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**Food Aspirations and Insecurities in the Developing City:
Emergent Food Ecologies in Bengaluru, India**

A dissertation submitted in partial satisfaction
of the requirements for the degree
Doctor of Philosophy in Anthropology

by

Camille Anne Miller Frazier

2018

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ABSTRACT OF THE DISSERTATION

Food Aspirations and Insecurities in the Developing City:

Emergent Food Ecologies in Bengaluru, India

by

Camille Anne Miller Frazier

Doctor of Philosophy in Anthropology

University of California, Los Angeles 2018

Professor Akhil Gupta, Chair

This dissertation traces the fresh fruit and vegetable supply chain that connects farmers with urban consumers in Bengaluru (Bangalore), India in order to illuminate broader transformations in the city and its agrarian periphery resulting from rapid urbanization. Food ecologies offer a site to describe, critique, and address the moral and material effects of urban development, from food safety scares to the insecurities of agricultural livelihoods. However, these critiques and the projects that they motivate are anchored in class-specific experiences. In this dissertation, I focus on the aspirations and insecurities of the middle and upper classes that guide many contemporary interventions into Bengaluru's food supply chain. I present results from eighteen months (June 2014 - January 2016) of ethnographic field research in Bengaluru and nearby farming communities in order to analyze two ongoing projects: one, the creation of new intermediary forms that establish “direct” supply chains, and two, city residents’ attempts to

bypass food markets altogether by growing their own food. In Part I, I analyze the market logics and ethical ambiguities that guide contemporary interventions into the intermediary positions in the supply chain. These interventions, promoted and enacted by governmental and non-governmental actors alike, are rooted in an ideology of market efficacy and a belief in India's increased economic abundance. Despite language that positions newly established corporate forms—contract farming companies and farmer-producer companies—as “free market” enterprises that are uninhibited by the stifling effects of “middlemen,” the relationships that characterize longstanding forms of agricultural production, distribution, and retail remain critical. In Part II, I consider producers’ and consumers’ understandings of the changing food supply chain, focusing on the aspirations, insecurities, and class inequalities embedded in shifting production and consumption practices. I show that the primary beneficiaries of the interventions described in Part I are members of the middle and upper classes. In Part III, I examine efforts among urban professionals to rework their relationship to the city’s food ecology by growing food themselves. For these individuals, gardening offers an ethical alternative to more common forms of work and leisure among the urban middle and upper classes.

The dissertation of Camille Anne Miller Frazier is approved.

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For Zac.

May we always share filter coffee "one by two."

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2017. "*The Slow Boil: Street Food, Rights, and Public Space in Mumbai*. Jonathan Shapiro Anjaria. Stanford, CA: Stanford University Press, 2016. 232 pp." *American Ethnologist* 44 (2): 372-3. DOI: 10.1111/amet.1249

Invited Talks (selected)

2018 Unsafe Eating in the Developing City: Food Safety Scares and Shifting Markers

of Trust Among India's Urban Middle Class. Culture, Power, and Social Change
Speakers' Series, Department of Anthropology, University of California, Los Angeles

- 2015 Cultivating and Managing "The Market" Through Producer-Consumer Linkages in Bangalore's Fresh Fruit and Vegetable Food Chain. Indian Institute for Human Settlements, Bengaluru, India
- 2015 Following Food-in-Motion: The Interlinked Materialities of Perishability and Contamination in Bangalore's Shifting Food System. School of Policy and Governance External Speaker Series, Azim Premji University, Bengaluru, India

Conference Panels Organized

- 2017 Urban Bodies, Embodied Cities. American Anthropological Association Meeting, Washington, D.C.
- 2017 Exposure in the Developing City. American Ethnological Society Annual Meeting, Stanford University

Conference Papers Presented (selected)

- 2018 "Money Doesn't Fascinate Anymore": Farming as Productive Leisure Among Bangalore's IT Professionals. *Mazaa: Rethinking Fun and Pleasure in South Asia* Conference, Brandeis University
- 2017 Unsafe Eating in the Developing City: Middle Class Anxieties about Food Quality and Safety in India. American Anthropological Association Meeting, Washington, D.C.
- 2017 Horticultural Aspirations and Insecurities at the Periphery of India's IT Capital. Annual Conference on South Asia, Madison, WI
- 2017 Contaminated Food, Exposure, and the Limits of the Sensorial in Bangalore, India. Graduate Interdisciplinary Conference on South Asia, UCLA
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INTRODUCTION

