certification for export, told me that "government agencies are needed," particularly to regulate the certification scene, and provide subsidies to help farmers transition to organic farming, pursue certification, and find markets.

Figure 15: Organic vegetables to be sold on local markets on a certified organic plot in Kollam district, Kerala. Photo by the author.

Additionally, many farmers are interested in and do cultivate both cash crops for export, and staple crops such as rice (figure 15). However, many farmers and participants of organic farming are cautious with regard to the role of government, and are unsure about the relationship civil society should and can have with government, especially given contemporary events in India surrounding Anna Hazare.

What the exact role government should play (if at any) in regulating organic markets is not just a unique question for India. However, in Kerala, this discussion is informed by years of debate within the Left on how to transition away from feudalism (e.g., by promoting the Green Revolution? See chapter two), as well as associated cultural politics within Kerala (chapter six). Today, the Green Revolution has become enmeshed within Kerala agricultural bureaucracy, rendering alternative methods of agriculture difficult to pursue, even given Kerala's radical politics. Additionally, these internal battles are compounded by Kerala's place as a state within a larger nation, grappling with free trade policies and larger corruption scandals related to the commercialization of Indian society. To claim that organic farming is merely conventional agriculture repackaged (i.e., a variation on primitive accumulation, as the "conventionalization thesis" posits), however, overlooks such complexities surrounding and shaping the development of Kerala's organic farming countermovement.

7.3.2 Future Research

How and *whether* the supporters of Kerala's Organic Farming Policy and certified organic farmers will move ahead with alliance-building within Kerala's organic farming countermovement has yet to be decided, though. Furthermore, I suggest that *how* the tensions of Kerala's agrarian cultural politics will be resolved will be a key determinant in the long-term fate of Kerala's organic farming countermovement. These are areas in need of future research, and may be of particular interest for scholars hoping to add theoretical depth to the Polanyian analytic of "countermovement."

To further grasp whether and how alliances may or may not be built (and how and why) within Kerala's organic farming countermovement, a state-wide survey of organic farmers could be conducted. The only existing survey of organic farmers in Kerala is a 2004 unpublished working paper from the research institute Centre for Development Studies in Thiruvananthapuram, Kerala, India entitled *Future in the past: A study on the status of organic farming in Kerala*, by Balachandran V. Balachandran's work comprises of analysis of a mail-in questionnaire of 151 respondents. However, not all of the respondents were organic farmers; nor were the geographical regions of Kerala represented in a statistically-accurate manner.

Additionally, today, over 9,000 farmers are estimated to be participating in organic agriculture in Kerala.

A survey would add more depth to my exploratory chapter six, by asking questions to understand the relationship between caste, class, religion, political parties, resource use, and agrarian practices. A survey would empirically and better capture the political leanings, cultural identities, and practices of various organic farmers, so that more concrete assertions about various organic farming groups and their practices throughout Kerala could be made. Research questions to direct this survey could be: How and why exactly is Kerala's organic farming movement bifurcating, and are there direct links to caste, class, religion, and political party affiliation? Are cultural political tensions within Wayanad emblematic of state-wide agrarian cultural politics? Do Hindu organic farmers throughout the state tend to sympathize with the Organic Farming Policy? What if these Hindu farmers are certified for export? Additionally, survey results juxtaposed with maps of multiple ecologies of Kerala would also provide insight into agrarian practices, the effects of agricultural politics, and Kerala's biodiversity.

While I originally envisioned executing a state-wide survey during my fieldwork in Kerala, and even developed a draft of a survey with the assistance of my dissertation committee and the NGO Thanal, the obstacles of limited time and resources (and even my positionality, as a gendered subject working with farmers who are generally men) prevented me from conducting such research. Sample survey questions are in the Appendix. Potential partners in disseminating a Kerala-wide survey could be the Biodiversity Board and Thanal.

Because my fourteen months of research only covered 2009 to 2011, whether Kerala's Organic Farming Policy will have succeeded (or not) in its goal of converting the entirety of the state to organic farming by 2020 is another worthwhile topic for future inquiry, and would add depth to Polanyian understandings of the evolution of countermovements. Such research could look into the effects organic farming has had on Kerala's suicide rate, declining productivity in its agricultural sector, soil quality, and the environment and human health in general.

Additional investigation into the inner-workings of the Left Democratic Front and Kerala's Communist Parties with regard to alternative agriculture would greatly add to cultural political analyses about Kerala's Left and civil society. Such an inquiry could also examine policy priorities and shifts in the Left Democratic Front, and examine how Kerala's Communist Parties are tackling environmental issues theoretically and in practice. This kind of project could also bring in a labor component, which this dissertation did not address, to examine the relationship between labor and the environment in Kerala. Given critiques about labor exploitation and organic farming in other parts of the world (e.g., Guthman 2007), and Polanyi's own theorizing about the commodification of labor, probing the connections between labor and organic farming in Kerala would also add theoretical depth to a Polanyian analysis of Kerala's organic countermovement.

7.3.3 Yields and Food Security

As I showed throughout this dissertation, the issue of production output has been central to Kerala's Agriculture Department and Kerala's government policies, given Kerala's history of food shortages (chapters three and four). The fear of lower yields from organic production is one barrier to the acceptance of organic farming in Kerala. As the Teachers' Association of Kerala Agriculture University (TOKAU) asserted in its rebuttal statement against the Organic Farming Policy (chapter four and the Appendix), because yields could decline under organic production

methods, organic farming could increase the food *in*security of the state.[123] Many Indian politicians and bureaucrats claim that organic farming is a threat to Indian food security – that is, without the use of chemicals, yields will fall, contributing to India's hunger, and vulnerability in international affairs, like during the PL-480 era (chapters three and four). These fears are compounded by research indicating that India's food demand is expected to outpace its food supply by 2026 (Reuters). Several farmers who are interested in farming organically also expressed concerns about yields to me in interviews.

The Biodiversity Board and Thanal would counter allegations of yield decline by pointing out that their emphasis on staple-crop production and planting organic vegetable gardens in people's back yards and within local communities would actually increase food security in Kerala, so that Keralites would not have to purchase rice and vegetables at market prices in shops (see chapter four). Keralites would instead grow their own food.

Food prices have been increasing in the past few years (McMichael 2009), leading many Keralites to cut back on their fresh vegetable purchases. For example, while I was conducting field research in India, the price of onions skyrocketed to between sixty to eighty *Rupees* per kilogram at local markets (*the Hindu* 2010), well over one dollar per kilogram, expensive even by American standards. Onions are a key component of Indian cuisine, yet many of my friends and informants cut back on their onion purchases as a result of the high price for onions. The price increase of onions was the result of several factors, including unseasonal rains in the state of Maharashtra, an onion-producing state. Yet, most political discourse focused on a trade dispute with Pakistan, such as that captured by a comic that ran in *the Hindu*, a national newspaper, in 2011, which blamed the onion shortage entirely on Pakistan's refusal to properly trade with India. Although this comic portrayed Pakistan as a miserly neighbor, and overlooked the multiple Political Ecological factors contributing to India's onion shortage,[124] it aptly exemplified that food security in Kerala and India is not just tied to yields, but factors such as national and international politics.

Food security in Kerala cannot just be reduced to the issue of yield alone. I here provide another newspaper comic, one that ran in *the Express* just a few months later, to illustrate the complexity of food security in India, and its ties to political economic decisions (figure 16). As the comic indicates, the Government of India pledged over five billion dollars in food aid to Africa in 2010, during the India-Africa Forum Summit

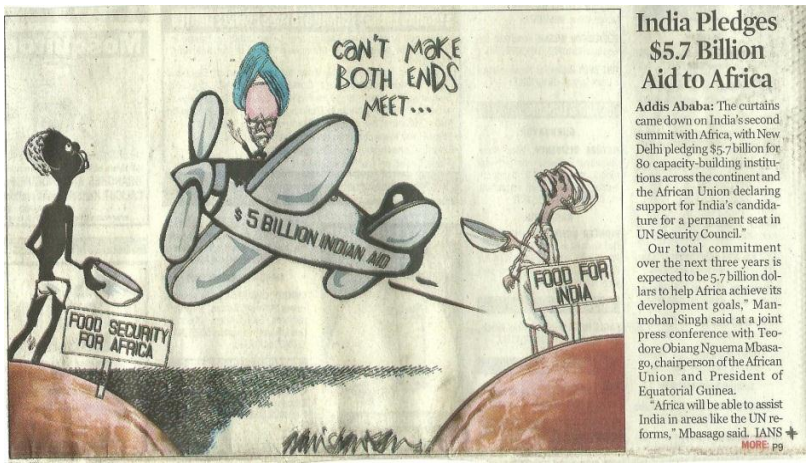

Figure 16: India Pledges Food Aid to Africa. In 2011, India pledged billions of dollars in food aid to Africa, which made the headlines. The figure in the plane is Manmohan Singh, Prime Minister of India. Image Source: *the Express* 2011.

[123] The preface and abstract of this document are in the Appendix.

[124] The onion shortage was primarily due to unseasonal rains in states such as Maharashtra, hoarding, and Pakistan's decision to cut back on onion exports to India because of India's lag in exporting cotton to Pakistan (Jacob for *the Hindustan Times* 2011, Nelson for *the Telegraph* 2010, and *the Hindu* 2010).

in Ethiopia. The Government of India's decision to provide food aid to Africa is connected to achieving greater market opportunities within the continent, considered a stimulus for India's economy and a boon for Indian investors. Yet, ironically, in 2010, millions of people in India were estimated to be malnourished, and several million metric tons of food grains rotted in government reserve silos (Sahai in *Tehelka* 2010). A fixation on yields does not address this disconnect in India's political economic and welfare policies.

As for yields, though, scholarly literature itself is divided about the relationship between yields and organic agriculture. Some scholars have documented that several conventional farmers are particularly worried about overhauling their current agricultural practices for organic agriculture, because of the drop in yields during the transition period (Lubell *et al.* 2011, Kuminoff and Wossink 2010, Brodt *et al.* 2009, and Rodriguez *et al.* 2008). Yet, other research has drawn attention to how organic agriculture can bring higher profits to organic farmers, due to *increases* in yields and price premiums (Delate *et al.* 2011, Delbridge *et al.* 2011, Jacobsen *et al.* 2010, Cavigelli *et al.* 2009, Miller *et al.* 2008, Smukler *et al.* 2008, and Mahoney *et al.* 2003). Other scholars point out that the positive social outcomes of organic production, such as decreased reliance on chemicals that have historically generated debt for farmers, outweigh any negative aspects of organic farming, such as *initial* yield drops (e.g., Altieri *et al.* 2012). Studies by David Pimental at Cornell and the Rodale Institute (e.g., Pimentel *et al.* 2005) demonstrate that the question of yields and benefits depend on the types of crops, soil quality, climate, and several other factors.

The issue of output was outside the scope of my research. However, given Kerala's commitment to organic farming, Kerala would make an excellent location to conduct long-term research into organic farming yields, and the relationship of these yields to crop types, different soil types and ecologies, and climate. This issue is also one that could be captured in a Kerala-wide survey. Again, however, I iterate that Kerala's food security cannot be reduced to the sole issue of yield, and divorced from larger political economic factors.

7.4 Concluding Reflections

After completing one day of the two-week training for new organic farmers with the organic farming group, Organic Wayanad, I revealed to the Co-Ordinator, K.M. George, that I was dismayed to learn how much trouble Organic Wayanad was having at retaining members (chapter six) and how much stress P.J. Chackochan had over dealing with contamination concerns in the IOFPCL supply (chapter five). George laughed and just said: "we'll take care of things on our end. You take care of things in America. Help us find markets."

In spite of knowing the difficulties of having to farm organically, George and other farmers decided to still participate in organic agriculture. George's involvement with certified organic agriculture for export demonstrates that farmers in the developing world are not passive objects, which organic farming conventions and norms wholly shape and command. What I have concretely tried to show with my research is that farmers are actively engaging in organic farming standards and governance. Furthermore, several of them are steadfastly committed to farming without chemicals.

Because George appealed that I focus more on markets and my home, America, while farmers and others resolved differences in India, I conclude this dissertation by bequeathing a few immediate recommendations to policymakers and organic food advocates in Kerala. I keep in mind, however, that food systems worldwide are in need of large-scale transformation

(particularly in production) to truly address environmental and social problems. However, since I began this dissertation with references to consumers and buyers, I return to and conclude with this aspect of organic agriculture.

IOFPCL's relationship with its 2011 coffee buyer (chapter five), and even its partnership with Chocolate Stella, mediated by a person with cultural roots in Kerala (chapter two), affirmed to me the necessity for ongoing negotiation between buyers and consumers to establish long term commitments and flexibility for commodity procurement and price. Such guaranteed markets and assurances from buyers can ease the economic burden for farmers who might see their yields drop as they transition to organic farming, while they are also shouldering cost increases for inputs such as higher labor requirements. These types of linkages are ones which the 2010 Organic Farming Policy has great potential to create. One such buyer could be the Government of Kerala itself, to fund its Public Distribution System (PDS), a social safety net that guarantees commodities such as rice to low-income families. Incorporating organic procurement into the PDS system would not only guarantee an income to organic farmers, but would also subsidize the cost of organic produce and grains for consumers, some of whom complained to me about the higher price of organic goods. Furthermore, there is need for the development of more retail outlets within Kerala and in South India, so that farmers can produce and sell a variety of commodities to a variety of markets of different scales, and so that consumers can buy them. In 2011, Kerala's capital city of Thiruvananthapuram only had one regular organic bazaar (hosted by the environmental NGO, Thanal, open three times a week); only a handful of other shops in the city sold a limited amount of organic goods.

As for me, when consumers implore me for more information about alternative production practices (chapter one), I can say that Kerala is one example of how, like in other parts of the world (from California to Cuba), there are growing pockets of alternatives and resistance to industrialized agriculture that merit attention. These initiatives have taken different shapes and forms, and are a mixture of public and private partnerships. My dissertation has therefore made the case for greater and ongoing Political Ecological research into alternative agriculture movements and their links to broader politics, history, geography, and social relations in local places. Fundamentally, I argue that Kerala's organic movement does not have a predetermined future – it is neither destined to be a model *nor* homogenized by the forces of globalization.

BIBLIOGRAPHY

Abraham, Ansu (2008), 'Organic Farming: Key Elements and Characteristics,' *Vikas Vani Journal.*

Abraham, Itty (1998), *The making of the Indian atomic bomb: Science, secrecy and the postcolonial state,* Orient Longman Limited.

Ad-hoc Package of Practices, Recommendations for Organic Farming: Crops, Kerala Agriculture University, Kerala.

Adams, W. M. (2001), *Green Development: Environment and Sustainability in the Third World*, London and New York: Routledge, second edition.

Agarwal, Bina (1992), "The Gender and Environment Debate: Lessons from India," *Feminist Studies,* Vol. 18, No. 1, pp. 119-158.

Agrawal, Arun and Sivaramakrishnan, K. (2000), "Introduction," in *Agrarian Environments. Resources, representation, and rule in India,* Arun Agrawal and K. Sivaramakrishnan (eds.), Duke University Press: Durham and London.

Altieri, M.; Ponti, L., and Nicholls, C.I. (2012), 'Soil fertility, biodiversity and pest management,' in *Biodiversity and Insect Pests: Key Issues for Sustainable Management,* Geoff M. Gurr, Stephen D. Wratten, William E. Snyder (eds.), John Wiley & Sons.

Anandaraj, M. (2000), "Diseases of Black Pepper," Indian Institute of Spices Research, Kozhikode, Kerala, published by license under the Harwood Academic Publishers imprint, part of The Gordon and Breach Publishing Group, Overseas Publishers Association.

Anonymous informant (2010), expert official for the Kerala State Biodiversity Board, interview.

Anonymous informant (2010), government official at the Agriculture Department of Kerala, interview.

Anonymous informant (2010), researcher of Padeyetti's agriobiodiversity, interview.

Anonymous informant (2011), 2010 Organic Farming Policy beneficiary and rice farmer, interview.

Anonymous informant (2011), program officer in Kerala's agriculture department, interview.

Anonymous informant (2011), upper-caste farmer, interview.

Anonymous informant (2011), young laborer and CPI(M) member, interview.

Anonymous informant (2011), contractor at organic farming agency, interview.

Anonymous informant (2011), official at commodity board, interview.

Anonymous informant (2011), certified organic farmer, interview.

Anonymous informant (2011), middle-aged organic farmer, interview.

Anonymous informant (2011), non-organic coffee farmer, interview.

Anonymous informant (2011), staff at Indocert, interview.

Anonymous informant (2011), staff at IOFPCL, interview.

Anonymous informant (2005), ethical consumer, interview, England.

Anonymous informant (2005), staff member at an England-based organization promoting organic farming, interview, England.

APEDA (2007-8), "Organic Products," http://www.apeda.gov.in/apedawebsite/organic/Organic_Products.htm

Bacon, Chris (2010), 'Who decides what is fair in Fair Trade? The Agri-Environmental Governance of Standards, Access, and Price,' *Journal of Peasant Studies*.

Bair, Jennifer (2005), "Global Capitalism and Commodity Chains: Looking Back, Going Forward," *Competition and Change,* Vol. 9, No. 2, pp. 153-180.

Baviskar, Amita (1995), *In the Belly of the River. Tribal Conflicts over Development in the Narmada Valley*, Oxford University Press.
Baviskar, Amita (2005), "Red in Tooth and Claw? Looking for Class in Struggles Over Nature," in *Social movements in India: poverty, power, and politics*, Raka Ray and Mary Fainsod Katzenstein (eds), Rowman and Littlefield Publishers, Inc.
Balachandran, V. (2004), "Future in the Past: A study on the status of organic farming in Kerala." Discussion Paper No. 82, Kerala Research Programme on Local Level Development, Thiruvananthapuram, Kerala, India: Centre for Development Studies.
BBC (2006), "Britain now 'eating the planet'" Kinver, Mark.
Bernstein, H. (1996), "Agrarian Questions Then and Now," *Journal of Peasant Studies*, Vol. 24, Nos 1/2, pp. 22-57.
Bhaskaran, (2010), Board member of the Kerala State Biodiversity Board and researcher and lecturer at Kerala Agriculture University, Kerala, Interview.
Bingen, Jim and Busch, Lawrence (2006), *Agricultural Standards: The Shape of the Global Food and Fiber System*, Jim Bingen and Lawrence Busch (eds.), Springer.
Block, Fred (2003), "Karl Polanyi and the Writing of *the Great Transformation*," *Theory and Society*, Vol. 32, pp. 275-306.
Born, Branden and Purcell, Mark (2006), "Avoiding the Local Trap: Scale and Food Systems in Planning Research," *Journal of Planning Education and Research.* Vol 26, pp. 195-207.
Braganza and John (2010), "Report on Stakeholder Consultation Meetings of the new National PGS program in India," *Organic News*, Vol. 2, Issue 2, pp. 1-2.
Braun, Bruce and Castree, Noel (2004), "The Construction of Nature and the Nature of Construction," in *Remaking Reality, Nature at the millennium*, Bruce Braun and Noel Castree (eds), New York and London: Routledge.
Brodt, Sonja; Klonsky, Karen; Jakcson, Louis; Brush, Stephen B.; and Smukler, Sean E. (2009), "Factors affecting adoption of hedgerows and other biodiversity-enhancing features on farms in California, USA, *Agroforest Systems*, 76, pp. 195–206.
Bryant, Raymond L, and Goodman, Michael K. (2003), "Consuming Narratives: the Political Ecology of 'Alternative Consumption,'" *Transactions of the Institute of British Geographers*, NS 29, pp. 344-366.
Buck, D.; Getz, C.; and Guthman, J. (1997), "From farm to table: the organic vegetable commodity chain of northern California," *Sociologia Ruralis, Vol.* 37, No. 1, pp. 3-20.
Burawoy, M. (2003), "For a Sociological Marxism: The Complementary Convergence of Antonio Gramsci and Karl Polanyi," *Politics and Society*, Vol. 31, No. 2, pp. 193-261.
Byres, Terrence J. (1995), "Political Economy, Agrarian Question and Comparative Method," *Economic and Political Weekly*, Vol 30, No. 10, pp. 507-513.
Cavigelli, Michael A.; Hima, Beth L.; Hanson, James C., Teasdale John R.; Conklin, Anne E.; and Lu, Yao-chi (2009), "Long-term economic performance of organic and conventional field crops in the mid-Atlantic region," *Renewable Agriculture and Food Systems*, Vol. 24, No. 2, pp. 102–119.
Chavas, Jean-Paul ; Posner, Joshua L.; and Hedtcke; Janet L. (2009), "Organic and Conventional Production Systems in the Wisconsin Integrated Cropping Systems Trial: II. Economic and Risk Analysis 1993–2006," *Agronomy Journal*, Vol. 101, Issue 2, pp. 288–295.
Central Insecticide Board, Government of India, "Insecticides Rules, 1971," http://cibrc.nic.in/insecticides_rules.htm.
Central Coffee Research Institute (2006), *Package of Practices for Organic Coffee*, published by

Dr. Jayarama, Director of Research, Central Coffee Research Institute.
Centre for Indian Knowledge Systems (2009), http://www.ciks.org/
Certified Organic Farmer (2011), interview.
Chackochan, P.J. (2011), Director at IOFPCL and member farmer of Organic Wayanad, interview.
Chapin, Mac (2004), 'A Challenge to Conservationists,' *Worldwatch Magazine* Nov/Dec: 17-31
Chasin, Barbara and Franke, Richard (1991), "The Kerala Difference," *New York Review of Books*, October 24, 72.
Charyulu, Kumara D.and Biswas, Subho (2010),"Economics and Efficiency of Organic Farming vis-à-vis Conventional Farming in India," IIMA Working Papers Series, No. WP2010-04-03, Indian Institute of Management Ahmedabad, Research and Publication Department.
Chattopadhyay, Srikumar and Franke, Richard W. (2006), *Striving for Sustainability*, Concept Publishing Company.
Chayanov, Alexander (1991[1919]), *The Theory of Peasant Co-operatives*, Columbus: Ohio State University Press.
Chocolat Stella-Bernrain (2011), Press Release for "Incredible India" chocolate, available online: http://www.stella.ch/assets/file/Text%20India%20ENG%20con%20foto%281%29.pdf
Chopra, R.N. (1981), *Evolution of Food Policy in India*, New Delhi: Macmillian India Limited.
Chopra, R.N. (1988), *Food Policy in India, A Survey*, New Delhi: Intellectual Publishing House.
Confederation of Indian Industry (2008), Vision 2025 for the State of Kerala, http://www.visionkerala2025.in/.
Conservation International (2007), 'Biodiversity Hotspots. Western Ghats and Sri Lanka,' Conservation International, http://www.biodiversityhotspots.org/xp/Hotspots/ghats/Pages/default.aspx
Corbridge, S. and J. Harriss (2000), "The Dialectics of Reform: The State and Economic Liberalization," in *Reinventing India: Liberalization, Hindu Nationalism, and Popular Democracy*, Oxford: Blackwell.
Cyriac, Shruthi; Sam, Vishishta; and Jacob, Naomi (2008), "The PDS System in Kerala: A Review," CCS Working Paper No. 204, Centre for Civil Society.
Daniels, Ranjit R.J. and Vencatesan, Jayshree (2008), *Western Ghats, Biodiversity, People, Conservation*, New Delhi: Rupa & Co.
Darnhofer, Ika; Lindenthal, Thomas; Bartel-Kratochvil, Ruth; and Zollitsch, Werner (2010), "Conventionalisation of Organic Farming Practices: From Structural Criteria Towards an Assessment Based on Organic Principles," *Sustainable Agriculture*, Vol. 2, pp. 331-349.
Daviron, Benoit and Ponte, Stefano (2006), *The Coffee Paradox: Global Markets, Commodity Trade and the Elusive Promise of Development*, Zed Books.
Dayal, K.V. (2011), Organic farmer and activist, interview, Alappuzha, Kerala.
Delate, Kathleen; Cwach, Daniel; and Chase, Craig (2011), "Organic no-tillage system effects on soybean, corn and irrigated tomato production and economic performance in Iowa, USA," *Renewable Agriculture and Food Systems.*
Delbridge, Timothy A.; Coulter, Jeffrey A.; King, Robert P.; Sheaffer, Craig C.; and Wyse, Donald L. (2011), "Economic Performance of Long-Term Organic and Conventional Cropping Systems in Minnesota," *Agronomy Journal*, Vol. 103, Issue 5, pp. 1372-1182.
De Janvry, Alain (1981), *The agrarian question and reformism in Latin America*, Baltimore: The Johns Hopkins University Press.
Dempsey, Corinne G. (2001), *Kerala Christian sainthood: collisions of culture and worldview in*

South India, Oxford University Press.
Desai, Manali (2005), 'Indirect British Rule, State Formation, and Welfarism in Kerala, India, 1860–1957,' *Social Science History*, 29(3), 457-488.
Devi, Indira P. (2010), "Pesticides in Agriculture – A Boon or a Curse? A Case Study of Kerala," *Economic and Political Weekly*, Vol XLV, Nos. 26 & 27, pp. 199-207.
Devika, J. (2007), "Fears of Contagion? Depoliticisation and Recent Conflicts over Politics in Kerala," *Economic and Political Weekly*, Vol 42, No. 25.
Devika, J. (2006), "Negotiation women's social space: public debates on gender in early modern Kerala, India," *Inter-Asia Cultural Studies*, Vol. 7, No. 1.
Devraj, Ranjit (2009), "Kerala Fights Clock in ASEAN Free-Trade Deal," *Inter Press Service*, 11 August.
Directorate of Agriculture (2011), "Selected Indicators of Agricultural Development in Kerala (2008-09 & 2009-10)," State Planning Board of Kerala, Thiruvananthapuram, India.
Directorate of Arecanut and Spices Development (2009), *Black Pepper Guide*, Directorate of Arecanut and Spices Development, Department of Agriculture and Cooperation, Minister of Agriculture, Government of India, Calicut, Kerala, India.
Divakaren (2011), farmer, interview, Wayanad, Kerala.
Dolan, Catherine S. (2005), "Fields of Obligation: Rooting Ethical Sourcing in Kenyan Horticulture," *Journal of Consumer Culture*, Vol. 5, No. 3, pp. 365-389.
Drayton, Richard (2000), *Nature's Government: Science, Imperial Britain, and the "Improvement" of the World*, Yale University Press: New Haven.
Dunn, Elizabeth C. (2003), "Trojan Pig: paradoxes of food safety regulation*," Environment and Planning A*, Vol. 35, pp. 1493-1511.
DuPuis, Melanie E. and Goodman, David (2005), "Should we go 'home' to eat?: toward a reflexive politics of localism," *Journal of Rural Studies*, Vol. 21, pp. 359-371.
Eilperin, Juliet (2008), "In Surprise Move, EPA Bans Carbofuran Residue on Food," *The Washington Post*, July 25.
Escobar, Arturo (1995), "Imagining a Post-Development Era," in *Power of Development*, J. Crush (ed.), London: Routledge.
Ethical consumer in England (2005), personal conversation, England.
FAO (2005), "Fertilizer use by crop in India," Land and Plant Nutrition Management Service Land and Water Development Division, compiled by R.K. Tewatia and T.K. Chanda, Food and Agriculture Organization of the United Nations (FAO), Rome.
FAO (2008), http://www.faorap-apcas.org/india.html
FiBL (2011), "Certification, standards and policy," http://www.fibl.org/en/switzerland/development/services-projects/certification.html/
Francis, Z. (2011), Program Officer at Shreyas Social Service Centre, interview, Wayanad, Kerala.
Franke, Richard W., and Chasin, Barbara H. (1994), *Kerala: radical reform as development in an Indian state*, Oakland, CA: Food First.
Franke, Richard W. and Chasin, Barbara H. (2000), "Is the Kerala Model Sustainable? Lessons from the Past, Prospects for the Future," in *Kerala: The Development Experience*, Govidan Parayil (Ed.), Zed Books Ltd.
Freidberg, Susanne (2004), *French Beans and Food Scares: Culture and Commerce in an Anxious Age*, New York: Oxford University Press.
Friedland, William H. (1991), *Towards a new political economy of agriculture*, William

Friedland (Ed.), Westview Press, Boulder.
Friedmann, Harriet, (1982), "The Political Economy of Food: The Rise and fall of the Postwar International Food Order," *American Journal of Sociology*, 88, pp. 248-286.
Fridell, Gavin (2007), "Fair-Trade coffee and commodity fetishism: The limits of market-driven social justice," *Historical Materialism*, Vol. 15, pp. 79-104.
Foster, John Bellamy (2000), *Marx's Ecology: Capitalism and Nature,* New York: Monthly Review Press.
Garibay, Salvador V. and Jyoti, Katke (2003), 'Market opportunities and challenges for Indian organic products,' Research Institute of Organic Agriculture (FIBL), ACNielsen ORG-MARG, Swiss State Secretariat (SECO).
Gereffi, Gary (1994), "Capitalism, Development and Global Commodity Chains," in *Capitalism and Development*, Leslie Sklair (Ed.), Routledge: London and New York.
George, Jose and Krishnaprasad, P. (2006), **"**Agrarian Distress and Farmers' Suicides in the Tribal district of Wayanad," *Social Scientist*, Vol. 34, No. 7/8, pp. 70-85.
George, K.M. (2011), Organic farmer and Co-ordinator at Organic Wayanad, interview and personal conversations, Wayanad, Kerala.
George, Thomas (2011), Professor and researcher at Kerala Agriculture University, Thrissur, Kerala, interview.
Getz, Christy and Shreck, Aimee (2006), "What organic and Fair Trade labels do not tell us: towards a place-based understanding of certification*," International Journal of Consumer Studies*, Vol. 30, No. 5, pp. 490-501.
Gramsci, Antonio (1971), Selections from "The Intellectuals" and "State and Civil Society," from *Selections from the Prison Notebooks of Antonio Gramsci*, Quintin Hoare and Geoffrey Nowell Smith (eds), New York: International Publishers.
Gibbon, Peter and Ponte, Stefano (2005), *Trading Down: Africa, value chains, and the global economy*, Temple University Press.
Goodman, David (2000), "Organic and conventional agriculture: Materializing discourse and agro-ecological managerialism," *Agriculture and Human Values*, Vol. 17, pp. 215-219.
Goodman, David; DuPuis, Melanie E.; and Goodman, Michael K. (2011), Alternative Food Networks: Knowledge, Practice, and Politics, Routledge.
Goodman, Michael (2004), "Reading Fair Trade: Political Ecological Imaginary and the Moral Economy of Fair Trade Foods," *Political Geography*, Vol. 23, pp. 891-915.
Government of India, Department of Tourism, *Incredible !ndia* promotional videos, available online: http://www.youtube.com/user/india
Government of India (1944), *Food Situation in India*, Department of Food, New Delhi.
Government of India, Census of India (2011), "Provisional Population Totals Paper 1 of 2011: Kerala, http://censusindia.gov.in/2011-prov-results/prov_data_products_kerala_.html
Government of India, National Crime Records Bureau of India (2006), "Suicides in India," from *Accidental Deaths and Suicides in India* – 2006.
Government of Kerala, Department of Economics and Statistics, "Wayanad," http://www.ecostat.kerala.gov.in/
Government of Kerala, Department of Economics and Statistics, http://www.ecostat.kerala.gov.in/
Government of Kerala, Fourth Five Year Plan, 1969-74, State Planning Board.
Government of Kerala, Kerala Land Use Board, http://kslub.kerala.gov.in/
Government of Kerala, Second Five Year Plan, State Planning Board.

Government of Kerala (2002), the Kerala Land Reforms (Amendment) Bill
Government of Kerala (2008), Kerala Conservation of Paddy Land and Wetland Act, 2008.
Government of Kerala, Agriculture Department (2001), "Impact of WTO on Kerala Agriculture," G.O. (MS)No.163/2001/AD dates Thiruvananthapuram, 31.07-2001.
Government of Kerala (2009), *Kerala State Environment Policy*, Department of Environment.
Government of Kerala (2010a), Agriculture Department Circular dated 26.8.2010, Sub: Annual Plan 2010-11-Organic Farming Programme-guidelines.
Government of Kerala (2010b), Kerala's State Organic Farming and Strategy Action Plan, the Kerala State Biodiversity Board.
Government of Kerala (2011), *Kerala Budget 2011-12*, Finance Department.
Government of Kerala (2012), *Kerala Budget 2012-13*, Finance Department.
Government of Kerala and Centre for Development Studies (2005), *Human Development Report 2005, Kerala*, Published by the State Planning Board, Government of Kerala, Thiruvanathapuram, Kerala.
Gramsci, Antonio (1971), *Selections from the Prison Notebooks of Antonio Gramsci*, Quintin Hoare and Geoffrey Nowell Smith (eds), New York: International Publishers.
Greene, Catherine; Slattery, Edward; and McBride, William D. (2009), "America's Organic Farmers Face Issues and Opportunities," *Amber Waves*, Vol. 6, Issue 2, pp. 34-39.
Grove, Richard (1995), *Green imperialism: colonial expansion, tropical island Edens and the origins of environmentalism, 1600-1860*, Cambridge University Press: Cambridge.
Gupta, Akhil (1998), *Postcolonial Developments, Agriculture in the Making of Modern India*, Duke University Press.
Guthman, Julie (2004a), *Agrarian Dreams: The Paradox of Organic Farming in California*, Berkeley and Los Angeles California: University of California Press.
Guthman, Julie (2004b), "The Trouble with 'Organic Lite' in California: a Rejoinder to the 'Conventionalisation' Debate," *Sociologia Ruralis*, Vol. 44, Issue 3, pp. 301-316.
Guthman, Julie (2007), "The Polanyian Way? Voluntary Food Labels as Neoliberal Governance," *Antipode*, Vol. 39, Issue 3, pp. 456-478.
Guthman, Julie (2011), *Weighing In, Obesity, Food Justice, and the Limits of Capitalism*, University if California Press.
Haigh, Edward (2005), BigBarn, personal conversation, England.
Haraway, Donna (1988), "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspectives," *Feminist Studies*, Vol. 4, No. 3, pp. 575–599.
Harriss-White, Barbara Janakarajan, S.; and Colatei, Diego (2004), 'Introduction: Heavy Agriculture and Light Industry in South India Villages,' in *Rural India Facing the 21st Century*, Harriss-White and Janakarajan (eds), Anthem Press.
Hart, Gillian (2002), *Disabling Globalization: Places of Power in Post-Apartheid South Africa*, Berkeley: University of California Press.
Harvey, David (2001), *Spaces of Capital: Towards a Critical Geography*, Routledge.
Hatanaka, Maki (2010), "Governing sustainability: examining audits and compliance in a third-party-certified organic shrimp farming project in rural Indonesia," *Local Environment: The International Journal of Justice and Sustainability*, Vol.15, Issue 3, pp. 233-244.
Hatanaka, Maki and Busch, Lawrence (2008), "Third-Party Certification in the Global Agrifood System: An Objective or Socially Mediated Governance Mechanism?," *Sociologia Ruralis*, Vol. 48, Issue 1, pp. 73-91.
Heller, Patrick (1999), *The Labor of Development, Workers and the Transformation of*

Capitalism in Kerala, India, Cornell University Press.
Henderson, George L. (1998), *California & The Fictions of Capital*, Philadelphia: Temple University Press.
Herring, Ronald (1983), *Land to the Tiller*, Yale University.
Herring, Ronald (1989), 'Dilemmas of Agrarian Communism: Peasant Differentiation, Sectoral and Village Politics,' *Third World Quarterly*, 11(1), 89-115.
Herring, Ronald (2001), "Contesting the 'Great Transformation'" Local Struggles with the Market in South India," in *Agrarian Studies, Synthetic Work at the Cutting Edge*, James C. Scott and Nina Bhatt (eds.), New Haven and London: Yale University Press, pp. 235-263.
Hinrichs, C. Clare (2003), "The practice and politics of food system localization," *Journal of Rural Studies*, Vol. 19, Issue 1, pp. 33-45.
Hughes, A. (2001), "Global commodity networks, ethical trade and governmentality: organizing business responsibility in the Kenyan cut flower industry," *Transactions of the Institute of British Geographers*, 390 pp. 390–406.
Hughes, Alex and Reimer, Suzanne (2004), "Introduction," in *Geographies of Commodity Chains*, Alex Hughes and Suzanne Reimer (eds), London and New York: Routledge.
Hudson, Ian and Hudson, Mark (2003), "Removing the Veil? Commodity Fetishism, Fair Trade, and the Environment," *Organization and Environment*, Vol. 16, No. 4, pp. 413-430.
Hollander, Gail M. (2008), *Raising Cane in the 'Glades, The Global Sugar Trade and the Transformation of Florida*, The University of Chicago Press.
IFOAM (2009a), http://www.ifoam.org/
IFOAM (2009b), "Definition and Principles of Internal Control Systems (ICSs)," http://www.ifoam.org/about_ifoam/standards/ics/definitionICS.html.
IFOAM (2009c), "Historical background and current status," http://www.ifoam.org/about_ifoam/standards/ics/ICSbackground.html.
IFOAM (2011a), *The World of Organic Agriculture, Statistics and Emerging Trends 2011*, Willer, Helga and Lukas, Kilcher (eds.), FiBL and IFOAM.
IFOAM (2011b), *Organic Agriculture and Participatory Guarantee Systems*, brochure, available online: http://www.ifoam.org/about_ifoam/standards/pgs.html
Indian Council of Agricultural Research (2011), "Dr Swaminathan calls an evergreen revolution in India," http://www.icar.org.in/en/node/2826.
Indocert (2012), "Accreditations," http://www.indocert.org/accreditations.html.
International Trade Centre Common Fund for Commodities (2002), "Cashew Pricing Policy and Export Taxation: The Indian Experience," presentation made by S. Kannan, Marketing Director, Spices Board of India, regional meeting on the development of cashew nut exports from Africa.
International Competence Centre for Organic Agriculture (ICCOA), "About Organic Sector," http://www.iccoa.org/About_Organic_sector.php, Accessed November 22, 2011.
Isaac, T.M. Thomas (2010), 2010-2011 Introductory Budget Speech for the Annual Budget for the State of Kerala, March 5, Finance Department, Government of Kerala.
Isaac, T.M. Thomas (2011), 2011-2012 Introductory Budget Speech for the Annual Budget for the State of Kerala, March 5, Finance Department, Government of Kerala.
Isaac, Thomas T.M. and Tharakan P.K., Michael (1995), "Kerala: Towards a New Agenda," *Economic and Political Weekly*, Vol. 30, No. 31/32, pp. 1993-2004.
Jacob, Jayanth (2011), "Pak uses cotton to block onion supply," *Hindustan Times*, January 8.
Jacob, T.G. (2006), *Wayanad, Misery in an Emerald Bowl*, Mumbai: Vikas Adhyayan Kendra.

Jaffee, Daniel and Howard, Philip H. (2010), "Corporate cooptation of organic and fair trade standards," *Agriculture and Human Values*, Vol. 27, pp. 387–399.
Jaiva Krishi Sahai (*Organic Farming Help*) (2010), Printed and Published by AM Sunil Kumar, Principal Information Officer, Farm Information Bureau, Agriculture Department, Thiruvananthapuram, Kerala.
Jayakumar, K. (2010), the Additional Chief Secretary and Agricultural Production Commissioner to the Agriculture Ministry of Kerala, interview, Thiruvananthapuram, Kerala.
Jeromi, P.D. (2007), "Farmers' Indebtedness and Suicides. Impact of Agricultural Trade Liberalisation in Kerala," *Economic and Political Weekly*, Vol. 42, No. 31.
John, K.C. (1991). *Kerala The Melting Pot. A Political History*, New Delhi: Nunes Publishers.
John, Mary E. (2011), "Census 2011: Governing Populations and the Girl Child," *Economic and Political Weekly*, Vol. XLVI, No. 16.
Jose (2011), interview, Wayanad, Kerala.
Jose, P.A. (2011), staff at Wayanad Social Service Society, interview, Wayanad, Kerala.
Joseph, Brigit and Joseph, K.J. (2005), "Commercial Agriculture in Kerala after the WTO," *South Asia Economic Journal*, Vol. 6, No. 1, pp. 37-57.
Joseph, K.V. (1988), *Migration and Economic Development of Kerala*, New Delhi: Mittal Publications.
Joseph, Shally (2003), *Entrepreneurs of Kerala*, New Delhi: Northern Book Centre.
Kabir, M. (2010), "On the periphery: Muslims and the Kerala Model," in *Development, Democracy and the State, K. Ravi Raman* (ed.), London and New York: Routledge Contemporary South Asia.
Kannan, K.P. (2000a), "Poverty Alleviation as Advancing Basic Human Capabilities, Kerala's Achievements Compared," in *Kerala, the development experience: reflections on sustainability and Replicability*, Govindan Parayil (ed.), Zed Books.
Kannan, K.P. (2000b), "Food Security in a Regional Perspective, A View From 'Food Deficit' Kerala," Working Paper No. 304, Thiruvananthapuram Kerala, India: Centre for Development Studies.
Kautsky, Karl (1988 [1899]), *The Agrarian Question*, Vol. 1, London: Zwan.
Kerala Catholic Bishop's Council (2008), Episcopal Advisor for Indian Farmers' Movement (INFAM), http://www.kcbcsite.com/kcbc_commission_infam.htm.
Kerala Department of Agriculture, Classification of Area on the Basis of Land Utilisation: http://www.keralaagriculture.gov.in/htmle/glance/stat_2.pdf
Kerala Department of Tourism, http://www.keralatourism.org/
Kerala State Biodiversity Board (2010), "About us," Government of Kerala, http://www.keralabiodiversity.org/index.php?option=com_content&view=article&id=57&Itemid=66
Kerala State Wide Area Network, http://www.kswan.gov.in/.
Kjosavik, Darley Jose and Shanmugaratnam, Nadarajah (2007), "Property Rights Dynamics and Indigenous Communities in Highland Kerala, South India: An Institutional-Historical Perspective," *Modern Asian Studies*, 41(6), 1183-1260.
Klooster, Dan (2005), "Environmental certification of forests: The evolution of environmental governance in a commodity network," *Journal of Rural Studies*, Vol. 21, Issue 4, pp. 403–417.
Kloppenburg, Jack (2005), *First the Seed: The Political Economy of Plant Biotechnology*, Cambridge: Cambridge University Press.