In May 2016, an environmental scientist at the Indian Institute of Science, T.V. Ramachandra, made headlines with his assertion that Bengaluru (also known as Bangalore)¹—the center of India’s information technology boom and one of its fastest growing cities—would be “dead” in five years (Menezes 2016). The claim struck a nerve, and led to a series of English-medium news articles and social media posts debating Ramachandra’s statement (*Firstpost* 2016; Srinivasan 2016). As evidence of its continuing resonance, the discussion again surfaced in August 2017, with headlines proclaiming Bengaluru’s demise in three years (Thakur 2017). Although Ramachandra’s contentious argument was based on his study about environmental degradation in the city (Bhat et al. 2015), he expressed the effects of this decay in terms of food and urban life. He is quoted in *Deccan Herald* as saying, “what’s the point [of] earning better when the food that you eat is adulterated? As a result of unplanned urbanisation, Bengaluru is going to be an unliveable and dead city in the next five years” (Menezes 2016). With this bleak prediction, Ramachandra challenged narratives proclaiming the economic advantages of rapid urban development—higher wages and a burgeoning middle class—by suggesting that money means little when one’s food is inedible and the urban environment is uninhabitable.

Ramachandra’s assertion and the intense debate that it inspired are indicative of the broader insecurities and aspirations that anchor this dissertation. I trace the shifting food supply chain that connects Bengaluru with its agrarian periphery in order to understand the changing relationships among food producers and consumers in the context of rapid urbanization. With an

¹ In November 2014, the city’s official name was changed from Bangalore to Bengaluru. Throughout this dissertation, I refer to the city as Bengaluru, except when directly quoting a speaker or author who uses Bangalore.

almost 47% urban growth rate between the 2001 and 2011 ("Census of India" 2011), Bengaluru and its outlying communities have changed drastically since the start of the city's information technology boom in the early 1990s. As the city expands and its landscapes and livelihoods shift, urban residents express regret at the loss of the calm and idyllic "Garden City," replaced by unhealthy ecologies and human communities. But, they also proudly proclaim Bengaluru to be a "cosmopolitan" city, with restaurants and bars befitting a globally connected technology hub. This ambiguous relationship with Bengaluru's shifting food scene extends to the edges of the city, where farmers whose fields sit alongside factories and housing developments are in an economically and environmentally precarious position, and who recognize that they are likely the last generation to farm their land. They are also aware, however, that their proximity to the city opens up new opportunities, including higher prices for their commodities, access to private schooling for their children, and the potential to sell their land at a great profit to real estate developers. Food, a daily need packed with political and cultural meaning, is a particularly productive site of analysis to discover how processes of production, exchange, and consumption intersect with the insecurities and aspirations of an expanding cityscape.

This project analyzes the relationship between food supply chains and the city. Tracing food networks illuminates shifting desires and consumption patterns as well as changing relationships among urban and agrarian communities. Examining how the expanding city affects food supply chains sheds light on how changing livelihood structures, infrastructures, and class relationships intersect with issues such as food safety and access. How food is produced, exchanged, and consumed can tell us about the relationship between bodies and changing cityscapes. Examining food and the city together therefore provides insight into the affective, material, and structural processes of transformation that characterize rapid urbanization. It speaks

to the broader politics and processes of exclusion embedded in the making of "world class" cities in India and elsewhere (Anand 2006; Anjaria 2016; Baviskar 2006; Bhan 2014; Davila 2016; Ghertner 2015; Goldman 2011; Harms 2013; Watson 2013). In focusing on food, however, I consider how the changing city is always and inherently connected to its agrarian hinterland. Rather than seeing these connections as the unidirectional transformation of rural landscapes into urban, I argue that agrarian spaces and practices both reflect and inform processes of urban development.

I use the term "food ecologies" to capture the interrelationships—economic, cultural, and political—among human communities, non-human organisms, foodways, and agro-environments. To access Bengaluru's food ecologies, I trace the movement of food and the processes of production, exchange, and consumption that give it meaning. Specifically, I focus on the fresh fruit and vegetable food chain that connects peri-urban producers with urban consumers. As highly perishable commodities, fruits and vegetables provide insight into localized and specialized food networks. They also illuminate the concerns and desires surrounding the consumption of "high value" foods.

I examine how food ecologies intersect with changing livelihood structures, consumption patterns, and their associated aspirations and insecurities in a rapidly developing city in the Global South. What is the relationship between the expanding cityscape and changing processes and practices of food ecologies? In what ways do these changes reformulate existing sociopolitical, economic, and ecological relationships? I approach these questions ethnographically by tracing how actors at different locations in the fresh fruit and vegetable supply chain experience these shifts. I argue that food offers embodied evidence of the moral and material ambiguities of urban development. It offers a lens into the past and a framework for the

future.² It provides a narrative locus, a site to both celebrate and critique the effects of urban development on communities and ecologies. However, these perspectives and the projects that they motivate are anchored in class-specific experiences of urban development. In particular, the desires and concerns middle and upper classes have captured the attention and motivated the actions of diverse actors, from NGO founders to corporate executives to government officials. Guided by a belief in the rising middle class, contemporary projects to intervene in Bengaluru's shifting food ecologies focus on some problems—food safety, for example—over others, such as hunger.