Kohli, Atul (2006), "Politics of Economic Growth in India, 1980-2005," *Economic and Political Weekly*, pp. 1251-1259.
Kosek, Jake (2006), *Understories: The Political Life of Forests in Northern New Mexico*, Durham: Duke University Press.
Kumar, Anil (2010), M.S. Swaminathan Research Centre, Wayanad, Kerala, personal conversation.
Kuminoff, Nicolai V. and Wossink, Ada (2010), "Why Isn't More US Farmland Organic?," *Journal of Agricultural Economics*, Vol. 61, No. 2, pp. 240–258.
Kurian, Tessy (1999), "Economic Importance of the Plantation Sector in Kerala, Chapter IV," in *A Study of Women Workers in the Plantation Sector of Kerala*, doctoral dissertation in Economics submitted to Mahatma Gandhi University, Kerala, India.
Krishnaprasad, P. (2004), "Mounting Suicides: Urgent Need to Save Wayanad Farmers," *People's Democracy*, www.countercurrents.org.
Krishnakumar, R. (2004), 'Reversing Land Reforms,' *Frontline*, 21(4).
Latour, Bruno (1991), *We Have Never Been Modern*, Cambridge: Harvard University Press.
Le Heron, Richard (1993), *Globalized Agriculture, Political Choice*, Pergamon Press.
Lenin, Vladimir (1899), Chapter II, Section XIII, Conclusions on the Differentiation of the Peasantry and Chapter IV, Section IX, Conclusions on the Significance of Capitalism in Russian Agriculture, in *The Development of Capitalism in Russia*, Lenin Collected Works, Vol. 3, Progress Publishers.
Lubell, Mark; Hillis, Vicken; and Hoffman, Matthew (2011), "Innovation, Cooperation, and the Perceived Benefits and Costs of Sustainable Agriculture Practices, *Ecology and Society*, Vol. 16, No. 4.
Lukose, Ritty (2009), *Liberalization's Children. Gender, Youth, and Consumer Citizenship in Globalizing India*, Durham and London: Duke University Press.
Mahoney, Paul R.; Olson, Kent D.; Porter, Paul M; Huggins, David R.; Perillo, Catherine A.; and Crookston, R. Kent (2003), "Profitability of organic cropping systems in southwestern Minnesota," *Renewable Agriculture and Food Systems*, Vol. 19, No. 1, pp. 35-46.
Mann, Susan A. (1989), "Introduction," "The New Sociology of Agrarian Capitalism," and "Natural Obstacles to Agrarian Capitalism," in *Agrarian Capitalism in Theory and Practice*. Chapel Hill: University of North Carolina Press.
Massey, Doreen (1994), "A Global Sense of Place," from *Space, Place, and Gender*. Minneapolis : University of Minnesota Press, 1994.
Marwaha, B.C. (2005), "Is India in a Position to Switchover to Pure Organic Farming in Totality?" *Indian Journal of Fertilisers*, Vol. 1, No. 7, pp. 47-52.
Manojkumar, K.; Sreekumar, B.; and Ajithkumar, G.S. (2005), "Crop Insurance Scheme: A case study of banana farmers in Wayanad district," Discussion Paper No. 54, Kerala Research Programme on Local Level Development, Thiruvananthapuram, Kerala, India: Centre for Development Studies.
Mathew, George (1989), *Communal Road to a Secular Kerala*, New Delhi: Concept Publishing Company.
Mathew, Roy, *the Hindu* (2011), "Tension at Stockholm Convention meeting over endosulfan," *The Hindu*, Thiruvananthapuram, Kerala, April 27.
Metcalf, Barbara D. and Metcalf, Thomas R. (2002), *A Concise History of India*, Cambridge University Press.
McClintock, Anne (1995), *Imperial Leather, Race, Gender and Sexuality in the Colonial*

Contest, Routledge.
McEwan, Cheryl and Bek, David (2009), "The political economy of alternative trade: Social and environmental certification in the South African wine industry, *Journal of Rural Studies*, Vol. 25, Issue 3, pp. 255–266.
McKibben, Bill (1996), 'The Enigma of Kerala, How one state in India is proving development experts wrong,' UTNE reader.
McMichael, Philip (1994), *Food and Agrarian Orders in the World Economy,* Philip McMichael (Ed.), Greenwood Press, Westport.
McMichael, Philip David (2009), "A food regime analysis of the world food crisis," *Agriculture and Human Values*, 4, pp. 281-295.
Merchant, Carolyn (1980), *The Death of Nature: Women, Ecology, and the Scientific Revolution*, Harper.
Miller, Perry R.; Buschena, David E.; Jones, Clain A.; and Holmes, Jeffrey A. (2008), "Transition from Intensive Tillage to No-Tillage and Organic Diversified Annual Cropping Systems," *Agronomy Journal*, Vol. 100, Issue 3, pp. 591-599.
Mitchell, Timothy (2002), *Rule of Experts: Egypt, Techno-Politics, Modernity*, Berkeley: University of California Press.
Mittermeier, Russell A.; Myers, Norman; Thomsen, Jorgen B.; da Fonseca, Gustavo A. B.; and Olivieri, Silvio (1998), 'Biodiversity hotspots and major tropical wilderness areas: Approaches to setting conservation priorities,' *Conservation Biology*, Vol. 12, No.13, pp. 516-520.
Mohan, G. and Stokke, K. (2000), "Participatory Development and Empowerment: The Dangers of Localism," *Third World Quarterly*, Vol. 21, No. 2.
Moore, Donald (1996), 'Marxism, Culture, and Political Ecology. Environmental struggles in Zimbabwe's Eastern Highlands,' in *Liberation Ecologies*, Richard Peet and Michael Watts (eds), London: Routledge.
Moore, Donald; Kosek, Jake; and Pandian, Anand (2003), "The Cultural Politics of Race and Nature: Terrains of Power and Practice," In *Race, Nature, and the Politics of Difference*.
Moore, Jason W. (2008), "Agrarian Questions and Ecological Crises in World Historical Perspective," *Monthly Review*, Vol. 60, No. 6, pp. 54-6.
Mooij, Jos (1999), *Food Policy and the Indian State, The Public Distribution System in South India*, India: Oxford University Press.
Mutersbaugh, Tad (2002), "The number is the beast: a political economy of organic-coffee certification and producer unionism," *Environment and Planning A*, Volume 34, pp. 1165-1184.
Mutersbaugh, Tad (2006), "Certifying Biodiversity: Conservation Networks, Landscape Connectivity, and Certified Agriculture in Southern Mexico," in *Globalization and New Geographies of Conservation*, Karl S. Zimmerer (ed.), Chicago and London: the University of Chicago Press.
Myers, Norman; Mittermeier, Russell A.; Mittermeier, Cristina G.; da Fonseca, Gustavo A. B.; and Kent, Jennifer (2000), 'Biodiversity hotspots for conservation priorities,' *Nature*, 403, 853-858.
Nair, C, Gopalan (2000(1911)), *Wynad, its peoples and traditions, Madras*, Higginbotham & Co.
Nair, K.N.; Vinod, C.P.; and Menon, Vineetha (2007), *Agrarian Distress and Livelihood Strategies: A Study in Pulpalli Panchayat, Wayanad district, Kerala*, Working Paper 396, Thiruvananthapuram, Kerala, India: Centre for Development Studies.

Namboodiripad, E.M.S. (1952), *Food: Achilles Heel of Indian Economy*, Bombay: People's Publishing House Ltd.
Namboodiripad, E.M.S. (2010), *History, Society, and Land Relations: Selected Essays*, Left World Books.
Narayanan, N.C. and Sajan, G. (2005), "Civil Society in an Overtly Partisan Political Context: What Enables/Constraints the Kerala Sastra Sahitya Parishad (KSSP)?" Working Paper No. 189, Institute of Rural Management (IRMA), Anand.
Navadkar, D.S.; Birari, K.S., and Kasar, D.V. (2004), "Study of Awareness and Adoption of Organic Farming Amongst the Cultivators in Maharashtra, *Agricultural Situation in India*, pp. 387-392.
Nelson, Dean (2010), "Curry crisis as India suffers onion shortage," *the Telegraph*, December 21.
Neilson, Jeff and Pritchard, Bill (2009), *Value Chain Struggles*, United Kingdom: John Wiley & Sons Ltd.
Neumann, Roderick P. (1995), "Local Challenges to Global Agendas: Conservation, Economic Liberalization and the Pastoralists' Rights Movement in Tanzania," *Antipode*, Vol. 27, No. 4, pp. 363-382.
Neumann, Roderick (1998), *Imposing Wilderness: Struggles over Livelihood and Nature Preservation in Africa.* Berkeley: University of California Press.
O'Connor, James (1996), "The second contradiction of capital," In *Natural Causes, Essays in Ecological Marxism,*, New York and London: The Guilford Press, pp. 158-177.
Pandian, Anand (2009), *Crooked Stalks: Cultivating Virtue in South India*, Duke University Press.
Panikkar, K.N. (1989), *Against Lord and State. Religion and Peasant Uprisings in Malabar, 1836-1921*, Oxford University Press.
Parayil, Govindan (2000), *Kerala: The Development Experience*, Govidan Parayil (Ed.), Zed Books Ltd.
Patnaik, Utsa (2006), "Theorizing Food Security and Poverty in the Era of Economic Reforms," *Social Scientist*, Vol. 33, No. 4, pp. 50-81.
Peringarapillil, Joseph Varghese (2011), Board Member of IOFPCL and member of Infam, interview, Wayanad, Kerala.
Perkins, John H. (1997), *Geopolitics and the Green Revolution, Wheat, Genes, and the Cold War*, Oxford University Press.
Philip, Kavita (2003), *Civilizing Natures: Race, Resources, and Modernity in Colonial South India*, Rutgers University Press.
Pimentel, David; Hepperly, Paul; Hanson, James; Douds, David; and Seidel, Rita (2005). "Environmental, Energetic, and Economic Comparisons of Organic and Conventional Farming Systems," *BioScience*, Vol. 55, No. 7.
Polanyi, Karl (1944), *The Great Transformation: The Political and Economic Origins of Our Time*, Boston: Beacon Press.
Pollan, Michael (2006), *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: The Penguin Press.
Ponte, S. (2002), "The 'latte revolution'? Regulation, markets and consumption in the global coffee chain," *World Development*, Vol. 30, No. 7, pp. 1099–1122.
Ponte, S. and Gibbon, P. (2005), "Quality standards, conventions and the governance of global value chains," *Economy and Society*, Vol. 34, Issue 1, pp. Pages 1-31.

Prakash, Gyan (1999), *Another reason: science and the imagination of modern India*, Princeton: Princeton University Press.
Prasad, M.K. (2011), Executive Chairman and Director of Information Kerala Mission, member of the *Kerala Shasthra Sahitya Parishad,* and board member on the Kerala State Biodiversity Board, Kerala, interview, Thiruvananthapuram, Kerala.
Pratt, Mary Louise (1992), *Imperial Eyes: Travel Writing and Transculturation*, London, Routledge.
Radhakrishnan, P. (1989), *Peasant Struggles, Land Reforms and Social Change, Malabar, 1836-1982*, Sage Publications.
Raman, K. Ravi (2010), "The Kerala Model: Situating the Critique," in *Development, Democracy and the State, K. Ravi Raman* (ed.), London and New York: Routledge Contemporary South Asia.
Ramesh, P.; Singh, Mohan; and Rao, Subha A. (2005), "Organic farming: its relevance to the Indian context," *Current Science*, Vol. 88, No. 4, pp. 561-568.
Raveendranath, Ezhumavil (2011), Organic farmer and environmental journalist, interview, Thiruvananthapuram, Kerala.
Raynolds, Laura T. (2004), "The Globalization of Organic Agro-Food Networks," *World Development*, Vol. 32, No. 4, pp. 725-743.
Raynolds, Laura T. (2008), "The Organic Agro-Export Boom in the Dominican Republic: Maintaining Tradition or Fostering Transformation?" *Latin American Research Review*, Vol. 43, No. 1, pp. 161-184.
Raynolds, Laura T. and Ngcwangu, Siphelo Unathi (2010), "Fair Trade Rooibos tea: Connecting South African producers and American consumer markets,' *Geoforum*, 41(1), 74-83.
Reddy, Srinivasa V.; Thamban, C.; Sairam, C. V.; Chandran, Bindu; Prabhu, S.R.; Sukumaran, A.S.; and Hegde, M.R. (2001), "Participatory Research in Paddy Cultivation in Kasaragod district of Kerala: A Case Study," *Journal of Tropical Agriculture*, 39, pp. 42-46.
Reed, Matt (2009), "For whom? – The governance of organic food and farming in the UK," *Food Policy*, Vol 34, Issue 3, pp. 280–286.
Report of the World Commission on Environment and Development (1987), *Our Common Future (the Brundtland Report)*, United Nations World Commission on Environment and Development.
Reuters (2011), "India's Projected Food Supply and Demand."
Robbins, Paul (2004), *Political Ecology*, London: Routledge.
Rodriguez, Joysee M.; Molnar, Joseph John; Fazio, Robin A.; Sydnor, Emily; and Lowe, Mecca J. (2008), "Barriers to adoption of sustainable agriculture practices: Change agent perspectives," *Renewable Agriculture and Food Systems*, Vol. 24, No. 1, pp. 60–71.
Sahai, Suman (2010), "Rs 60,000 crore is the cost of rotting food grain every year. Yet, millions go hungry," *Tehelka Magazine*, Vol. 7, Issue 31.
Sainath, P. (2008), *Everybody Loves a Good Drought, Stories from India's Poorest district*, Headline Review.
Sen, Amartya (1990), "More than a Hundred Million Women are Missing," *New York Review of Books*, December 20.
Scott, Steffanie; Vandergeest, Peter; and Young, Mary (2009), "Certification Standards and the Governance of Green Foods in Southeast Asia," in *Corporate Power in Global Agrifood Governance*, Jennifer Clapp and Doris Fuchs (eds.), Massachusetts Institute of Technology.

Shapin, Steven and Schafer, Simon (1985), *Leviathan and the Air Pump: Hobbes, Boyle, and the*
Sharma, Vijay Paul and Thaker, Hrima (2009), "Fertilizer Subsidy in India: Who are the Beneficiaries?" W.P. No. 2009-07-01, Ahmedabad, India: Indian Institute of Management.
Sheahan, C. M.; Bray, D. B.; Bhat, M. G.; and Jayachandran (2012), "Ecological, Economic, and Organizational Dimensions of Organic Farming in Miami-Dade County," *Journal of Sustainable Agriculture*, Vol. 36, No. 1, pp. 83-105.
Sherief, A.K. (2010), Professor at Kerala Agricultural University, interview, Thiruvananthapuram, Kerala.
Shiva, Vandana (1988), *Staying Alive: Women, ecology, and development*, Zed Books.
Shiva, Vandana (2010), Closing speech at the Indian Biodiversity Conference in Thiruvananthapuram, Kerala, India, 2010.
Shreyas, *Increasing Suicides in Wayanad, A Study Report*, Wayanad Series – 2, Wayanad, Kerala: Research and Documentation Wing of Shreyas Social Service Centre.
Singh, Gorakh (2009), "Foreword," in *Black Pepper Guide*, Directorate of Arecanut and Spices Development, Department of Agriculture and Cooperation, Minister of Agriculture, Government of India, Calicut, Kerala, India.
Smukler; S.M.; Jackson, L.E.; Murphree, L., Yokota, R.; Koike, S.T.; and Smith, R.F. (2008), "Transition to large-scale organic vegetable production in the Salinas Valley, California," *Agriculture, Ecosystems and Environment*, Vol. 126, pp. 168–188.
Smith-Spangler, Crystal; Brandeau, Margaret L., Hunter, Grace E.; Bavinger, J. Clay; Pearson, Maren; Eschbach, Paul J.; Sundaram, Vandana; Liu, Hau' Schirmer, Patricia; Stave, Chrisophter; Olkin, Ingram; and Bravata, Dena M. (2012), "Are Organic Foods Safer or Healthier Than Conventional Alternatives? A Systematic Review," Annals of Internal Medicine, 157, pp. 348-366.
Spices Board of India (2010), http://www.indianspices.com/
Sreekumar, Sharmila (2009), "The land of 'gender paradox'? Getting past the commonsense of contemporary Kerala," *Inter-Asia Cultural Studies*, Vol. 8, No. 1, pp. 34-54.
Sreekumar, T.T. and Parayil, Govidan (2010), "Social space, civil society and transformative politics of new social movements in Kerala," in *Development, Democracy and the State, K. Ravi Raman* (ed.), London and New York: Routledge Contemporary South Asia.
Sridhar, R. (2008), "Endosulfan Poisoning and the Struggle of the community in Kasaragod to regain life and the living land," Power Point presentation on behalf of Thanal and Pesticide Action Network-Asia, Kerala, India.
Sridhar, R. (2011), Activist and staff of Thanal, Kerala, Interview and personal conversations, Kerala.
Steur, Luisa (2009), "*Adiavasi* Mobilisation: 'Identity' versus 'Class' after the Kerala Model of Development?" *Journal of South Asian Development*, Vol. 4, No. 25.
Sultana, Farhana (2007), "Reflexivity, Positionality and Participatory Ethics: Negotiating Fieldwork Dilemmas in International Research," journal compilation © *ACME* Editorial Collective.
Swaminathan, M.S.(1999), "Silent Valley National Park – A Biological Paradise," in *Silent Valley, Whispers of Reason*, Manoharan, T.M.; Biju, S.D.; Nayar, T.S.; and Easa, P.S. (eds.), Kerala Forest Department, in association with Kerala Forest Research Institute, Thiruvananthapuram, India.
Tharamangalam, Joseph (2006), "Understanding Kerala's Paradoxes: The Problematic of the

Kerala Model of Development," in *Kerala, the Paradoxes of Public Action and Development*, Joseph Tharamangalam (ed.), Orient Longman Private Limited: Hyderabad, India.
Thakur, D.S. and Sharma, K.D. (2005), Organic farming for sustainable agriculture and meeting the challenges of food security in 21st century: an economic analysis, *Indian Journal of Agricultural Economic*, Vol. 60, No. 2, pp.205-219.
Tharakan, P.K.M. (1984*), Intra-Regional Differences in Agrarian Systems and Internal Migration: A Case Study of the Migration of Farmers from Travancore to Malabar, 1930-1950*, Working Paper No. 194, Trivandrum: Centre for Development Studies.
Tharakan, Michael P.K. (1998), "Coffee, Tea or Pepper? Factors Affecting Choice of Crops by Agro-Entrepreneurs in Nineteenth Century South-West India," Centre for Development Studies, Thiuvananthapuram, Kerala, India.
Tharamangalam, Joseph (1998), 'The Perils of Social Development without Economic Growth: The Development Debacle of Kerala, India,' *Bulletin of Concerned Asian Scholars*, 30(1), 23-34; and responses to Tharamangalam (1998), "The Kerala Model of Development, a Debate," Parts 1 and 2, *Bulletin of Concerned Asia Scholars*, (30), 3-4.
Tharamangalam (2006), *Kerala, the Paradoxes of Public Action and Development*, Orient Longman.
The Boston Globe (2011), "Organic produce from China: can you trust it?" Deborah Kotz, December 14.
The Economic Times (2011), "Census of India 2011: Child sex ratio drops to lowest since Independence," http://articles.economictimes.indiatimes.com/2011-03-31/news/29365989_1_ratio-males-girl-child
The Express (2011), "India Pledges $5.7 in Food Aid to Africa."
The Guardian (2005), "Why I won't be giving my mother Fairtrade Flowers," Felicity Lawrence, March 5.
The Hindu (2010), "CPI activists try to raid godown," December 16.
The Hindu (2011a), "Flagrant use of chemicals to ripen fruits on the rise," March 31.
The Hindu (2011b), "Onion Prices Go Through the Roof," December 21.
The New York Times (2008), "Sticker Shock in the Organic Aisles," April 18.
Thomas, G. (2010), professor at Kerala Agriculture University, interview, Thrissur, Kerala.
Thompson, E.P. (1990), *Whigs and Hunters*, Penguin UK.
Tiwari, K.N.; Sulewski, Gavin; and Portch, Sam (2005), "Challenges of Meeting Nutrient Needs in Organic Farming, *Indian Journal of Fertilisers*, Vol. 1, No. 4, pp. 41-48 and 51-59.
Teachers' Organization of the Kerala Agricultural University (TOKAU) (2008), *Can Organic Agriculture Replace Conventional Agriculture? Reflections on the Organic Agricultural Policy proposed by the Bio Diversity Board of Kerala.*
Tovar, Laura Gómez; Martin, Lauren.; Cruz, Manuel Angel Gómez; and Mutersbaugh, Tad (2005), "Certified organic agriculture in Mexico: market connections and certification practices in large and small producers," *Journal of Rural Studies*, Vol. 21, Issue 4, pp. 461–474.
Tsing, Anna Lowenhaupt (2005), *Friction. An Ethnography of Global Connection*, Princeton and Oxford University Presses.
United Planters Association of South India (2012), "Statistics," http://www.upasi.org/statistics.html.
Upendranadh, C. (2010), "Coffee Conundrum: Whither the Future of Small Grower in India?"

NRPPD Discussion Paper 3.
Usha, S. (2011), Activist and staff of Thanal, Kerala, Interview and personal conversations, Kerala.
Vakkayil, Jacob D. (2010), "Infam in Wayanad, Kerala" in *Inclusive Value Chains: A Pathway Out of Poverty*, Malcom Harper, ed., World Scientific Publishing Company.
Valkila, Joni (2009), "Fair Trade organic coffee production in Nicaragua — Sustainable development or a poverty trap?" *Ecological Economics*, Vol. 68, Issue 12, pp. 3018–3025.
Varghese, T.C. (1970), *Agrarian Change and Economic Consequences, Land Tenures in Kerala 1850-1960*, Allied Publishers.
Varghese, Thomas and Sasankan, I. V. (2007), "Unfretted Marketing, Regulation how?" *Kerala Calling*, Vol. 27, No. 5, pp. 14-15.
Varma, R.V. (2010), Chairman of the Kerala State Biodiversity Board, Kerala, interview and personal conversations.
Véron, René (2001), "The 'New' Kerala Model: Lessons for Sustainable Development," *World Development*, Vol. 29, No. 4, pp. 601-716.
Vijayan, V.S. (2010), Former Chairman of the Kerala State Biodiversity Board and researcher at the Salim Ali Foundation in Coimbature, Tamil Nadu, interview Thiruvananthapuram, Kerala.
Walker, Richard A. (2005), *The Conquest of Bread: 150 Years of Agribusiness in California*, Berkeley: University of California Press.
Watts, Michael (2005), "Nature/Culture: A Natural History," in *Spaces of Geographical Thought*, R. Johnston and P. Cloke (eds.), London: Sage, pp. 142-174.
Watts, Michael and Peet, Richard (2004), "Liberating Political Ecology," In *Liberation Ecologies*, Richard Peet and Michael Watts (eds), London: Routledge, 2nd edition.
West, Paige (2006), *Conservation in Our Government Now: The Politics of Ecology in Papua New Guinea*, Durham: Duke University Press.
Wells, Miriam J. (1996), *Strawberry Fields: Politics, Class, and Work in California Agriculture*, Ithaca: Cornell University Press.
Williams, Michelle (2008), *The Roots of Participatory Democracy: Democratic Communists in South Africa and Kerala, India*, Palgrave Macmillan.
Williams, Raymond (1975), *The City and the Country*, London: Oxford University.
Winter, Michael (2003), "Embeddedness, the new food economy and defensive localism," *Journal of Rural Studies*, Vol 19, Issue 1, pp. 23-32.
World Wildlife Fund, Priority Places, Western Ghats, India, http://wwf.panda.org/what_we_do/where_we_work/western_ghats/
Worster, Donald (2008), "The Ecology of Order and Chaos," in *Ecology*, Second Edition, ed. Carolyn Merchant, Humanity Books.
Worster, Donald (1982), *Dust Bowl: The Southern Plains in the 1930s*, New York: Oxford University Press.
Yadav, A.K. (2009), "Organic Status in India," Regional Centre of Organic Farming (RCOF), India.
Yadav, A.K. (2010), *Organic Farming Newsletter*,Vol. 6, No. 4.
Ziegler, Catherine (2007), *Favored Flowers*, Duke University Press.

APPENDIX

Kerala State Organic Farming Policy, Strategy and Action Plan

Vision

Make Kerala's farming sustainable, rewarding, and competitive, ensuring poison-free water, soil and food to every citizen

Background

India has a glorious history of farming, starting probably from the 6th millennium BC in the Indus Valley, harnessing the annual floods and the subsequent alluvial deposits. The Indus Valley Civilization was founded on sustainable farming practices. Subsequently, our culture and ethos became reflections of the agricultural practices and it became mutually inseparable till recently. Harvest of the main crops is celebrated through out the country.

In Kerala, it went to the extent of identifying the farmland with Mother God or a female. Just like the female has to take rest after delivery, the farm land has also to be given rest for three months after the harvest; tilling is strictly prohibited during this period. Although it may look superstitious, the ecological reason behind this ritual is that tilling during monsoon leads to severe soil erosion and thus, is an unsustainable practice. Therefore, sustainability has been the hallmark of our farming system from time immemorial, growing the time tested, weather suited, traditional crops with or without additional organic inputs, but deeply interwoven with the ecological systems and climatic conditions.

The once flourished *Pokkali* cultivation in the coastal districts and the *Kaipad* farming system in Kannur district are testimonials to man's ingenuity in harnessing the natural events for farming, that too integrated farming, without affecting the natural ecological processes and without even any external inputs.

However, many of these century old systems have disappeared in the wake of post-independent era when the main thrust was, and correctly so, to produce more food for the ever growing human population. The Green Revolution, with a single slogan of **'**grow more food**',** was only a natural outcome of a national challenge to meet the growing food requirements. The nation saluted the tireless efforts of the committed agricultural scientists who could find a way to provide food for all. The production of food grains from 50.8 million tonnes during 1950 rose to 108 million tonnes in 1970-71 and, 208.6 million tones in 2005 -06. An envious achievement, indeed!

However, this development - unmindful of the ecosystem principles so revered and practiced for centuries- led to seemingly irrevocable ecological and environmental catastrophes in the country. The green revolution essentially replaced the traditional varieties with high-yielding ones. These high yielding varieties now recognized as 'high input varieties' needed tonnes of fertilizers, to achieve the target growth. The crops and varieties alien to the soil attracted new pests and diseases and also outbreaks of existing pests. To combat them, came in huge quantities of pesticides. Input of these "exotic" elements into the traditional farming led to multitude of environmental issues.

The microorganisms declined; the soil lost its fertility and vitality; water demand increased and, the time tested traditional varieties disappeared. In short, the century old practices came to a halt. The eternal relationship between the farmer and farm land was lost. More importantly, sustainability of the agriculture systems collapsed, cost of cultivation soared, income of farmers stagnated and, food security and food safety became a daunting challenge.

Biodiversity in the agricultural fields has now become a history of the past. The farmland became silent; devoid of the croak of frogs, chattering of warblers, whistling of Whistling Ducks. The long tubular straw striven nests of the Baya weaver bird hanging on the fronds of palm—a once spectacular sight—have disappeared from most localities. The insectivorous birds such as drongo, bee-eater, even the house sparrow became rare or locally extinct, indicating the collapse of the entire food webs of the farm land.

In the forestry sector, fortunately the use of pesticides has been much less. However, the aerial spraying of pesticides in India was first tried in Kerala in 1965 to control the teak defoliators in Konni forest division. It was noted that with in 48 hours nearly 162 non-target species of arthropods were knocked down.

The mentally and physically retarded and handicapped children in Padri village in Kasergod tell the world in unequivocal terms the tragedies and disasters that aerial spraying of pesticides could inflict on human life.

As a result of all these “modern” techniques, the air, water and the soil were polluted; most food grains and farm products were contaminated by pesticides. The run off from the farm land contaminated the wetlands - rivers, tanks, ponds, reservoirs, lakes and all water bodies—and the life in them. Fishes carried high levels of pesticides and also heavy metals, the latter as a result of the many chemical industries that sprang up to provide chemical fertilizers.

Health hazards became unimaginably high. Incidence of fatal diseases rose. Hospitals with modern amenities came up in the cities as profit making industries. Pharmaceuticals flourished.

Food crops became non-attractive, while cash crops became more remunerative. Rice fields have been filled up for non-agricultural activities. The area under cash crops expanded during the last 20 years (16% under rubber alone), while that under food crops plummeted (to just 9**%** of the total cultivated area). The monoculture of such economically valuable crops led to soil erosion and loss of soil fertility to a great extent. The advent of chemical intensive farming and its prevalence in Kerala for the past 50 years have resulted in the near stagnant levels of productivity of many of these economically important crops such as coconut, cashew, pepper, coffee, tea, cardamom and arecanut. Besides these, many regions in Kerala, like Wayanad started facing acute water scarcity The State has taken note of it and given priority in the Eleventh Five Year Plan.

Over and above, the economic liberalization and WTO policies added to the woes of the farmers by bringing down the prices of agriculture commodities**.** They are caught in the debt trap owing to the loan taken to meet the high cost of farming, as it demanded more external inputs such as

fertilizers, pesticides and water. These led to increasing instances of suicide by farmers. Investment in agriculture has essentially changed from the farmer to the industries supplying input to the farmer, and as a direct consequence, net income for farmers decreased while the industries supporting agriculture in the country flourished.

The national policies of opening retail sector to national and multinational companies pose great threat to our food sovereignty and right to safe food. The enhanced 'food miles' led to increased carbon emission, further increasing the load of green house gases. The potent danger of introducing Genetically Modified crops, monopoly of seeds by national and multinational corporate bodies could very well be the last straw on the camel's back for the farmers of Kerala.

Many farmers have realized that they are fighting a loosing battle with the "high yield variety - fertilizer-pesticide pack" of Green Revolution. They have also realized that the degradation and disruption of the fragile ecosystems of the 'God's own country' are the chief culprits for the water scarcity, nutritional insecurity, loss of primary productivity and agrarian crisis being faced by the State.

The farmers in Kerala are convinced that the only way is to return to the traditional sustainable ways of cultivation without harming the ecosystem. Thus the organic farming, a system with the broad principle of 'live and let live', came up which was recognized nationally and internationally. Organic agriculture is not limited to crop production alone, but encompasses animal husbandry, dairy, fisheries, poultry, piggery, forestry, bee keeping, and also uncultivated biodiversity around.

By and large, there is an increasing awareness among the consumers also on the deleterious effects of pesticides and hence, there has been a high demand for organically cultivated food produces. Therefore it has become a solemn responsibility of the Government to encourage organic farming to ensure poison-free food at affordable price to every citizen.

There have been demurs and doubts on the practicability of organic farming on the ground that the production would plummet and the country would once again be forced to yet another food crisis. This is quite unfounded. Success stories on high productivity of organic farming are now abundant. The Food and Agriculture Organization reports at the International Conference on Organic Agriculture and Food Security 2007 as follows: "*Conversion of global agriculture to organic management, without converting wild lands to agriculture and using N-fertilizers, would result in a global agricultural supply of 2640 to 4380 kcal/person/day. Sustainable intensification in developing countries through organic practices would increase production by 56 per cent. Organic yields on average are comparable to conventional yields; although yields do decline initially when converting from high-input systems and almost double when converting from low-input systems".* It also has found that organic farms use 33 to 56 per cent less energy per ha than conventional farms.

Worldwide, as of now, more than 22.81 million hectares of land area is managed organically and the market of organic food is around $30 billion. It may be noted that Cuba, a country with 42,402 sq. miles of land and with 11.3 million people, is completely organic.

A brief history of organic farming

Pesticides have been in use in agriculture since Second World War and from the very beginning there have been concerns about the commercialization of chemical pesticides**.** Rachel Carson's, "Silent Spring" published in 1964 brought out the scientific certainties of the impacts of pesticides on environment. Although DDT was banned in the developed world in the 1970's, and its use in the agriculture fields of developing countries later, varieties of toxic pesticides found their way in to the farms .The scientific predictions of Rachel Carson became true and the public, especially farmers and scientists, the world over realised the dangers of pesticides. This led to the beginning of non-chemical farming. Researches and trials of traditional methods and also new models of soil and crop management began to appear.

The permaculture (permanent agriculture) experiments of Bill Mollison and Holmen in the 1970's gave hope to many farmers the world over. The permaculture wave had its impact in Kerala too and since then many farmers have started experimenting this methodology and they found that this is one of the best practices for Kerala with its topographical peculiarities and high rainfall so as to conserve soil and water and improve productivity of their farms.

The infamous Bhopal tragedy of 1984 was an eye opener to a larger section of people in India and abroad. Discussion on alternatives began seriously. Publication of the book "One Straw Revolution" in 1984 by Masanobu Fukuoka (a Japanese scientist turned farmer), on his success in natural farming for the last half a century and, translation of his book into Malayalam in 1985 were timely in channelising such discussions in Kerala. Biodynamic farming was another method of organic farming which attracted many farmers.

The very sustainability of agriculture assumed serious concern in the discussions among the farmers and organizations in Andhra Pradesh, Karnataka, Tamil Nadu, Gujarat, Maharashtra, Punjab and Kerala during the same period. The total external dependence of farmers for agriculture inputs had started affecting their economies leading to desperation among farming communities and ultimately to agrarian crisis. As an alternative, to make farming sustainable, low external input agriculture (LEISA) thus gained momentum in many places, especially among small and marginal farmers. The agriculture crisis that began in the late 1990s further strengthened this movement. Many individuals and organizations started interacting with farmers to make them understand the problems of the modern agriculture.

Thus, from a simple beginning, organic farming later matured to such dimensions as women's empowerment, seed conservation, development of seed banks, value addition and, more importantly, food and nutritional security. It took only 10-15 years for this transition and the results are encouraging.

Currently there are a number of certified organic farmers in the state, those cultivating cash crops such as spices, tea, and coffee, mainly targeting export market and also non-certified organic

farmers who focus on food crops and biodiversity. All of them, whether certified or not, focus clearly on soil health improvement. Kerala also has an accredited organic certifying agency catering to the needs of the farmers.

Some of the farming systems such as *Pokkali* and *Kaipad* cultivation, cultivation of *Jeerakasala* and *Gandhakasala* varieties of paddy in Wayanad and, homestead farming systems all over the state are default organic. Studies have established the economic viability and productivity of homestead farms in the State and elsewhere. Recently the Adat panchayath in Thrissur district has started organic cultivation of rice in an area of 2,500 acres, promoting integrated farming system, which is known as Adat model. Similarly Marappanmoola in Wayanad has another model organic farming system involving hundreds of farmers. Marketing of organic produce is also being experimented in many places like Organic Bazaar in Thiruvananthapuram, Eco-shops in Thrissur and Kozhikode and, Jaiva Krishi Sevana Kendram in Kannur. Self help groups of women are encouraged to undertake organic farming of vegetables in some panchayats.

There is a rich potential for promoting organic farming in Kerala in the light that intensity of inorganic agriculture here is not that severe compared to that in other States in the country. While the national average consumption of fertilizers and pesticides during 2002-2003 was 90kg/ha and 288g/ha respectively, it was only 60kg/ha and 224g/ha respectively in Kerala. This points to the positive side of agriculture in Kerala in terms of the already low levels of consumption of hazardous chemicals and, therefore, chances of redeeming farmers to organic agriculture are quite high

Realising the ground realities, the State Department of Agriculture commenced organic farming promotional activities since 2002-03. In the following year, the Department set up a cell for Promotion of Sustainable Agriculture and Organic Farming. It has also launched two brands, namely ‘Kerala Organic’ and ‘Kerala Naturals’ to market organic farm produces. Currently, about 7,000 farmers practice organic farming in the State as per NPOP standards, covering a total area of 5750 ha. But non-certified organic cultivation area, assessments of which have not been done, is expected to be much more than this.

Benefits of organic farming

- Makes agriculture more rewarding, sustainable and respectable
- Sustains soil fertility by preventing the loss of soil and leaching of minerals.
- Protects and enriches biodiversity- micro organisms, soil flora and fauna, plants and animals
- Requires less water and promotes water conservation.
- Improves and maintains agro ecosystem and natural landscape for sustainable production.
- Depends mostly on renewable on-farm resources.
- Encourages consumption of renewable energy resources- mechanical and other alternate sources of fuel.
- Includes animals as an essential part of organic system which helps maintaining soil fertility and also increases the income of farmers.
- Ensures pollution –free air, water, soil, food and, natural ecosystems
- Improves agro-biodiversity (both varieties and crops).
- Protects and enhances traditional knowledge in farming, processing and seed improvement leading to its protection for the future generations.
- Reduces the cost of production through locally suitable methods and inputs.
- Produces adequate quantity of nutritious, wholesome and best quality food and develops a healthy food culture
- Reduces the food – mileage and, thereby, carbon emission

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The State Government have seized of the importance of organic farming and, realized the health hazards and un-sustainability of chemical farming as it clearly states in its Biodiversity Strategy and Action Plan that the state has to have an organic farming policy to protect its rich biodiversity and thus sustain various livelihoods dependent on this precious resource.

Pundit Jawaharlal Nehru, looking at the enormity of food shortage and poverty in the early 1950's, remarked that 'everything else can wait but not agriculture'. If he were to make an observation now, it would have been "everything else can wait but not organic agriculture and food sovereignty"

Objectives of the Organic Farming Policy, Strategy and Action Plan

1. Make farming sustainable, remunerative and respectable.
2. Enhance natural soil fertility and productivity.
3. Ensure soil and water conservation.
4. Ensure agricultural bio-security and food and nutritional security.
5. Create and ensure domestic market for organic products controlled by the farmers.
6. Prevent the use of agrochemicals and other hazardous material and, ensure chemical – free water, soil and food.

7. Ensure seed and food sovereignty.
8. Promote biodiversity based ecological farming.
9. Ensure quality control in organic inputs and agricultural produce
10. Enable human health promotion by providing safe agricultural products and commodities

FAO put the objectives succinctly: "Organic agriculture improves food access by increasing productivity, diversity and conservation of natural resources, by raising incomes and by reducing risks for farmers. Improvement also results from sharing of knowledge among farmers. These benefits lead to poverty reduction and a reversal of rural outward migration. Policy requirements to improve food access include: increasing farmers' rights to seeds, local varieties and biodiversity; expanding fair-trade systems along the full value chain; evaluating current emergency aid and procurement programmes; and strengthening the rights of indigenous farmers".

A widely quoted comprehensive definition of organic farming is of Codex Alimentarius Commission, a joint body of FAO/WHO. Is definition reads as *"Organic agriculture as holistic food production management systems, which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles and soil biological activity. It emphasizes the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological and mechanical methods, as opposed to using synthetic materials, to fulfill any specific function within the system".*

. Strategies and Action Plan

General approach: The mission to convert Kerala into an organic State is to be achieved focusing on potential crops and areas in a phased and compact manner with the aim of converting a minimum of 20% of the cultivable land into entirely organic every year and thus achieving the target within five years.

Strategy 1

Ensure seed sovereignty of the farmers and the State

Action

1.1 *Establish seed villages*

1.1 (a) Begin programmes for the production of seeds, seedlings, planting materials and, traditional animal breeds at the Panchayat level, so as to become self-sufficient in the availability of good quality local seeds, both indigenous and breeder seeds developed by the KAU and other institutions of agricultural research.

1.1 (b) Begin at the farmers' group levels, seed banks and seed cooperatives to produce, store, share and supply good quality seeds.

1.1 (c) Promote farmers who can produce good quality seeds and develop participatory seed production programmes along with the KAU and other institutions of agricultural research.

1.1(d) Develop storage facilities /protection measures using traditional methods

1.2 Ensure maintenance of traceability chain mandatory at the Local Self Government Institution level by the BMC with regard to seeds produced, sold, transferred and shared in the Panchayat to protect the farmers from spurious low quality seeds, including hazardous genetically modified seeds

1.3 Declare and ensure GM free villages and State

1.4 Establish a mechanism to regulate the prices of seeds

1.5 Ensure supply of locally suitable seeds in each agro-climatic zone

Strategy 2

Phase out implementation of organic farming policy

Action

2.1 Conduct an initial assessment of the status of organic farming in the State including cultivated, certified and non-cultivated wild organic areas in the State.

2.2 Develop a clear road map to convert 20% of the total cultivable area, focusing on potential crops and areas, to organic every year, and achieve total conversion in the five year plan.

2.3 Develop a clear plan of action with budgets for incorporation into the planning process of the Local Self Government Institutions for phasing in organic farming in the State.

2.4 Special thrust should be initially given to complex, diverse and risk prone areas such as rain-fed districts, drought-prone districts, food crop producing districts and tribal districts.

Strategy 3

Compact Area Group approach in organic farming

Action

3.1 Encourage the formation of Organic farmers groups, clubs, SHG's and cooperatives for the purpose of cultivation, input production, seed/seedlings/planting materials production, certification and marketing.

3.2 Each group should be of a minimum five members (as stipulated under the Participatory Guarantee System of Certification)

3.3 Models such as Vegetable and Fruit Promotion Council of Kerala (VFPCK), Maarappanmoola Cooperative Society, Adat Cooperative Society for paddy, GALASA, Compact Area Group approach of Kannore KVK may be adopted.

3.4 Encourage Vanasamrakshana Samithi, Teera SVS, Grama Haritha Samithi to develop organic farming enterprises

Strategy 4

Improve soil quality and ensure water conservation measures

Action

4.1 Ensure organic farming approach in all the watershed development areas and extend support including capacity building and financial assistance for soil and water conservation measures through ongoing watershed development programmes.

4.2 Integrate the various institutions presently involved in watershed management and introduce organic farming as a key component.

4.3 Adopt appropriate agronomic practices suitable to the agro-ecological conditions as well as the topographical conditions at the micro watershed level and, discourage/restrict inappropriate crops and cropping practices.

4.4 Kerala Agricultural University and other research institutions should develop suitable crop combinations and locally suitable technology, through participatory research with farmers.

4.5 Encourage landowners and part-time farmers to utilize their lands for organic farming, if left unutilized, failing which Local Self Government Institution should take action to ensure the same.

4.6 Formulate legislative measures to rejuvenate and protect traditional water resources including fresh water lakes, *surangas* and ensure rain water conservation, restriction of bore wells, especially in dark zones and recharging of existing bore wells, open wells and ponds, and other conservation measures so as to improve ground water table and also conserve top soil.

4.7 Establish testing facilities for soil, water, micronutrients and microorganisms at least at the block and introduce the system of providing Soil Health Cards.

4.8 Promote bio-fencing and thus help ensure soil and water conservation and, availability of green manure and green leaf manure

4.9 Conduct training programmes for resource persons at the Local Self Government Institution level on soil and water conservation measures

Strategy 5

Promote a mixed farming approach for livelihood security and ecological sustainability

Action

5.1 Make crop-livestock integrated farming as part of organic farming, with women centered ownership and management in the farmer households and groups.

5.2 Develop Bee-keeping, fisheries and similar enterprises as part of the mixed farming programme.

5.3 Promote decentralized production of livestock feed from locally available resources, but excluding spurious ingredients such as growth promoters and hormones.

5.4 Document and popularise traditional knowledge related to animal health care.

5.5 Develop linkages between organic farmers and livestock growing farmers for exchange of manure for fodder.

5.6 Encourage mixed cropping of trees and medicinal plants through organic farming.

Strategy 6

Conserve and improve agro-biodiversity and undomesticated biodiversity

Action

6.1 Document agro-biodiversity and related traditional knowledge and practice, both cultivated and un-cultivated, in each Panchayat.

6.2 Encourage the establishment of model agro-biodiversity conservation farms.

6.3 Develop programmes for farmers to collect, purify and multiply traditional seeds.

6.4 Encourage protection of traditional agricultural systems such as *Kaipad, Pokkali* and *Kole* as “agricultural heritage of Kerala”

Strategy 7

A state-wide intensive campaign on organic farming in the form of a popular movement: "Jaiva Keralam"

Action

7.1 Organise Organic Mela's in all districts.

7.2 Begin state–wide awareness programmes for the promotion of organic farming focusing on the advantages of organic produce and harmful effects of chemical-based farming.

7.3 Produce handouts, publications of case-studies and best practices, video films, posters and other awareness materials to reach out to all sections, especially women.

7.4 Organize workshops, seminars and exchange programmes for consumers, teachers, traders, farmers, government and semi-government officials in the related area.

7.5 Ensure the strict enforcement of the provisions of the Food Adulteration Act, 1954, and rules 1955, and bring suitable legislations to notify and enable Agriculture Officers, Veterinary Doctors and similar professionals as Inspectors under the Act and also establish quality and adulteration testing facilities at district level.

7.6 Encourage setting up of organic kitchen gardens in urban and rural households.

Strategy 8

Ensure availability of quality organic manure to the farmers

Action

8.1 Encourage, with adequate support, the availability of biomass in the organic farm itself, through programmes such as crop rotation, tree crops, cover crops, leguminous crops, green manure and green leaf manure.

8.2 Provide support for cow, buffalo, duck, fish, poultry and goat, preferably traditional breeds, to organic farmers / groups to ensure integrated farming and the availability of farmyard manure and urine.

8.3 Encourage the production of various types of compost in the farm itself, including vermi-composting and biogas slurry.