I examine two projects to re-organize food supply networks that are anchored in middle and upper class concerns and desires: first, the creation of new intermediary forms that establish “direct” supply chains; and second, city residents’ attempts to bypass food markets altogether by growing their own food. I focus my analysis of new intermediaries on two newly established corporate forms that are considered by many actors in Bengaluru’s supply chain to offer effective alternatives to the ethical and material insecurities of Bengaluru’s shifting food ecologies. The first, a contract farming company (Farm Fresh), establishes agreements with farmers to grow food commodities according to strict international standards. The second, a farmer-producer company (Prakriti), supplies certified organic produce from nearby farmers to organic retailers in the city. These forms reconfigure supply chains to establish “direct” connections between farmers and consumers—rather than funneling through wholesale markets, food commodities move through a single corporate intermediary.

This reworking of Bengaluru’s food supply chain is believed to address two problems: one, rising concerns among the urban middle class about food contamination and worsening human and environmental health, and two, the continued challenge of making agriculture

² See Belasco 2006.

remunerative and bringing farmers into Bengaluru's promised prosperity. While new corporate forms successfully address these interlinked challenges in some ways, in others they exacerbate class inequalities and environmental insecurities among and between urban and agrarian communities. They are rooted in an ideological commitment to the efficacy of unmediated markets and the growth of the middle class.

Advocates of the second intervention that I consider in detail in this dissertation understand their project as a challenge to corporate assertions about the efficacy of "direct" supply networks. Increasingly, urban middle and upper class residents of Bengaluru are growing their own food for home consumption. For these individuals, gardening offers two interventions: one, a way to ensure food quality and safety in the context of increasingly untrustworthy food sources; and two, a site to contest the social and environmental ills of urban development. In asserting the value of food cultivation among urban professionals, Bengaluru's middle and upper class gardeners generate new understandings and practices of contemporary urban life. However, these projects remain anchored in existing class and caste inequalities that make cultivation a leisure activity for some and a livelihood strategy for others.

The stakes for these projects are high—while they are guided by the concerns and desires of a particular class segment (both imagined and realized), they have repercussions for the entire food system and thus affect everyone. It is therefore critical that we understand these projects, as ideological forms and concrete practices that promise to shape Bengaluru's food ecologies going forward. What is lost by focusing on some problems and ignoring others? What solutions emerge to answer these problems? Whom do these solutions benefit, both intentionally and otherwise?

It is critical to consider these questions because the rate of urbanization worldwide has generated multifold challenges for ensuring food security, sustainability, and safety. Yet the

effects of urbanization on food systems remain understudied (Seto and Ramankutty 2016).

Feeding the world's growing cities is of pressing concern as farmers abandon agriculture in the face of mounting economic insecurity and climate-related instability. This dynamic is particularly pressing in India, where UN-Habitat's 2016 *World Cities Report* predicts that the urban population is expected to grow by an additional 300 million residents by 2050.

In this context, a primary concern is feeding the burgeoning urban population while also ensuring food security for rural communities. Hunger and malnutrition remain critical struggles in India. The results of the 4th National Family Health Survey (2015-16) show that among children under five years old, 38.4% are stunted (height-for-weight), 21% are wasted (weight-for-height), 7.5 are severely wasted, and 35.7% are underweight (weight for age) ("National Family Health Survey" 2017). These numbers are closely linked with poverty: the percentage of underweight children decreases as the "wealth quintile" increases, from 49% among the lowest to 20% in the highest. Among adults, "deficiencies in the diet of both women and men are observed among those with little or no schooling, those in rural areas, those in poorer households, and those belonging to scheduled tribes and scheduled castes" (International Institute for Population Sciences, 301).

As these numbers suggest, many in India struggle with food insecurity, and this struggle is especially acute among marginal communities. My interviews with residents of a slum community in Bengaluru suggested that hunger was a daily reality. For these families, the rations provided by India's Public Distribution System (PDS) were not sufficient to cover their families' dietary needs. They supplemented their rations in several ways—with food from their family members who remained farmers in their ancestral village, for example, or vegetables that were damaged and therefore cheaper—but they struggled to have enough to eat.

This dissertation does not explore the lived realities of food insecurity among the urban and rural poor. This is not due to the declining significance of hunger, but rather because in India today, problems other than food insecurity motivate many interventions into the food system. Despite the continued challenges of hunger and malnutrition, the majority of my interlocutors—ranging from government officials to NGO leaders—who were involved in making and advising policy decisions were relatively unconcerned with food insecurity.