8.4 Formulate special programmes for increasing the biomass and organic manures, especially in rain-fed cultivation areas where soil depletion is high, so as to drought proof the farm.

8.5 Encourage indigenous species of earthworms and effective microorganisms in composting

8.6 Establish a decentralized system to produce organic manure from biodegradable organic waste segregated at source.

Strategy 9

Ensure farm inputs for organic farming

Action

9.1 Implement programmes for the production of seeds, seedlings and other planting materials, manure, plant protection materials at the farm / local Self Government Institution level itself.

9.2 Encourage Farmers Associations/Clubs/Cooperatives/Companies of farmers, SHG's/Youth groups at the local level to produce need based farm inputs.

9.3 Link organic municipal solid waste segregated at source, especially from markets, hostels and other institutions to farms through such means as simple and cost-effective decentralised composting, biogasification and vermi-composting and thus ensure organic matter recycling.

9.4 Conduct training programmes for local resource persons for producing good quality input, quality testing and for such related aspects at the Local Self Government Institution level.

9.5 Formulate legislative measures to empower the Local Self Government Institutions for ensuring quality of inputs, including necessary rules, guidelines, standards, monitoring and testing procedures and establishment of laboratories

9.6 Establish special financial assistance schemes, and/or link existing support schemes to groups to start production facilities for farm inputs.

9.7 Develop local linkages for low cost input materials to farmers and ensure markets for good quality input materials at reasonable price

Strategy 10

Capacity Building for farmers, implementing officers, agencies, and local self- government members

Action

10.1 Conduct orientation, training and exposure visit programmes.

10.2 Group of 10-20 unemployed youth in each Panchayat (50% women) would be designated as "Karshaka Sevakar", trained in all facets of organic farm management supported through Local Self Government Institution programmes to assist farmers in organic farming.

10.3 Develop the existing Agro-clinics of the Department of Agriculture into Organic Farming Resource Centres

Strategy 11

Develop Model Sustainable Organic Farms in the State.

Action

11.1 Every Local Self Government Institution would develop model organic farms in select farmers' fields.

11.2 Research Stations in each agro-ecological zones under the KAU and other agricultural institutions should be converted to organic management systems, and thus become a field study centre for students, farmers and peoples' representatives

Strategy 12

Ensure and improve the health and wellbeing of the tribal through special tribal agriculture programmes.

Action

12.1 Ensure adequate nutritional food availability for tribals, whose traditional agriculture has been degraded.

12.2 Develop specific programmes for the rejuvenation of their traditional agriculture and knowledge protection.

12.3 Ensure sustainable collection of minor forest produce and facilitate the fair marketing of these produce through organic outlets.

12.4 Formulate specific schemes to provide tribal children with their traditional food at least once in a day.

12.5 Develop village (*ooru*) level seed banks of their traditional crops and medicinal plants.

12.6 Integrate watershed programmes, NREG etc in the rejuvenation of tribal agriculture**.**

Strategy 13

Establish Producer Companies promoted by organic farmers

Action

13.1 Facilitate establishment of Organic Farmer Producer Companies or similar concerns as an organic farmers promoted enterprise with share investment by the organic farmers and the LSGs

Strategy 14

Establish storage and transportation facilities

Action

14.1 Establish separate and decentralized storage facilities for organic farm produce to ensure its organic integrity and help farmers in certification processes.

14.2 Provide separate local transportation facilities for organic produce to nearby domestic markets

Strategy 15

Promote farm level processing, value addition and encourage the use of organic farm produce in food industry

Action

15.1 Encourage farm processing by farmers groups, SHGs and Farmer Producer Companies for value addition.

15.2 Ensure value addition does not compromise organic produce quality by facilitating testing and evaluation of processes with help from KAU and other research institutions.

15.3 Encourage organic food-based industry in Kerala to procure and use organic produce in their products.

15.4 Set up food industries at manageable decentralised levels in the State with special incentive packages.

Strategy 16

Develop diverse channels for marketing of organic produce

Action

16.1 Set up separate markets / facilities for organic produce certified by the PGS process through the existing channels of marketing of Agriculture products such as the Supplyco, Horti-corp, Haritha and People's Market.

16.2 Encourage direct marketing / linkages by farmers groups with end user institutions such as schools, hostels, hotels, hospitals, Ayurveda centres, SHG's making food products and food-based industries in the State.

16.3 Encourage institutions such as schools, hostels, hospitals and government institutions to procure local organic produce following rules and specific guidelines.

16.4 Disallow large private retail corporations through suitable legislations.

16.5 Encourage existing vegetable, fruits and grocery vendors to promote organic products

16.6 Facilitate the establishment of organic farm produce outlets in all the districts, with the help of Governmental and Non governmental organizations

16.7 Ensure that the Tourism industry through the Responsible Tourism Initiative, source organic produce from local producers as much as possible for their hotels and resorts.

Strategy 17

Develop a simple certification process in the State for all organic farmers

Action

17.1 Encourage through specific scheme the implementation of an internal control system for organic farmer group.

17.2 Encourage the Participatory Guarantee System of Certification for small and marginal farmers to supply to the domestic market.

17.3 NGOs accredited by the PGS Council of India shall be authorised to help implement and monitor the PGS system in the State

17.4 The State will develop an Organic Kerala Certification and logo and "Jaiva Keralam" shall be developed as a brand

Strategy 18

Provide financial incentives for promoting organic farming

Action

18.1 Provide interest-free loans to organic farmers, especially small and marginal farmers. Credits linked to banks shall be subsidized through Central / State Governments.

18.2 Set in place production linked incentive system supports

18.3 Promote revolving funds system.

18.4 Provide assistance during conversion period; two years for annual crops and three years for perennials

18.5 Provide special educational concessions and health services to children of small and marginal organic farmers

18.5 Introduce a State led insurance scheme for small and marginal organic farmers

Strategy 19

Encourage the use of renewable energy sources

Action

19.1 Assistance in terms of expertise and finances should be given for use of biogas plants, solar energy and wind energy units wherever feasible to reduce dependence on external energy sources.

19.2 Develop appropriate small farm machinery for reducing energy, cost and drudgery

Strategy 20

Introduce organic farming in education institutions

Action

20.1 Introduce organic farming in educational institutions through academic inputs. A specific campaign shall be started among students to ensure that they take organically grown food.

20.2 Set up a system in all schools in Kerala to have organic vegetable and fruit gardens as well as paddy, in potential regions, as part of inculcating among the children the love for organic farming and biodiversity conservation and, perpetuation in their households. Necessary support schemes may be formulated and implemented through the Local Self Government Institutions

20.3 Encourage schools to have seed banks and seed farms in the premises, wherever feasible, to produce and supply good quality seeds for the use in their nearby regions.

20.4 Promote children-farmer interfaces in each school, which shall include visits to organic farms.

20.5 Encourage schools to link with organic farmers for supply of rice, vegetables, fruits, pulses, milk, egg and honey as part of the noon-meal and nutritional supplement programmes. The ICDS can also be encouraged to supply organic food processed and prepared through SHG's for the Anganwadi's.

20.6 Provide suitable incentives to baby food industries that use organic inputs and processes.

Strategy21

Reorient Research, Education and Extension

Action

21.1 The KAU would set up a special multi-institutional special task force to re-orient the Research, Education and Extension systems to support the Organic Farming Policy and the transition of the State's agriculture to organic farming.

21.2 The KAU shall develop package of practices and model demonstration farms for organic farming in different agro-ecological zones.

21.3 Introduce as part of the course curriculum, both at under and post graduate levels, interactions with leading organic farmers, groups and NGO's promoting organic farming in the state.

21.4 Develop participatory research programmes with organic farmers on all aspects of organic farming.

21.5 Research and inventories so as to recognize and document existing practices of organic farmers.

21.6 Identify and screen native livestock/fish breeds which are locally adaptable and resistant to parasites and diseases.

21.7 Develop herbal remedies for control of diseases and pests of livestock/ crops/ fish.

21.8 To institutionalise the above, an Organic Farming Research Institute (OFRI) may be set up

Strategy 22

Phase out Chemical Pesticides and Fertilizers from the farming sector

Action

22.1 Ensure phased restriction / ban of sale and use of chemical agricultural inputs such as fertilizers, pesticides, fungicides and weedicides parallel to the implementation of the organic farming policy in the region.

22.2 Through necessary legislation stop the sale and use of the highly toxic Class-1a and 1b pesticides as a preliminary step.

22.3 Declare and maintain ecologically sensitive areas with rich biodiversity and natural resource base (e.g. water bodies), as Chemical Pesticide and Fertilizer-Free Zones.

22.4 Regulate the sale and use of pesticide through necessary legislations, enforcing a prescription based system ensuring that pesticides are sold only on a case-to-case basis after obtaining prescription from the Agriculture Officer.

22.5 Strictly prohibit the sale of pesticides to children, pregnant women and non-farmers

22.6 Generate a database on the non-agricultural use of pesticides (e.g.: household, storage, food processing, construction) and regulate its sale and use.

22.7 Review and regulate promotional activities and advertisements of pesticides as per the FAO Code of Conduct and Guidelines for Pesticide Use.

22.8 Conduct Periodical analysis of water, soil, milk and crops at the district level where pesticides continue to be used and the data made public.

Strategy 23

Integrate of various departments, local self-governments and organizations

Action

23.1 Integrate the various government departments and their schemes in a harmonious manner duly considering organic farming principles and local situations. Major departments are Agriculture, Animal Husbandry, Forest, Fisheries, Local Bodies, Finance, Revenue, Industries, Tribal, Khadi and Village Industries; Board Financial Institutions, State Co-op Department; Kerala Agriculture University, ICAR institutions in the state; Commodity Boards for Spices, Coffee, Tea, Coconut and Rubber; APEDA, MILMA and other milk marketing societies; Farmers' Organisations, Societies, Self Help Groups ; Organic Farming Associations and, NGOs promoting organic farming

Strategy 24

Organisational set-up for promotion of organic farming

Action

24.1 Set up a Three-tier system for implementation of the Organic Farming Policy, Strategy and Action Plan.

24.2 Set-up an Organic Farming Authority of Kerala (OFAK) with the primary goal of promoting organic farming and facilitating an effective, smooth and time-bound transition of the State's agriculture from the conventional chemical intensive farming to the sustainable organic farming. Structure of the OFAK is in annexure 1.

24.3 The Authority would act as an umbrella model integrating agency for organic farming and related programmes of the various departments. It would also be an agency to liaison with national and international bodies in this matter, and would also access / generate funds/ grants and support for implementation of the strategies.

24.4 The Authority will consist of a General Council and Executive Committee:

General Council:

1. Chairman**:** Minister for Agriculture

2. Executive Vice Chairman**:** Elected from among the Organic Farmers Society at the ward level. (For the details of election process, see annexure I)

3. Presidents of the Organic Farming Societies of the districts: 14

4. Representative of the Kerala Agricultural University: 1

5. Representative of the Agricultural Department: 2

6. Representatives of research institutions: 3

7. Representatives of line departments: 4 (Fisheries, Animal husbandry, Local Self Government and Finance)

8. Representatives of NGOs working in the field of agriculture: 3

9. Representative from the Planning Board: 1

The Executive Vice Chairman will be the Member Secretary

Executive Committee:

Chairman: Chief Minister

Vice Chairman: Minister for Agriculture

Members: Minister for Fisheries

Minister for Animal Husbandry

Minister for Local Self Government

Minister for Finance

Representatives of NGOs working in the field of Agriculture: 2

Member Secretary: Executive Vice Chairman of OFAK

24.5 District-level and Panchayat level committees will also be formed in the lines of OFAK.

24.6 At the Panchayat level, Organic Farmer Interest Groups (OFIG's) will be formed which will be represented in the Panchayat level committees.

24.7 An Organic Farming Cell would be started under the Chief Minister's Office (CMO) and a special officer would be appointed to initiate action to coordinate the various stakeholders from the Government and Non Governmental sectors and formally facilitate the establishment of OFAK

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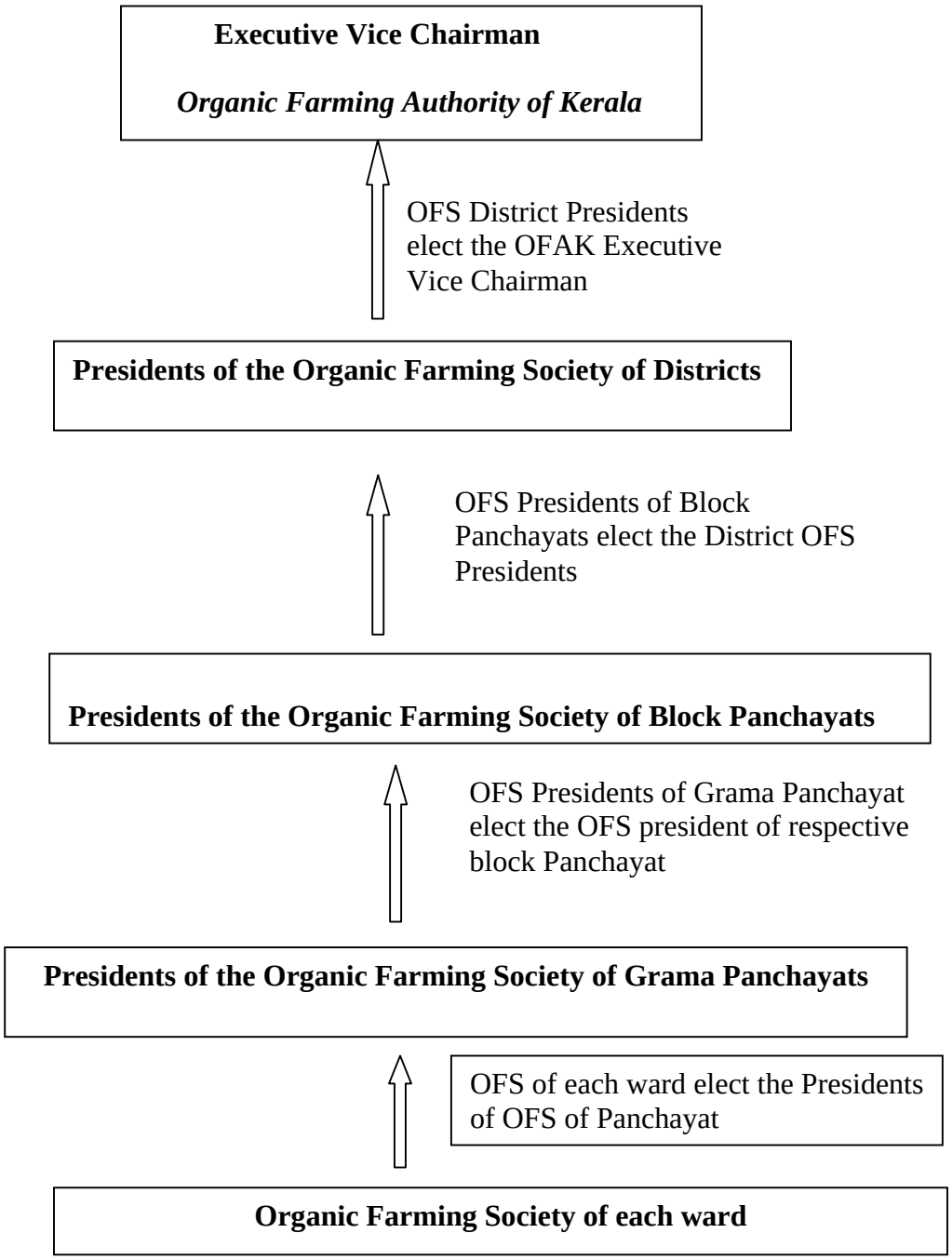
Annexure: 1

Organization of the Organic Farming Authority of Kerala (OFAK)



GOVERNMENT OF KERALA
Environment Department

NOTIFICATION

G.O. (P) No.1/2008/ ENVT Dated, Thiruvananthapuram, 10th June 2008

S.R.O. No. 602/2008. In exercise of the powers conferred by section 63 of the Biological Diversity Act, 2002 (Central Act 18 of 2003), the Government of Kerala hereby make the following rules, namely:-

RULES

1. **Short Title and Commencement. -** *(1)* These rules may be called the Kerala Biological Diversity Rules, 2007,

(2) They shall come into force at once.

2. Definitions. - *(1)* In these rules, unless the context otherwise requires, -

(a) "Act" means the Biological Diversity Act, 2002 (Central Act 18 of 2003);

(b) "Authority" means the National Biodiversity Authority constituted under section 8 of the Act;

(c) "Board" means the Kerala Biodiversity Board established under section 22 of the Act;

(d) "Biodiversity Management Committee" means a Committee constituted by the local bodies under sub section (1) of section 41 of the Act;

(e) "Chairperson" means the Chairperson of the Kerala Biodiversity Board;

(f) "Fee" means any fee prescribed by the Board from time to time;

(g) "Form" means the Form set out in the Schedule to these rules;

(h) "Government" means the Government of Kerala;

(i) "Member" means a member of the Kerala Biodiversity Board and includes the Chairperson thereof;

(j) "Section" means a section of the Act;

(k) "Secretary" means the Member Secretary of the Kerala Biodiversity Board;

(l) "Schedule" means the Schedule appended to these rules;

(m) "Year" means the financial year commencing on the first day of April;

(n) "State biodiversity" means Kerala State Biodiversity

(o) Words and expressions used, but not defined in these rules and defined in the Act shall have the meaning respectively assigned to them in the Act.

3. Manner of Selection and Appointment of the Chairperson

The Chairperson of the Board shall be appointed by the Government either on

deputation from other services or from outside service. The Chairperson shall be an eminent person having adequate knowledge and experience in the conservation and sustainable use of biodiversity and in matters relating to equitable sharing of the benefits. If the appointment is made on deputation, the appointee shall not be below the rank of Secretary to the Government.

4. Term of Office of the Chairperson

(1) The Chairperson of the Board shall hold office for a term of three years from the date on which he enters upon his office and shall be eligible for re-appointment:

Provided that no Chairperson shall hold office as such after he has attained the age of 65 years.

(2) The Chairperson may resign from his office by giving at least one month notice to the Government.

5. Salary, allowances and other conditions of service of the Chairperson

(1) The Chairperson shall be entitled to a fixed pay as may be determined by the Government from time to time. In case a retired person is appointed as the Chairperson, his salary and allowances shall be fixed in accordance with the orders of the Government as applicable to such persons.

(2) The Chairperson shall be entitled to such allowance, leave, provident fund, residential accommodation and other perquisites as may be determined by the Government from time to time.

(3) No pension will ordinarily be attached to the office of the Chairperson or other members of the Board.

6. Appointment, term of office, allowances, etc. of the non-official Members. -

(1) There shall be five non-official members, from amongst the experts in different fields connected with biodiversity issues and the matters related to conservation of biological diversity, sustainable use of biological resources and equitable sharing of benefits arising out of the use of biological resources, nominated by the Government,

(2) Every non-official member shall hold office for a term not exceeding three years at a time from the date of publication of the notification of his appointment in the official gazette,

(3) Every non-official member shall be entitled to sitting allowances at the rate of Rs.500/- per day and traveling allowance, daily allowance and such other allowances as admissible to Class 1 officers of the State Government.

7. Filling up of vacancies of non-official Member

(1) A non-official member of the Board may resign his membership at any time by giving notice in writing under his hand to the Government but shall continue in office until his resignation is accepted by the Government.

(2) Any casual vacancy in the Board shall be filled up by fresh appointment and the person so appointed shall hold office only for the remaining portion of the term of the member in whose place he was appointed,

8. Removal of members of the Board

No member of the Board shall be removed from the office on the grounds enumerated in section 11 of the Act without due and proper enquiry by an officer not below the rank of a Secretary to the Government and without giving him an opportunity of being heard.

9. Appointment of Ex-officio Members

The Government shall appoint the following ex-officio members:

(1) Agriculture Production Commissioner, Agriculture Department

(2) Principal Secretary, Fisheries Department

(3) Principal Secretary, Forest & Wildlife Department

(4) Secretary, Agriculture and Animal Husbandry Department

(5) Secretary, Environment Department

10. **Powers and functions of the Member Secretary of the Board.**

(1) There shall be a Member Secretary to the Board, who shall be appointed by the Government.

(2) The Member Secretary shall be responsible for day to day administration of the Board, convening meetings, maintaining the records of proceedings, management of funds and implementation of activities under various programmes, under the guidance of the Chairperson of the Board.

(3) The Member Secretary, either himself /herself or through an officer authorized for the purpose, may sanction and disburse all payments against the approved budget.

(4) The Member Secretary shall have powers for granting administrative and technical sanctions to the estimates included in the approved budget of the Board on the basis of the decision taken by the Board.

(5) The Member Secretary shall be in charge of all confidential papers and records of the Board and shall be responsible for their safe custody. He shall produce such papers whenever so directed by the Board or by the Government.

(6) The Member Secretary shall maintain confidential reports of all officers and staff of the Board and shall the Chairperson countersign them.

(7) The Member Secretary shall exercise such powers and perform such other functions as may be delegated to him from time to time by the Board.

(8) The terms and conditions of service of the Member Secretary shall be determined by the Government by regulations.

11. Meetings of the Board *(1)* The Board shall meet at least four times in a year, with an interval of three months, at the head office of the Board or at such other place as may be decided by the Chairperson,

(2) The Chairperson shall, upon a written request from not less than five members of the Board or upon a direction of the Government, call for a special meeting of the Board.

(3) The meeting shall be called by notice under the signature of the Chairperson or any other officer authorized in this behalf by the Chairperson, who shall cause of

notice to be delivered safely to each member of the Board at his last known place of residence or business either through messenger or serving it by registered post or in such other manner as the Chairperson may, in the circumstances of the case, think fit.

(4) The member shall be given at least fifteen days notice for holding an ordinary meeting and three days notice for holding a special meeting, specifying the purpose, the time and venue at which such meeting is to be held.

(5) Every meeting shall be presided over by the Chairperson and in his absence by an officer to be elected by the members present from among themselves.

(6) The decision of the Board at a meeting shall, if necessary, be taken by a simple majority of the members present and voting, and the Chairperson or in his absence, the member presiding shall have a second or casting vote.

(7) Each member shall have one vote.

(8) The quorum at every meeting shall be 1/3 rd of the total members of the Board. In case of the absence of quorum, the meeting shall be adjourned for half an hour and reconvened

(9) No member shall be entitled to bring forward for consideration of a meeting any matter of which he has not given ten days' notice in writing unless the Chairperson in his discretion permits him to do so.

12. Functions of the State Biodiversity Board

Without prejudice to the generality of the provisions of this Act, the Board may perform the following particular functions, namely:

(i) lay down the procedure and guidelines to govern the activities under Section 23 of the Act.

(ii) advise the Government, subject to any guidelines issued by the Central Government on any matters relating the conservation of biodiversity, sustainable use of its components and equitable sharing of the benefits arising out of the utilizations of biological resources,

(iii) provide technical assistance and guidance to various departments of the Government;

(iv) Regulate by granting of approvals or otherwise requests for commercial utilization or bio-survey and bio-utilization of any biological resource by any Indian or foreign Nationals/institutions/corporate bodies ;

(v) Facilitate updating and implementation of State Biodiversity Strategy and Action Plan;

(vi) Commission studies and sponsor investigation and research;

(vii) Bio-conservation and preservation of unknown potential of every gene in every species of ecosystem;

(viii) engage consultants for specific periods, not exceeding three years, for providing technical assistance to the Board in the effective discharge of its functions, provided that if it is necessary and expedient to engage any consultant beyond three

years the Board shall seek prior approval of Government for such engagement;

(ix) collect, compile and publish technical and statistical data, manuals, codes and guides relating to conservation of biological diversity, sustainable use of its components and fair and equitable sharing of benefits arising out of the use of biological resource and knowledge;

(x) Inventorisation, cataloguing of biodiversity, monitoring the rate of depletion, awareness creation in public, decision makers and planners and initiating scientific, administrative, legal and socio-economic measures for the protection of biodiversity;

(xi) Compile a complete database on the biodiversity resources in the State;

(xii) Development of statewide strategy for implementing biodiversity programmes;

(xiii) Identify the natural habitat of useful biological communities by enlisting the services of the locally available experts;

(xiv) Preparation of an exhaustive inventory of the species available in the natural habitat of useful biological communities and take steps to preserve them;

(xv) Take steps to build up database and to create information and documentation system for biological resources and associated traditional knowledge through biodiversity registers and electronic database, to ensure effective management, promotions and sustainable uses;

(xvi) To devise methods to ensure protection of rights including intellectual property rights over biological resources and associated knowledge including systems of maintaining confidentiality of such information as appropriate, including the protection of the information recorded in People's Biodiversity Register;

(xvii) Ensure that biodiversity and biodiversity-dependent livelihoods are integrated into all sectors of planning and management, and at all levels of planning from local to state, to enable such sectors and administrative levels to contribute effectively for conservation and sustainable use;

(xviii) Plan and organize training programmes for personnel engaged or likely to be engaged for programmes in the conservation of biological biodiversity and sustainable use of its components;

(xix) Organize through mass media a comprehensive programme regarding conservation of biological diversity, sustainable use of its components and fair and equitable sharing of benefits arising out of the use of biological resource and knowledge;

(xx) Setting up sufficient infrastructure and strengthening technology base in biochemistry and biotechnology including molecular systematics;

(xxi) Preparation of annual budget of the Board incorporating its own receipts as also devolution from the Central and State Governments and National Biodiversity Authority;

(xxii) Recommend creation of posts to the Government for the effective discharge of functions by the Board and to create such posts: Provided that no such posts whether

temporary or permanent posts of any nature shall be created without the prior approval of the Government;

(xxiii) Approve the method of recruitment to such posts;

(xxiv) Fix the terms and conditions of services of the employees (including salary and allowances, leave etc.), with the prior approval of the Government of Kerala.

(xxv) Co-ordinate the activities of the Biodiversity Management Committees;

(xxvi) Give directions to Biodiversity Management Committees for the effective implementation of the Act and to facilitate their meaningful participation in all measures relating to conservation, sustainable use and equitable benefit sharing;

(xxvii) Report to the Government and the National Biodiversity Authority about the functioning of the Board and implementation of the Act;

(xxviii) Recommend, prescribe or modify collection fee of biological resources from time to time;

(xxix) Sanction grant-in-aid and grants to the Biodiversity Management Committee for the specific purpose;

(xxx) Undertake physical inspection of any area within its jurisdiction in connection with the implementation of the Act;

(xxxi) Do such other functions as may be directed by the Government from time to time.

13. Powers and responsibilities of the Chairperson

(1) The Chairperson shall ensure that the affairs of the Board are run efficiently and in accordance with the provisions of the Act and the Rules made there under.

(2) Apart from the general duties and responsibilities specified in the Act and such other powers and duties that may be devolved by the Government over the management of affairs and finances of the Board, the Chairperson shall have the powers of general superintendence over the officers and staff of the Board and the Chairperson may issue necessary directions for the conduct and management of the affairs of the Board.

(3) All orders or instructions to be issued by the Board shall be under the signature of the Chairperson or any other officer authorized on his behalf by the Board.

(4) The Chairperson shall convene and preside over all meetings of the Board and shall ensure that all decisions of the Board are implemented in proper manner.

(5) The Chairperson shall have powers to delegate any or all specific powers enumerated above for a specific period to the Member Secretary or any other officer of the Board.

(6) The Chairperson shall exercise such other powers and perform such other functions as may be delegated to him from time to time by the Board.

14. Employees of the Board, conditions of their service, etc

The Board may appoint such officers and other employees as specified under the Rules and Regulations in respect of Service conditions, recruitment, conduct, finance and purchase as applicable to the Kerala State Council for Science, Technology and

Environment with changes made from time to time.

15. Application and operation of State Biodiversity Fund

(1) The State Biodiversity Fund shall be deposited in a Nationalized Commercial Bank as approved by the Board in the name of the Kerala Biodiversity Fund and operate the same in accordance with the decision of the Board and such other bye-laws as may be framed.

(2) The State Biodiversity Fund shall be operated by the Member Secretary under his seal and signature or by such other officer of the Board as may be authorized by the Member Secretary of the Board with the approval of the Chairperson in this behalf.

(3) The State Biodiversity Fund shall have separate heads of accounts for receipts from -

(i) Central Government,

(ii) National Biodiversity Authority,

(iii) State Government,

and the other concerning the fee, royalty and such other receipts.

16. Procedure for access to collection of biological resources for certain purposes

(1) Every person, other than a person referred to in Sub-Section (2) of Section 3 of the Act seeking approval of the Board for access to collection of biological resource for commercial utilization or bio-survey and bio-utilisation for commercial utilization shall make an application in Form I to the Board. Every application shall be accompanied by a fee of Rs. 100/- (Rupees One Hundred only) in case such access is for research and academic purpose and Rs. 1,000/- (Rupees One Thousand only)for commercial utilization, and shall be in the form of a Demand Draft or a cheque drawn in favour of the Chairperson payable at the head office of the Board. The access to the bioresources shall be as per the guidelines issued by the Board from time to time.

(2) The Board, on due consideration of the application and in consultation with the Biodiversity Management Committee concerned and, after collecting such other additional information, as it may deem necessary, shall take decision on the application as far as possible within a period of 90 days of the receipt of the application.

(3) On being satisfied with the merit of the application, the Board may grant permission, subject to such terms and conditions, as it deems necessary to impose.

(4) The permission shall be in the form of a written agreement signed by the Chairperson or any duly authorized officer of the Board on the one part and the applicant on the other part. The form of agreement shall be prescribed by the Board and shall contain such conditions, as the Board may consider necessary to protect the biological diversity of the country.

(5) The agreement shall provide measures specifically for the conservation, protection and benefit sharing out of the utilization of the biological resources.

(6) The Board shall have the full right to reject any application for good and sufficient reasons, but before rejecting applications it shall give the applicant an opportunity of being heard.

17. Revocation of Permission

(1) The Board may, either *suo-moto* or on the basis of any complaint, withdraw any permission granted or revoke or restrict or modify the written agreement in the circumstances specified below, namely

(a) on the ground of reasonable apprehension that the person to whom the permission was granted has violated any of the provisions of the Act or the conditions on which the permission was granted or he/she has failed to comply with any of the conditions of the written agreement;

(b) in the interest of public cause or for the protection of environment and conservation of biological diversity.

(2) The order revoking or restricting or modifying, as the case may be, shall be made provided that nothing in this rule restricts the right of the Board to pass interim orders to modify or restrict acts permitted by it in the written agreement of approval without giving an opportunity of being heard to the person so affected for the purpose of conserving biological diversity or sustainable use of biological resources.

(3) The Board shall communicate a copy of the order of such withdrawal or revocation, as the case may be, to the Biodiversity Management Committee and the local body concerned for prohibiting the person concerned from utilizing the biological resources and also to assess the damage, if any, caused and to recover the damages.

18. Annual Report and Annual Statement of Accounts

(1) The Board shall prepare its annual report for each year giving detailed accounts of its plan of action, activities, achievements and such other details as it may consider appropriate and necessary and, the annual statement of accounts and submit a copy there of to the Government.

(2) The accounts of the Board shall be audited by the Accountant General of the State and the expenditure, if any, towards it shall be borne by the Board.

(3) The Board shall submit the annual report together with the audited statement of accounts for each year to the Government by the 30th of the month of September so as to enable the Government to lay them before the Legislative Assembly.

19. Establishment and management of Biodiversity Heritage Sites

(1) The Board shall, in consultation with local bodies and other key stakeholders, take necessary steps to facilitate setting up of areas of significant biodiversity values as Heritage Sites. On recommendation from the Board the Government shall issue notification to this effect.

(2) The Board shall frame guidelines for the management and other aspects of Heritage Sites, ensuring the decision-making role for relevant Biodiversity Management Committees.

20. Constitution of Biodiversity Management Committees

(1) Every local body shall constitute a Biodiversity Management Committee (BMC) within its area of jurisdiction. Accordingly, Biodiversity Management Committees are to be constituted at Grama Panchayat level as well as Municipality

and Municipal Corporation levels.

(2) The Biodiversity Management Committees constituted under sub rule (1) shall consist of a Chairperson and not more than six members nominated by the local body, of whom, not less than one third shall be women, one member should belong to Scheduled castes/ Scheduled tribes. The six persons being so nominated shall include herbalists, agriculturists, Non-Timber Forest Produces collectors/traders, fisher folk, representatives of user associations, community workers, academicians and any person/ representative of organization, on whom the local body trusts that it can significantly contribute to the mandate of the Biodiversity Management Committee. All the above persons should be residents of the local body and their names should be in the voters list.

(3) The local body shall nominate six special invitees from forest, agriculture, animal husbandry, livestock, health, fisheries and education departments.

(4) The Chairperson of the Biodiversity Management Committee shall be Chairperson of the local body and the Secretary of the local body shall be the member Secretary of the Biodiversity Management Committee, who shall maintain all the records. The Chairperson of the Biodiversity Management Committee shall have casting vote in the case of a tie.

(5) The Member of the Legislative Assembly of the locality and Member of Parliament would be special invitees to the meetings of the Biodiversity Management Committees at different levels.

(6) A technical support group comprising experts in the field of biodiversity drawn from government agencies, Non Governmental Organizations, academic field, community and individuals shall be established by Biodiversity Board. The expert group shall lend support to Biodiversity Management Committees.

(7) The key mandate of the Biodiversity Management Committees will be to ensure conservation, utilization and equitable sharing of benefits from the biodiversity. The Biodiversity Management Committees shall facilitate the preparation of people's Biodiversity Registers at Grama Panchayat/ Municipality/ Municipal Corporation levels by the respective Biodiversity Management Committees using the process and the format set by the Board. The Register shall contain comprehensive information on availability and knowledge of local biological resources, their medicinal or any other use or any other traditional knowledge associated with them. The Board shall be responsible for developing a district wide network of People's Biodiversity Registers database. The Biodiversity Management Committees and local bodies will be responsible for ensuring the protection of the knowledge recorded in the People's Biodiversity Registers, especially to regulate its access to outside agencies and individuals.

(8) The other functions of the Biodiversity Management Committee are to advise on any matter referred to it by the State Biodiversity Board or Authority for granting approval, and to maintain data about the local *Vaidyas* and practitioners using biological resources.

(9) The Grama panchayat/Municipality/Corporation levels Biodiversity Management Committees shall strive to mainstream biodiversity conservation concerns in the development planning process at local level.

(10) The Board shall provide guidance and technical support to the Biodiversity Management Committees for preparing People's Biodiversity Registers, and shall ensure that all information recorded in such Registers receive legal protection against misuse and appropriation by outside agencies and individuals.

(11) The people's Biodiversity Registers shall be maintained and validated by the Biodiversity Management Committees.

(12) The committee shall also maintain Register giving information about the details of the access to biological resources and traditional knowledge granted, details of the collection fee imposed and details of the benefits derived and the mode of their sharing.

(13) The Biodiversity Management Committees at Grama Panchayat/ Municipality/Municipal Corporation levels may decide the terms on which it would permit access to biodiversity resources and associated knowledge to different parties for various purposes within their jurisdiction and levy charges by way of collection fees from any person for accessing or collecting any biological resources for commercial purpose from the area falling within its jurisdiction. 80% of levy charged for the material collected/ cultivated from private land should be given to the owner/ cultivator of the land/ knowledge holder/s and the balance should be deposited in Local Biodiversity Fund of Biodiversity Management Committee. The levy charged for the material collected/ cultivated from government land should be totally deposited in Local Biodiversity Fund of Biodiversity Management Committee.

(14) The Board shall provide guidelines for terms of access and fee collection by the Biodiversity Management Committees.

(15) The Grama panchayat/ Municipality/ Municipal Corporation level Biodiversity Management Committees shall prepare a Biodiversity Management Plan using output from People's Biodiversity Register and in consultation with the Board, and will be responsible for or participate in its implementation.

(16) The local bodies shall ensure that the Biodiversity Management Committees are integrated with the functioning of existing local institutions by cross-membership, regular coordination meetings, and other such measures, as determined by the local bodies or as specified by the Board.

(17) Other functions of the Biodiversity Management Committees are to advise on any matter referred to it by the State Biodiversity Board or Authority for granting approval, to maintain data about the local *Vaidyas* and practitioners using the biological resources.

21. Utilization of Local Biodiversity Fund

(1) The Local Biodiversity Fund shall be utilized strictly in accordance with the provisions of sub-sections (1) and (2) of section 44 of the Act and the fund shall be

used for conservation and promotion of biodiversity in areas falling within the jurisdiction of the concerned local body and for the benefit of the community so far such use is consistent with the conservation of biodiversity.

(2) The Fund shall be deposited in a Nationalized Commercial Bank approved by the Biodiversity Management Committee concerned and it shall be operated by the Chairperson of the Committee under his/her seal and signature or any other officer of the Biodiversity Management Committee as may be authorized by the Chairperson in this behalf.

22. Annual Reports and Annual Statement of Accounts of Biodiversity Management Committee

(1) The Biodiversity Management Committee shall prepare the Annual Report for each year giving detailed accounts of its activities. The Annual Report shall invariably contain:

(a) the name of the Committee
(b) the period to which the report relates
(c) the incumbency of office for the period
(d) detailed statement of programmes of action for the year
(e) detailed report on the activities performed during the year, and
(f) a brief account of financial position of the Committee.

(2) The accounts of the Local Biodiversity Fund shall be audited by the Examiner of Local Fund Audits in consultation with the Accountant General.

(3) The Biodiversity Management Committee shall submit the annual report together with the audited statement of accounts to the local body concerned by the 30th of the month of September, to enable the Local Body to submit it to the Board.

23. Removal of doubts.

If any doubt arises as to the interpretation of any of the provisions of these rules, the matter shall be referred to the Government, whose decision thereon shall be final.

By Order of the Governor

Secretary

EXPLANATORY NOTE

(This does not form part of the notification, but it is intended to indicate its general purport.)

Sub Section (1) of Section 63 of the Biological Diversity Act, 2002 (No.18 of 2003), empowers the State Government to frame State Biological Diversity Rule for the enforcement of the Act. Accordingly in exercise of the powers the State Government has framed the Kerala Biological Diversity Rule 2007.

The notification is intended to achieve the above objects.

SCHEDULE

FORM I

(See rule 16)

Application form for access to or collection of biological resources for commercial utilization and associated traditional knowledge

Part A

1. Full particulars of the applicant:
   - (i) Name:
   - (ii) Permanent address:
   - (iii) Address of the contact person / agent, if any, in India:
   - (iv) Profile of the organization (personal profile in case the applicant is an Individual). Please attach relevant documents of authentication):
   - (v) Nature of business:
   - (vi) Turnover of the organization in rupees:

2. Details and specific information about nature of access sought and biological material And/or associated knowledge to be accessed:
   - (i) Identification (scientific name) of biological resources and its traditional use:
   - (ii) Geographical location (including grama panchayat, janpad, and district) of proposed collection:
   - (iii) Description / nature of traditional knowledge and its existing manifestations and uses (oral / documented):
   - (iv) Any identified individual / family / community holding the traditional knowledge:
   - (v) Quantity of biological resources to be collected:
   - (vi) Time span in which the biological resources are proposed to be collected:
   - (vii) Name the number of persons authorized by the company for making the selection:
   - (viii) The purpose for which the access is requested including the type and extends of research, commercial use being derived and expected to be derived from it:
   - (ix) Whether any collection or use of the resource endangers any component of biological diversity and the risks, which may arise from the access:

3. Estimation of benefits that would flow to communities arising out of the use of Accessed bioresearches and traditional knowledge:
4. Proposed mechanism and arrangements for benefit sharing:
5. Any other relevant information:

Part B

Declaration

I/ we declare that the collection and use of the proposed biological resources shall not:

- Adversely affect the sustainability of the resources;
- Entail any environmental impact;
- Pose any risk to biodiversity, including ecosystems, species and genetic diversity;
- Adversely affect the local communities;

I/we undertake to pay any fee and/ or royalty, as may be levied by the Board or Biodiversity Management Committees. I/we further undertake to furnish any irrevocable bank guarantee, as may be prescribed by the Board.

I/we further declare the information provided in the application form is true and Correct and I /we shall be responsible for the accuracy.

Place: Signature of the Applicant

Date:

Name of the Applicant

Can Organic Agriculture Replace Conventional Agriculture?

Reflections on the Organic Agricultural Policy proposed by the Bio Diversity Board of Kerala

Published by

The Teachers' Organization of the Kerala Agricultural University (TOKAU)

Contents

Preface

The Teachers' Organization of the Kerala Agricultural University decided to come out with its reflections on the newly mooted policy on organic agriculture in view of the growing concern among the technical and farming community on the impact of such a far-reaching step. As far as technological component of agricultural development is concerned, the formal research and extension system is at the receiving end. Alternative strategies suggested have diverse perspectives; they range from the postmodern fad of abject denial of all scientific advancements in agricultural research to the right wing pro liberalization trend of absolute subjugation to the overwhelming technological interventions of multinational giants to commercialize agricultural research and private extension.

There are divergent arguments on every practice in agriculture. These unavoidable contradictions are more obvious in the case of organic agriculture; with the advocates of pure organic agriculture arguing for traditional production processes, complete ban on chemical fertilizers and pesticides, reversal or drastic turnaround of consumption pattern, and so on; and the counter arguments stemming from concerns on food security, ever-increasing population, inadequate production, enhancing productivity, etc. Although substantial research has been done on almost every aspect of these debatable issues by different agencies, solutions are often regarded as partial and biased and as conforming to the parochial interests of vested groups.

Both these arguments do raise some very serious questions on the plight of agriculture as a means of ensuring sovereignty of a nation. Included in it are several socio- economic, political and environmental concerns and concomitant technological issues that have direct bearing on research, extension and education.

As we understand, organic agriculture emerged as an alternate strategy of agricultural production in view of declining environmental health and sustainability of the factors of agricultural production. However, some of the practices followed in organic agriculture even breaches the acclaimed methods of scientific enquiry and shows lenience towards metaphysical and pseudo scientific methods.

Nobody disagree that input intensive agriculture is unsustainable in the end. This has brought to focus environmental concerns as well, particularly, perils of mono culture and the issues on preserving bio diversity of soil and natural flora and fauna, including micro organisms. It is undoubtedly established that safer agricultural practices have long-standing implications as far as sustainability of soil productivity and other factors of production are concerned. It is difficult to reconcile these contradictory approaches though it needs to be addressed soon in the interest of the farming community.

We decided to explore the present status of organic farming in the state in the backdrop of the national and international experience and to review locally relevant studies on this subject in the light of real life experiences that are reported from within the state and country as well as abroad. Being representatives of a true scientific community we feel that it is natural and customary from our part to distinguish between the rhetoric and reality of organic farming and come out with an objective view point over this issue.

This assumes greater importance now, as the recently constituted Bio Diversity Board of Kerala has come up with a draft policy on organic agriculture with the expectant stand of complete replacement of conventional agriculture with organic farming. The proposed

policy envisages conversion of entire Kerala's agricultural sector to organic methods in a period of five years. No attempt has been made for objectively assessing the possibility of such a massive social move, which would amount to absolute reversal of existing practices. The arguments that are presented to bolster this cause are also not grounded firmly on existing statistics and current research results.

What exactly should we do? Should we deny the advances in research and go back to primitive means of production? Would the environment conscious practices be sufficient to address the greater concerns of the poverty-stricken millions of the developing economies? According to some environmentalists, food grains need not be the only food for humans, what must be ensured is nutritional security. Rhetoric is fine, but can anybody guarantee that organic faming ensures food or nutritional security?

Is it logically proven that the enigmatic Malthusian theory could be disproved once again as claimed to have happened in green revolution? It is feared that taking extreme positions would land the teeming millions in peril. As long as strict and sure answers are unavailable, we have to explore the existing realities and challenges ahead and synthesize new approaches by imbibing relevant lessons from all sides, by ensuring replicability and scalability. The only scientific solution for attaining food and nutritional security is the adoption of Good Agricultural Practises (GAP), which rely on time-tested practices like integrated nutrient management (INM) and integrated pest management apart from the use of good quality seed. Post harvest management and value addition are neglected zones in this policy.

The following pages contain the deliberations made at a workshop of agricultural scientists on the prospects of organic farming in the state, held at the College of Horticulture, Vellanikkara, Thissur during November 2008.

The Teachers' Organisation of Kerala Agricultural University is immensely thankful to Dr. C. George Thomas , Dr. Muraleedhara Prasad, Dr. Jacob Thomas, Dr. Binoo P Bonny, Dr. K M Sreekumar, Dr. K D Prathapan, Dr. Prema A, Dr. Laly John, Dr. P S John, Dr. V.R. Reghunandanan, Dr. P.V. Shylaja, Dr. Asha Shankar, , Dr. Sujatha, R, Dr. Peethambaran, Dr. Narayanan---------- for contributing to this document.

Equally important had been the role of a group of scientists who explored different aspects and dimensions of organic agriculture diligently and with commitment, whose names are appended at the end of this document. Senior scientists of the university had been immensely instrumental in drafting this document

Editors

Abstract

Modern farming evolved out of the pressing needs of the human race to produce food in congruence with increasing population and depleting land resources for farming. In India, in

the post–independent era, the intensification of farming through the adoption of modern technologies helped food production to keep pace with population growth and avoided famines and starvation deaths. However, the Green Revolution is over, and the food production has attained a plateau hovering around 210 million tonnes. Although 'alternate' farming methods such as organic farming have been suggested as remedies by the post modernists criticizing 'reductionism', these are not going to solve the problem of hunger in a highly populated country like India where population growth surpasses food production growth. Organic farming is not economically or socially viable in poorer countries.

The scientific basis and data for the success of organic farming to be the only alternative to modern agriculture is yet to be proved. Due to its lower productivity and high cost of production, organic farming will leave many Indians hungry and malnourished.

The only hope is sustainable agricultural practices without significantly damaging the environment, and ensuring that food is accessible to all. It is hoped that we can have an evergreen revolution through the adoption of sustainable agricultural strategies focusing on the food crops grown by millions of people who lack food security.

Biodiversity is in peril because of human activities other than agriculture. Rather than trying to convert the entire conventional modern agriculture to organic farming there are several environmental issues in Kerala, which need immediate attention. This includes threats to the wetlands, indiscriminate mining of sands and clay, destruction of forests, unabated soil erosion, conversion of paddy fields, leveling of hills, water crisis, waste disposal, climate change, increased use of plastics, pollution, and so on.

Analyses on the production trends of major crops of Kerala show that the production and productivity have been unsteady, and are not very encouraging for the resource poor farmers. Going by the rough estimate of 40 to 60 per cent yield reduction at least during the conversion period to organic farming from modern farming, it would mean substantial reduction in the production and productivity of major crops, which would have multiple consequences, like compelling farmers to opt out of agriculture as an occupation, further reducing production. This would aggravate the present trend of attrition of human resources from agricultural sector.

The possibilities of ushering in organic agriculture in major crops have been discussed. In most of the crops, it is very difficult to implement 100 percent organic methods. However, traditional organic farming may have advantage in certain crops and areas where modern methods are consciously avoided, for example, Pokkali rice, scented rice, and medicinal plants. Export oriented spice crops and plantation crops like cashew can be converted in to organic farming without much consequence to the state food bowl and economy.

For pest control, the integrated management approach, which attempts to strike a balance between the ever-growing needs of the human population and mitigation of the pesticide hazards, is envisaged. Chemical pesticide is the last and often the only weapon against pest outbreaks. Complete withdrawal of this would be fraught with disastrous consequences. Availability and feasibility of non-chemical methods of pest control as well as the role of pesticides in the management of key pests on important crops in Kerala is discussed.

Policy initiatives for complete elimination of synthetic products will be disastrous for Indian agriculture in the long run. Due to its lower productivity and high cost of production, organic farming will leave many Indians hungry and malnourished. A sustainable agricultural system, based on Good Agricultural Practises (GAP) integrating environmental health, economic profitability and social and economic equity is the answer for the future.

TF (2)13129/10

Directorate of Agriculture
Dated 26.8.2010

CIRCULAR

Sub: Annual Plan 2010-11-Organic Farming Programme-guidelines & working instructions-issuing of-

Ref: 1. GO (Rt) No 1032/10/AD dated 4.6.10 of Agriculture (PB) Department.

2. Decisions in the Organic Mission workshop on 22.7.10 at CSPHC. Parottukonam.

Vide reference 1st cited above, Government of Kerala have accorded administrative sanction for the implementation of Organic Farming Programme at an estimated cost of Rs 100 lakhs earmarked under the head of account 2401-00-105-85 Plan.

Organic farming is the fastest growing agricultural production system in the world addressing ecological conservation, self reliance in food production, rural development, biodiversity conservation and health protection. It is becoming increasingly popular in the State and the demand for organic products is growing rapidly. Organic farming not only increases the income of the farmers as the organic products get a premium ptice but also helps in moving towards sustainable agriculture. Organic farming aims at production of quality and safe agricultural products which contain no chemical residues, following eco-friendly production methods and the farming systems that restore and maintain soil fertility. The adoption of modern agriculture production package to get more produces resulted in extensive and indiscriminate use of chemical fertilizers, pesticides and weedicides and ignored application of organic manure, which in turn, caused physical, chemical and biological deterioration of soil health.

Even though the agricultural production has increased, the holistic ecological sustainability and biodiversity decreased in a rapid manner because of continuous usage of these chemicals and unsuccessful agricultural management practices and many green revolution areas in India have become agriculturally non viable. This phenomenon is universal and a global realization to the effect that the existing agriculture could no more help sustainable agro ecosystem in gaining momentum. And it needs a total reorientation with a focus on ecological sustainability. For achieving this goal, organic agriculture is being adopted which is an agricultural system that promotes sustainable and sound production of food and agricultural produces leading to integrated sustainable development. In addition to improving food quality and environment, there is potential for organic agriculture in reducing production cost, stabilizing yields and increasing farmer's income.

Objectives of the programme.

1. Create awareness about better quality safe food
2. Increase income to farmers through premium price for their organic products.
3. Gradual withdrawal of chemicals in crop production.
4. Sustainable production and productivity of crops.
5. Increasing employment opportunities.
6. Improve income of farming community.
7. Conservation of natural resources and biodiversity and prevention of damage to environment.

8. Maintain and improve long term fertility of soil.
9. Ensuring food security.

Area earmarked for organic cultivation

As per reference 1st and 2nd cited above, it was decided to implement the programme in the following 20 potential blocks / Krishi Bhavans of the 14 districts.

Sl No	District	Block	Krishi Bhavan
1	Thiruvananthapuram	Parassala	Parassala
2	Kollam	Chadayamangalam	Kadakkal
3	Alappuzha	Kuthiyathode	Piravoor
4	Pathanamthitta	Pullad	Thottapuzhassery
5	Idukki	Devikulam	Devikulam
6		Nedumkandam	Nedumkandam
7		Idukki	Kamakshy
8		Adimali	Konnathady
9		Kattappana	Erattayar
10	Kottayam	Madappally	Vazhappally
11	Ernakulam	Piravom	Palakuzha
12	Thrissur	Puzhakkal	Adat
13	Palakkad	Alathur	Erumayur
14	Malappuram	Thavanur	Edappal
15	Kozhikkode	Koyilandy	Chengottukavu
16	Wayanad	Mananthavady	Edavaka
17		Sulthan Bathery	Nenmeni
18		Kalpetta	Kariyampatta
19	Kannur	Iritty	Aralam
20	Kasaragod	Neeleswaram	Cheruvathoor

During 2010-11 an area of 900 Ha will be brought under organic cultivation and crops such as rice, vegetables, tubers and spices will be covered under organic cultivation during the year. Publicity has to be given to the schemes like Vegetable (Organic) area expansion programme, cultivation of scented rice in Waynad, Organic schemes under RKVY, SHM, LSG programmes, schemes implemented by VFPCK etc.

Assistance

Assistance to the tune of Rs 10000/- will be provided to farmers to produce rice, vegetables, tubers, spices and coconut organically. Even though in Kerala, due to its unique situation both climatologically and topographically, organic farming is an alternative farming system in selected areas and in selected groups. There will be a yield reduction in the transition period. In order to compensate the yield drop in the transition period, assistance should be provided to farmers apart from the input costs. The financial assistance of Rs 10000/- shall include the compensation for yield drop in the transition period also. The total amount proposed during 2010-11 for this component is Rs 90 lakhs.

An amount of Rs 10 lakhs is proposed to be set apart for promotional activities like creation of awareness, publicity, seminars, group discussions, field visit and other miscellaneous activities in connection with the implementation of the programme. An amount of

Rs 3 lakhs will be retained at the Head quarters and Rs 7 lakhs will be distributed to the districts @ Rs 35000/- per block.

The Organic farming will be implemented under the following conditions.

Group approach

A compact area of 45 Ha in the selected Panchayath has to be marked for the implementation of the programme.

The selection of groups has to be completed by 20th August 2010.

The farmers should ensure among themselves that they use only organic inputs. The group has to see that a mixed farming method is practiced in the area giving importance to food production, soil and water conservation and protect the environment by preserving the biodiversity of the land. They should make themselves self reliant in organic input availability to minimize cost of cultivation.

School children and housewives are the target groups. They have to be made aware of the hazards of the use of chemical pesticides and weedicides in farming. The scope of introduction of medicinal plants, azolla units, biogas plants, vermicompost units etc in the group have to be studied and incorporated.

A daily diary of activities should be maintained by the farmer/group and made available for checking. An enrolment number should be provided to each farmer as a personal identity as well as code to market their produce.

Shanna and adoption of traditional knowledge and indigenous technology is to be encouraged.

Inputs

The Grass root level officers have to analyze the requirement of inputs based on the requirement as per organic Package of Practices (Jaiva Krishi Sahayi) and the soil test data. For this the soil analysis of the selected Krishi Bhavans are to be done on a war foot basis and the work should be completed before 25th September 2010. The Assistant Soil Chemists should analyze the samples of this area and the results should be furnished immediately.

Based on the soil test data and jaiva krishi sahayi, the Agricultural Officers should assess the annual requirement of organic manure. The annual availability of traditional organic manure in the form of cowdung, goat/sheep/pig/poultry manure, Farm yard manure, various composts, biogas slurry etc has to be assessed before 25th September 2010. The Assistant Directors have to assess the availability of organic manure within the Block so that sufficient quantity can be made available from within the block.

Biofertilizers permitted as per Fertilizer Control Order can also be used.

Organic pesticide formulations has to be prepared in-situ and used.

Trainings

Training to farmers

This envisages creation of awareness and educating farmers in various aspects of organic farming to motivate the farmers. Training will be given to propagate appropriate techniques and technologies of organic farming, processing and post harvest management and marketing, organic certification procedures, farm record keeping etc. The main objectives of the programme are to equip farmers with necessary knowledge and information in organic farming practices and to arrange practical demonstrations.

Farmers should be trained at KAUCs/SAMETI/KVKs/FICs/NGOs utilizing the funds under AIMA. Practical training on organic input production is essential. Training at farmers' field is most ideal. Resource persons from Kerala Agricultural University, NGO s etc can be utilized.

KAU involved

Training to Officers

The Officers involved in the scheme have to be trained tio equip them about appropriate techniques and technologies of organic farming, processing and post harvest management and marketing, organic certification procedures, farm record keeping, quality control aspects etc.

Marketing

The six markets under the Department of Agriculture can be utilized for marketing organic produce. Facilities to sort, grade, pack and label the produce with 'Jaiva Kerala' logo' has to be made in the market.

Facilities to market organic produce can be arranged by forming farmers groups' market/ jaiva karshaka vipany with the assistance of SHM schemes.

Publicity

Wide publicity should be given for the programme on campaign basis to promote organic farming; with the involvement of Kerala Agricultural University, SHM, VFPCK, LSGs and NGOs. More emphasis has to be given to children and women. Campaigns should focus on composting of house hold wastes, water harvesting, protection of soil, water, environment and biodiversity etc. Promotional activities like creation of awareness, seminars, field visits are to be done.

All these activities have to be completed and formal launching of the programme has to be done on 2nd October 2010.

Financial outlay of the programme

Sl No	Name of the component	Amount (Rs in lakhs)
1	Assistance for promotion of organic cultivation	90.00
2	Promotional activities	10.00
3	Training in organic input production and quality control	Regular programme
	TOTAL	**100.00**

Sl No	Name of the district	Amount(Rs in lakhs)
1	Thiruvananthapuram	4.85
2	Kollam	4.85
3	Alappuzha	4.85
4	Pathanamthitta	4.85
5	Idukki	24.25
6	Kottayam	4.85
7	Ernakulam	4.85
8	Thrissur	4.85
9	Palakkad	4.85
10	Malappuram	4.85
11	Kozhikkode	4.85
12	Wayanad	14.55
13	Kannur	4.85
14	Kasaragod	4.85
	TOTAL	97.00

Monitoring

In the district Deputy Director of Agriculture (E&I) will be the implementing officer for Organic farming. Deputy Director of Agriculture (H) will continue to be the implementing officer for SHM schemes.

monitor the progress at implementation of the scheme at the district level. Principal Agricultural Officer will submit detailed component wise monthly progress report to the Director of Agriculture, by the 5th of every month.

At the State level Additional Director of Agriculture (CP) will monitor the progress of implementation of the scheme.

Sd/-

Director of Agriculture

To

All Principal Agricultural Officers
All DDA (E&T)/DDA (H)
CSC
DDA, FQCLs Parottukonam & Pattambi
DDA, SPTL & SBCL.

Susheela Peethambaran
9447903727
January

കേരള സർക്കാർ
സംഗ്രഹം

കൃഷി വകുപ്പ് -ജൈവ കാർഷിക നയത്തിന്റെ ഭാഗമായി വിഷവീര്യം കൂടിയ കീടനാശിനികൾ/കുമിൾനാശനികൾ/കളനാശിനികൾ പൂർണ്ണമായും കേരളത്തിൽ നിരോധിച്ചുകൊണ്ട് ഉത്തരവ് പുറപ്പെടുവിക്കുന്നു.

കൃഷി (എൻ.സി.എ.) വകുപ്പ്

ജി.ഒ. (എം.എസ്) നം. 116/2011/കൃഷി തീയതി 7-5-2011

പരാമർശം: 1) 10-2-2010 ലെ സ.ഉ. (പി) നമ്പർ 39/2010/കൃഷി
2) 2/12/2010 ലെ സ..ഉ. (എം.എസ്) 310/2010/കൃഷി
3) 17/10/2011 ലെ സ.ഉ (എം.എസ്)22/2011/കൃഷി

ഉത്തരവ്

പരാമർശം ഒന്നിലെ ഉത്തരവ് പ്രകാരം കേരള സംസ്ഥാന ജൈവ കാർഷിക നയം ഭേദഗതി ചെയ്ത് പുതുക്കിയ നയരേഖ അംഗീകരിച്ച് സർക്കാർ ഉത്തരവ് പുറപ്പെടുവിക്കുകയുണ്ടായി. കേരളത്തെ മുഴുവനായും രാസകീടനാശിനി വിമുക്ത മേഖല ആക്കി മാറ്റുക എന്നത് സർക്കാരിന്റെ നയമാണ്. ഇതു പ്രാവർത്തികമാക്കുന്നതിന്റെ ആദ്യ പടിയായി കാസർഗോഡ് ജില്ലയിൽ കടും ചുവപ്പും കടും മഞ്ഞയും ലേബലുകളിൽ വിൽക്കപ്പെടുന്നിരുന്ന കീടനാശിനികളുടെ ഉൽപ്പാദനവും വിതരണവും ഉപയോഗവും നിരോധിച്ചുകൊണ്ട് പരാമർശം രണ്ട് പ്രകാരം ഉത്തരവായിരുന്നു. പരാമർശം 3 പ്രകാരം കേരളത്തിലെ കീടനാശിനികളുടെ വിതരണവും ഉപയോഗവും നയന്ത്രിക്കുന്നതിനായി മാർഗ്ഗ നിർദ്ദേശം പുറപ്പെടുവിച്ചിട്ടുണ്ട്. ജൈവകൃഷി നയം പ്രാവർത്തികമാക്കുന്നതിന്റെ തുടർനടപടി എന്ന നിലയിൽ വിഷവീര്യം കൂടിയതും മനുഷ്യ ജീവന് ഹാനികരവുമായ കീടനാശിനികൾ കേരളത്തിൽ ഇപ്പോഴും ഉപയോഗത്തിൽ ഉള്ളതായി ബോദ്ധ്യപ്പെട്ടതിന്റെ

അടിസ്ഥാനത്തിൽ താഴെ പറയുന്ന കീടനാശിനികൾ/കുമിൾ നാശിനികൾ/കളനാശിനികൾ എന്നിവയുടെ വിൽപ്പനയും വിതരണവും ഉപയോഗവും കേരളത്തിൽ നിരോധിച്ചുകൊണ്ട് ഉത്തരവാകുന്നു.

വിഷവീര്യം കൂടിയ ചുവപ്പ് ലേബലുള്ള കീടനാശിനികളായ CARBOFURAN, PHORATE METHYL PARATHION, MONOCROTOPHOS, METHYL DEMETON എന്നിവയും മഞ്ഞ നിറത്തിലുള്ള ലേബലോടു കൂടിയ കീടനാശിനികളായ TRIAZOPHOS, PREPHENOPHOS എന്നിവയും കുമിൾ നാശിനികളായ EDIPHENPHOS, TRICYLAZOLE, OXYTHIOQUINOX എന്നിവയും കളനാശിനിയായ ANILOPHOS, PARAQUAT, THIOBENCARB, ATRAZIN.

ഇതിന് പകരം ഉപയോഗിക്കാവുന്ന ജൈവിക രോഗ കീടനാശിനികളും പ്രതിരോധ മാർഗ്ഗങ്ങളും വിള പരിപാലന മുറകളും കേരള കാർഷിക സർവ്വകലാശാലയും കൃഷി വകുപ്പും ചേർന്ന് നിർദ്ദേശിച്ചിട്ടുള്ളതാണ്. ഇതിനായി കമ്മിറ്റി രൂപീകരിക്കുന്നതാണ്. ഇതിലെ അംഗങ്ങൾ കൃഷി വകുപ്പ് ഡയറക്ടർ, കാർഷിക സർവ്വകലാശാല വിജ്ഞാന വ്യാപന വിഭാഗം മേധാവി, ഗവേഷണ വിഭാഗം മേധാവി, അഡീഷണൽ ഡയറക്ടർ, കോ-ഓപ്രാഡക്ഷൻ കൃഷി വകുപ്പ്, ബയോ ഡൈവേഴ്സിറ്റി ചെയർമാൻ എന്നിവരായിരിക്കും. നിരോധിക്കപ്പെടുന്ന കെമിക്കലിന്റെ ബദൽ നിർദ്ദേശങ്ങൾ ഈ കമ്മിറ്റി സമർപ്പിക്കേണ്ടതാണ്. ഈ ഉത്തരവ് പ്രാവർത്തികമാക്കാനുള്ള നടപടി ക്രമങ്ങൾ ടി കമ്മിറ്റി 10 ദിവസത്തിനുള്ളിൽ നിർദ്ദേശിക്കേണ്ടതാണ്.

ഈ ഉത്തരവുകൾ പ്രാവർത്തികമാക്കുന്നതിന്റെ ഭാഗമായി കേരള കാർഷിക സർവ്വകലാശാല ആവശ്യമായ ഭേദഗതികൾ വരുത്തേണ്ടതാണ്.

ഗവർണ്ണറുടെ ഉത്തരവിൻ പ്രകാരം
ഡോ. ജയതിലക്
സെക്രട്ടറി

Endt. On TD(1) 35185/2010

Directorate of Agriculture,
Thiruvananthapuram, dated: 11-05-2011

Sd/-
Joint Director of Agriculture (PP),
For Principal Agricultural Officer

കീഴെഴുത്ത് നമ്പർ ടി.എ. (2) 3675/11 എഫ്.ഡിസ്. പ്രിൻസിപ്പൽ കൃഷി ഓഫീസ്
വയനാട്. തീയതി : 19-05-2011

പകർപ്പ് എല്ലാ കൃഷി അസിസ്റ്റന്റ് ഡയറക്ടർമാർക്കും എല്ലാ കൃഷി ഭവനുകളിലേയും ചീങ്ങേരി എക്സ്റ്റൻഷൻ സ്കീം അമ്പലവയൽ എന്നിവിടങ്ങളിലേയും , മണ്ണുപരിശോധന ലാബിലേയും കൃഷി ഓഫീസർമാർക്ക് അറിവിലേക്കും ആവശ്യമായ നടപടികൾക്കുമായി നൽകുന്നു.

പ്രിൻസിപ്പൽ കൃഷി ഓഫീസറുടെ സി.എ.യ്ക്ക്

പ്രിൻസിപ്പൽ കൃഷി ഓഫീസർ

Scale of fees (Organic)

Item	Certification only on NPOP (Rs.)	Certification on Indian and foreign standards (Rs.)	Remarks
Fee for inspection and certification Small holder groups/grower Groups/ICS	6000/- per day 750/- per hour	Same rate as NPOP	For preparations inspection visits and certification work
Fee for inspection and certification Individual farmers (Small)	4000/- per day 500 per hour	Same rate as NPOP	--
Fee for inspection and certification Individual farmers (Big)	4800/- per day 600/- per hour	Same rate as NPOP	--
Fee for inspection and certification Small processors	6000/- per day 750/- per hour	Same rate as NPOP	--
Fee for inspection and certification Estates	6000/- per day 750/- per hour	Same rate as NPOP	--
Fee for inspection and certification Medium size processors	7200/- per day 875/- per hour	Same rate as NPOP	--
Fee for inspection and certification Manufacturers/exporters/importers	8000/- per day 1000/- per hour	Same rate as NPOP	--
Fee for inspection and approval-Input approved in organic	7500/- per day 950/- per hour	NA	
Fee for travel time	4000/- per day 500/- per hour	Same rate as NPOP	--
Travel expenses	Actual	Actual	For travel, food and accommodation where applicable
Fee for scope certificate	1000/-	1000/-	The added value of widely recognized certificate
Fees per transaction certificate, if required	500/-	1000/-	--
Fee for Microbial analysis-Input approval	1000/- per sample	--	
Chemical analysis, if required	Actual costs	Actual costs	Soil samples, water samples, leaf samples and product samples
Service tax	@ Govt. rates	Nil	On preparation, inspection and certification charges

Small farmer: A farmer with a crop production area less than or equal to 10 acres

Big farmer: A farmer with a crop production area more than 10 acres but less than or equal to 50 acres

Estates: A farm which has more than 50 acres of land

Offer

The operator receives an offer from INDOCERT for the inspection and certification services. The offer is an estimate of the expected work time and expenses based on the information given by the operator. The invoiced amount can exceed the offer if justified on proper reasons. Additional time for inspection or certification caused by missing or wrong information due to the operator's shortcoming, or for services not included in the offer, will be charged extra to the client.

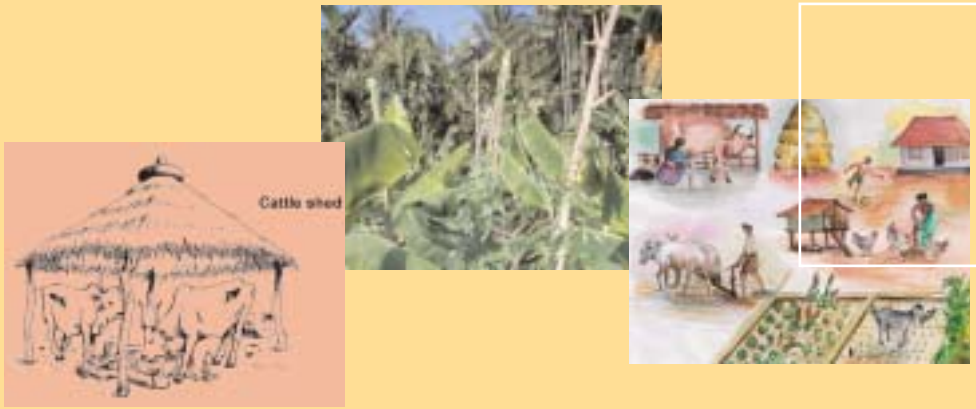
75% of the estimated total fee has to be paid as a down payment after which the inspection will be carried out. The certification process will only begin after receiving the balance payment of the final invoice. Alterations of the certification fee structure are informed to the operators in advance.

Surveillance inspections will be charged according to the scale of fees if non-compliances had been detected during the inspection.

Additional inspections imposed by the Certification Committee according to the scale of sanctions or additional investigations necessary due to detection of serious non-compliances will be charged according to the scale of fees taking into account the necessary time and costs.
In cases where the client has already paid the initial advance amount of the offer and the inspection date is finalised with inspector, but after the arrival of the inspector on the farm the client feels that he is not interested to go for inspection and certification, the advance amount will be returned to the client only after deducting the actual expenses incurred (travelling) and 10% of the initial advance (75% of the offer).

Frank Eyhorn, Marlene Heeb, Gilles Weidmann

IFOAM



IFOAM Training Manual for Organic Agriculture in the Tropics

Theory, Transparencies, Didactic Approach

Compiled by FiBL

October 2002

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The manual is a joint production of IFOAM, FiBL (Switzerland), CABI Bioscience (UK), Agrecol Afrique (Senegal), Agrecol Andes (Bolivia) and INDOCERT (India).

Feedback and suggestions for improvements are welcome!

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Preface

Many organisations in tropical countries, probably most of them NGOs, are engaged in training activities on organic agriculture or related topics. The idea which led to the development of this IFOAM Training Manual was to facilitate training activities by making suitable material and approaches available. Already existing material was to be collected, screened and condensed into a comprehensive Training Manual, which along with a selection of the collected material could be made easily accessible. For this, we asked about two hundred organisations to contribute the training material they use in their courses. Though less material was available than expected, it provided an important basis for the development of the Training Manual. From the contributing partners, four were selected for active collaboration in the development of the Manual. The partners are from Asia (India), Africa (Senegal) and Latin America (Bolivia), representing humid tropical conditions, semi-arid regions and tropical mountain areas. An international organisation contributed in the field of pest and disease management.

The development of this IFOAM Training Manual was a much bigger, longer and more exhaustive process than expected. The result is supposed to be a start of a continuing process. The Training Manual shall be a living document, modified and further developed by those who use it. Feedback to the Manual therefore is very welcome. We also invite all users to share their own training material with others (contact: headoffice@ifoam.org).

We hope that this Training Manual will be an inspiring source for all its users. We invite all to contribute their suggestions and material for further improvements of the Manual.

Acknowledgment

The development of this Training Manual was only possible through the active collaboration of the following organisations, whose contribution is herewith acknowledged:

IFOAM for part of the funding, for facilitating and for providing feedback

FiBL for part of the funding; the International Cooperation Division and the Information and Documentation Division for the concept, elaboration, review and layout

The contributing partners Agrecol Andes (Bolivia), Agrecol Afrique (Senegal), Wayanad Social Service Society (India) and CABI Bioscience (UK)

Special thanks go to the following persons who supported the development of this Manual with their tireless work:

Anne Boor (concept, feedback)

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Balu Balagopal and team (drawings)

Daniel Gorba (layout)

The Authors: Frank Eyhorn, Marlene Heeb, Gilles Weidmann

Contents

1 Introduction

1.1 Introduction to the Training Manual

1.1.1 Aims and Scope

The Training Manual was developed to improve the quality and the availability of didactic material on organic agriculture in tropical countries. It offers a resource basis for trainers with the idea of encouraging individual adaptation and further development of the material according to the needs. The Training Manual can be used as a guide and source book to implement training programmes. It will help develop the structure of a training course or workshop and provide material and ideas for its organisation. The Manual can also serve as a handbook for those who want to get a more clear and complete idea on the basics of organic farming.

It is anticipated that the trainers and trainees already have some agricultural background and that the training activities will focus on aspects specifically relevant to organic agriculture. The Manual attempts to provide a comprehensive introduction to all relevant fields related to organic agriculture. However, it does not provide in-depth practical know-how for organic management of specific crops or animals.

Target Groups
The Training Manual addresses trainers and resource persons who are engaged in training activities on organic agriculture. It can be used to facilitate trainings for trainers and extension workers, but also directly for farmers interested in learning about organic agriculture. The main focus is on crop production, although animal husbandry is covered in one chapter.

Trainings on organic agriculture can address a wide range of participants. For some of them the knowledge provided in the Manual will be too basic and the trainers will have to consult the recommended readings to get more detailed information and knowledge. For others the provided topics and ideas are already too scientific or the language too complicated, such that trainers may need to simplify the theory and use local examples for illustration.

Geographical Scope
The main focus of the Manual is on small farming in tropical developing countries, though some parts can also be applied to other regions. The tropics, however, include humid and arid or semi-arid regions with their various types of crops and farming systems. Therefore, the manual addresses mostly topics of general relevance but provides examples from different regions. Ideas and guidelines are given on how to address specific topics and problems for the region where the training is held.

Concept of "organic agriculture"
The Training Manual is based on the IFOAM definition of organic farming. Thus it embraces a wide range of approaches to organic agriculture and its many different directions and groups: from bio-dynamic to bio-intensive, from idealistic motivations to commercial orientations, from subsistence to export oriented production. Its common base is provided by the minimum requirements of the IFOAM Basic Standards.

Training approach
The Training Manual is based on a training approach combining lectures, illustrations and demonstrations, and active participation of the trainees. A balanced mix of these elements allows understanding of organic agriculture through listening, seeing, experience sharing and trying. It is assumed that participants can contribute to the program of the training based on their background and experience. Therefore, interactive elements and practical exposure (field visits) in the course are highly encouraged and the Manual will aid their implementation.

1.1.2 Structure

The training Manual is divided into 8 sections: an introduction to the Manual containing recommendations on the didactic and organisational aspects of a training program, the six core chapters dealing with the basic topics of organic farming (principles, soil fertility, plant nutrition, pest management, animal husbandry and farm economy) and an Annex containing work material and a list of sources.

Each page of section 2 to 7 is divided into two parts: a theory part (left) and a didactic part (right):

Theory part
On the left side of each page, the theoretical basis is explained in brief texts in a logical order. Each chapter starts with a brief introduction to the topic, followed by several subchapters containing brief theory paragraphs. Part of these paragraphs directly refer to a transparency and / or to a recommendation for an interactive element, which are given on the right side of the page, starting at the same level as the respective paragraph. Examples from different countries provide a further link between theory and practice. Topics for optional consolidation are given in boxes.

Didactic part
The right side provides suggestions for interactive elements such as brainstorming exercises, discussions, group work, experience sharing, demonstrations, excursions etc. The didactic part also includes small pictures of the transparencies which are given in full size at the end of the manual. Each transparency is followed by a legend describing what is seen on the transparency. The illustrations (e.g. arrangements for interactive elements) are meant for the trainer but do not need to be shown to the participants. The right side of each chapter starts with the main lessons to be learnt and concludes with a short list of recommended readings which were collected for the development of this training manual.

1.1.3 How to use the Training Manual

The relevance of topics covered in this Manual will vary depending on the focus of the offered training and the region. The modular system allows for selection of single elements of a section or chapter and for combination of elements from different sections or chapters. In addition to the selected examples, trainers can and should include local examples and integrate their own material. The Manual aims to provide a source for training material and ideas rather than being a readymade curriculum for a training program.

Transparencies
The transparencies are a central element of the Training Manual. They have their emphasis on illustrations rather than on text. Many of them contain a large amount of information, which requires one to spend adequate time presenting each transparency. This was found appropriate for the type of trainings the Manual aims to facilitate. Some trainers prefer to show the main points of their lecture in keywords while presenting. If needed, extra text transparencies based on the theory parts and the trainer's own supplements can be easily prepared. Trainers are also encouraged to add transparencies with own photos, drawings, tables etc.

Apart from direct presentation, the selected transparencies can also serve as a handout for the participants. Where overhead projection is not used or not available, the transparencies may still be used on the board or for poster presentations.

Adaptation
The style and content of the Manual may be too sophisticated for some participants, and too simple for others. Trainers are highly encouraged to adapt the material to the requirements of the audience. If a deeper examination of a certain subject deems necessary, the trainer can consult the recommended readings. The same is true for the transparencies and for the interactive elements: trainers are invited to adapt them to the local conditions and to get inspired to develop their own ones.

The plan is to have the Training Manual translated into other languages in the future. Local names can be added on the transparencies to make sure participants understand the content and the text and transparencies can be electronically changed by using the program "Adobe Acrobat Distiller".

Survey #:----------
District: ----------

UNIVERSITY OF CALIFORNIA, BERKELEY

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO
SANTA CRUZ

SANTA BARBARA *

DEPARTMENT OF GEOGRAPHY
507 McCone Hall # 4740
BERKELEY, CALIFORNIA 94720-4740
(510) 642-3903
FAX (510) 642-3370

This questionnaire is being carried out as part of a PhD research project about organic farming in Kerala.

All responses will remain <u>confidential</u>.

You may choose to stop participating at any time.

Your participation is greatly appreciated.

Part 1 – Farm Information

1. What is your title to your cultivated land? *(Check one)*

☐ Own
☐ Lease
☐ Tharavad
☐ Own and lease
☐ Own and pledge
☐ Own and other

2. What is the size of your cultivated land (in acres)? _____

3. How long have you been farming this land (in years)? _____

4. How did you obtain the land? _____

5. In 2010, who did *most* of the labour on your farm? *(Check one)*

☐ Family
☐ Wage labourers Where were they from? _____
☐ Other: _____

6. Do you presently have cattle? *(Check one. Please provide number of animals and circle their purpose.)*

☐ Yes #: _____ *Purpose of animals:* Sale Manure Personal consumption Other
☐ No

7. What other farm animals do you have at the moment? *(Check all that apply. Please provide number of animals and circle their purpose.)*

☐ Chickens *#:* _____ *Purpose of animals:* Sale Manure Personal consumption Other
☐ Ducks *#:* _____ *Purpose of animals:* Sale Manure Personal consumption Other
☐ Quail *#:* _____ *Purpose of animals:* Sale Manure Personal consumption Other
☐ Goats *#:* _____ *Purpose of animals:* Sale Manure Personal consumption Other
☐ Pigs *#:* _____ *Purpose of animals:* Sale Manure Personal consumption Other
☐ Rabbits *#:* _____ *Purpose of animals:* Sale Manure Personal consumption Other
☐ Fish *#:* _____ *Purpose of animals:* Sale Manure Personal consumption Other
☐ Other: _____ *#:* _____ *Purpose of animals:* Sale Manure Personal consumption Other

8. Do you <u>presently</u> have loans for your farming operations? *(Check one)*

☐ Yes
☐ No *(Skip question 9)*

9. From whom did you receive your current loan(s)? *(Check all that apply)*

☐ State bank
☐ Private bank
☐ Local moneylender
☐ Family member
☐ Farmer cooperative
☐ Other: _____

10. In the past, have you ever had trouble repaying an agricultural loan? *(Check one)*

☐ Yes
☐ No
☐ I have never taken a loan

11. Did you <u>process</u> any agricultural goods on the farm for outside sale in 2010? *(Check one. Examples: making jam from fruit, grinding peppercorns, making achar.)*

☐ Yes, I processed the following items: _____
☐ No

12. Do you currently use high-yield variety (HYV) hybrid seeds? *(Check one)*

☐ Yes *(Skip question 13)*
☐ No

13. Have you ever used high-yield variety (HYV) hybrid seeds prior to the present? *(Check one)*

☐ Yes
☐ No

14. Do you regularly purchase vegetables, fruit, or pulses on a <u>weekly</u> basis?

Yes ☐ Which? _____
No ☐

Part 2 – Your organic farming practices

15. Are you currently farming <u>all</u> of your land <u>organically</u>?

☐ Yes

☐ No Why not? _____

16. How much of your land is presently under <u>organic agriculture</u> (in acres)? _____

17. How did you originally learn about organic farming? *(Check all that apply)*

☐ Local government

☐ State government

☐ National government

☐ Krishi officer

☐ Existing, traditional knowledge

☐ Self-taught, through books and media

☐ Friend

☐ Family

☐ Farmers' association

☐ Religious organization

☐ Environmental group

☐ International group

☐ Political parties

☐ Certification agency (e.g., INDOCERT)

☐ Do not remember

☐ Other:_____

18. How long have you been farming <u>organically</u> (in years)? _____

19. Did you receive any support to assist in your transition to organic farming? *(Check one)*

☐ Yes *(Please answer questions 20-25)*

☐ No *(Skip questions 20-25)*

20. What was the form of support? *(Check all that apply)*

☐ Financial subsidy
☐ Loan
☐ Provision of compost
☐ Provision of seed
☐ Provision of pest control
☐ Training
☐ Networking opportunities with other farmers
☐ Other:_____

21. Did you receive any <u>government</u> support to assist your transition? *(Check one)*

☐ Yes *(Please answer questions 22-23)*
☐ No *(Skip questions 22-23)*

22. Which level(s) of government? *(Check all that apply)*

☐ National
☐ State
☐ Local

23. Kindly provide the name(s) of the government support program(s): _____

_____
_____

24. Did you receive support from <u>any other organization(s)</u> to assist your transition? *(Check one)*

☐ Yes *(Please answer question 25)*
☐ No *(Skip question 25)*

25. Kindly provide the name(s) of the organization(s): _____

_____
_____

26. What crops do you presently farm <u>organically</u>? *(List below)*

_____
_____
_____
_____

27. Did you purchase any <u>organic</u> fertilizers or pest control in 2010? *(Check one)*

☐ Yes
☐ No (*Skip questions 28-29*)

28. From where did you purchase the above inputs?

_____
_____

29. What were the inputs? *(List below. For example: panchagavya, yellow sticky traps, vermicompost, neem oil cake, etc.)*

_____
_____
_____
_____

30. Did you make any <u>organic</u> fertilizers or pest control in 2010?

31. What organic <u>inputs</u> do you make? *(List below. For example: panchagavya, yellow sticky traps, vermicompost, neem oil cake, etc.)*

_____
_____
_____
_____

32. Are you <u>certified</u> organic, for export? *(Check one)*

☐ Yes, by the following organization: _____
☐ No
☐ I am in the transition period
☐ I do not know

<u>If you answered "no" or "I do not know," skip questions 33-35 and proceed to Part 3 of the questionnaire.</u>

33. Are you <u>certified</u> as an individual farmer, or with a group of farmers?

☐ I am certified as an individual farmer
☐ I am part of group certification Name of group: _____
☐ I do not know
☐ Other: _____

34. How much of your land is currently <u>certified</u> and/or in transition (in acres)? _____

35. What crops are you presently farming on your <u>certified</u> and/or transitional land? *(List below)*

_____
_____
_____
_____

Part 3 – Your thoughts and opinions about organic farming

36. In a few words, how do you <u>define organic farming</u>? *(You might want to describe what agricultural practices and inputs are acceptable or non-acceptable, what sales and consumption should ideally look like, whether the government should be involved, etc.)*

_____
_____
_____
_____
_____

37. Why did you convert to organic farming? *(Check all that apply)*

☐ For extra income
☐ For self-dependence in farming
☐ To decrease pest infestations and diseases
☐ Because of influence from other farmers
☐ Because of influence from Westerners
☐ Because of a subsidy from the government
☐ To preserve traditions
☐ To increase soil fertility
☐ To improve health
☐ To decrease debt
☐ To decrease labour
☐ To improve the environment
☐ Other:_____

38. What <u>benefits</u> have you experienced from organic farming? *(Check all that apply)*

☐ Greater income
☐ Increased soil fertility
☐ Improved health
☐ Decreased debt
☐ Increased yields
☐ Decreased pest infestations and diseases
☐ Other:_____

39. What <u>shortcomings</u> have you experienced from organic farming? *(Check all that apply)*

☐ Fluctuating income
☐ Lack of control over farming methods
☐ Decreased yields
☐ Lack of financial support during conversion
☐ Pest infestations
☐ Pollution from other farms and industry
☐ Unavailability of good seed
☐ Certification costs
☐ Increased debt
☐ Increased labour costs
☐ Shortage of natural fertilizers (e.g., manure)
☐ Lack of consumer awareness
☐ Lack of government support
☐ Lack of access to domestic markets
☐ Lack of access to foreign markets
☐ Other:_____

40. Should the Kerala state government <u>legally require</u> organic farming for <u>every</u> farmer? *(Check one)*

Yes ☐ No ☐ Unsure ☐

41. Have you heard about the state organic farming policy (Jaiva Keralam) from the Agriculture Department and the Kerala State Biodiversity Board? *(Check one)*

Yes ☐ No ☐ Unsure ☐

42. Will organic farming solve Kerala's food shortages? *(Check one)*

Yes ☐ No ☐ Unsure ☐

43. Will organic farming solve Kerala's biodiversity loss? *(Check one)*

Yes ☐ No ☐ Unsure ☐

44. Should government support go to those who are farming organically for: *(Check one for each letter)*

a.	Export?	Yes	☐	No	☐	Unsure	☐
b.	Domestic consumption?	Yes	☐	No	☐	Unsure	☐
c.	Both?	Yes	☐	No	☐	Unsure	☐
d.	Neither?	Yes	☐	No	☐	Unsure	☐

45. Is there the possibility in the future that you may convert back to conventional agriculture? *(Check one)*

Yes ☐ No ☐ Unsure ☐

Please explain your answer: _____
_____
_____

46. Do you have more control over your own farm operations, inputs, and outputs as an organic farmer? *(Check one)*

Yes ☐ No ☐ Unsure ☐

47. Do you believe your thoughts and opinions affect the development of organic farming in Kerala? *(Check one)*

Yes ☐ No ☐ Unsure ☐

Please explain your answer: _____
_____
_____

48. Which countries provide good guidance and inspiration for organic farming in Kerala? *(Check all that apply)*

☐ China
☐ Cuba
☐ England
☐ France
☐ Germany
☐ India
☐ Japan
☐ Switzerland
☐ USA
☐ None
☐ Other:_____

49. To whom do you sell your organic goods? *(Check all that apply)*

☐ Government
☐ Local retailer
☐ Directly to local consumers
☐ Exporter
☐ Certification agency
☐ Environmental organization
☐ I do not know
☐ I do not sell my organic goods
☐ Other: _____

Part 4 – Personal Information

Check the appropriate box.

50. Primary religious identification:

☐ Atheist
☐ Buddhist
☐ Christian
☐ Hindu
☐ Muslim
☐ Other: _____

51. Family caste identification: _____

52. Primary political party affiliation:

☐ BJP
☐ Congress
☐ CPI
☐ CPI-M
☐ Muslim League
☐ I do not belong to a party
☐ Other: _____

53. Did you receive remittances from family members working outside of Kerala in 2010?

☐ Yes
☐ No

54. Do you have employment outside of farming?

☐ Yes: _____
☐ No

55. In 2010, what were your farm expenditures and income? *(List below)*

_____
_____
_____
_____

Are there any other comments you would like to add? Feel free to do so below:

_____
_____
_____
_____
_____

If you are willing to be contacted for a follow-up interview, or would like to be informed of research results, please provide your name, mobile number, and address on the following page.
Then, detach that page and hand it separately to the researcher, so that your name does not appear on this survey.

Otherwise, you have now finished this questionnaire.
Thank you very much for taking the time to answer these questions.

(Optional)

Name: _____

Mobile number: _____

Address: _____
_____
_____
_____
_____

(Detach this page and hand it separately to the researcher.)