This is at least in part due to my empirical focus on fruits and vegetables, which have not been part of India's strategy for ensuring national food security. In the post-independence period India relied on Green Revolution technologies to increase production of staple cereals such as wheat and rice. This historical approach to ensuring food security has repercussions for contemporary conversations about hunger. Namely, my interlocutors considered *national* food insecurity to be an issue of the past. As an official in the Karnataka Department of Horticulture told me, India has now achieved food security (meaning that it has a buffer stock of staple grains) due to the impact of Green Revolution technologies. He said that after independence, India was most concerned with becoming self-sufficient in food grains, and was unconcerned with the long-term effects of inputs like pesticides and hybrid seeds: India was "not concerned with [food] quality" because quantity was the most critical concern. However, in the 1980s, he suggested, the Indian government began thinking about how to provide "high-quality foods," once the "rush to feed more people was lessening." Between the production plateau of the 1990s and the increased knowledge about the effects of pesticides on human health, he said, India must now think more about food quality than quantity.

This narrative—of achieving national food security and turning to other concerns—is linked with a broader understanding of the changing economic landscape in post-liberalization

India. The majority of my interlocutors were preoccupied with two problems in this context: the "agrarian crisis," and rising food safety and health concerns. While these problems affect diverse actors, they are primarily the concerns of the middle classes. Sociologist A. R. Vasavi (2012) has shown that the agrarian crisis—characterized by debt and economic insecurity that she attributes to the individualization of risk in the post-liberalization period—most severely affects small landowners. These forms of agrarian distress do not capture the insecurities of the poorest and most marginal members of agrarian communities, including landless laborers and subsistence farmers (Vasavi 2012, 109). Efforts to address the agrarian crisis are thus focused on addressing the concerns of landowners. Similarly, as I argue in chapter 3, the farmers who benefit from the creation of new intermediary forms are neither the most privileged nor the most marginal members of their communities.

Just as the concerns about agrarian distress and the projects that they motivate are anchored in the middle strata of agrarian society, efforts to ensure food safety are rooted in middle class concerns and desires. In India today, fears about food contamination and adulteration are on the rise, and food safety scares generate intense concern about food quality and health. These concerns are not restricted to the middle and upper classes—the Maggi noodles scandal in which Nestle's immensely popular packaged noodles were found to contain undisclosed MSG additives and above-threshold levels of lead caught the attention of a wide swath of the public, likely because these noodles are consumed across class, caste, and religious divisions (see Baviskar 2018). However, as I show in this dissertation, companies that claim to provide "quality" fruits and vegetables—a claim that is often conveyed through third-party certification programs like organic or GLOBALG.A.P—target the urban middle and upper classes. More accurately, they cater to consumers who are members of the established middle

and upper classes. They are justified, however, along the narrative of the emerging middle class and its growing appetite for global foods and awareness about food quality and health.

The conversation surrounding both of these problems—the agrarian crisis and food safety concerns—offer certain solutions in favor of others, and in so doing, address some challenges and audiences rather than others. Specifically, I show that the two interventions considered in detail in this dissertation—the creation of new intermediary companies and gardening among urban professionals—are class-specific answers to class-specific problems. This point is critical because these projects establish new forms of food distribution that will replace or reconfigure Bengaluru's supply chains. In this way, these projects are part of the same patterns of exclusion and dispossession at the heart of urban development policies that privilege middle class concerns and desires (Anjaria 2016; Baviskar 2006). This dissertation offers ethnographic insight into shifting food supply chains in order to understand how changing urban and agro-environments, class structures, production methods, and consumption patterns intersect in class-specific experiences of Bengaluru's shifting food ecologies.

Food, the City, and the Urban Body

I sat with Somesh³ in his living room, sipping coffee and chatting about his memories of Bengaluru. Sixty-eight year old Somesh has seen the city change drastically. His large, two-story house sat amongst fallow fields when it was built in 1993, an image that was difficult for me to conjure after traveling through dense traffic to reach a busy neighborhood that is today central to the contemporary city. He purchased this land from a farmer who was struggling “for lack of water”—all the farmers in this area, he explained, were selling their land and taking jobs in the encroaching city. He chose to build his home in the (then) urban margin because, as an upper-level manager at a bank, his middle class income prohibited him from building a large home in a

³ To protect the identity of my interlocutors, all names in this dissertation are pseudonyms.

well-established neighborhood. Today, his neighborhood is one that would be inaccessible to most newly middle class families.

Like the stories I heard from many native “Bangaloreans,” Somesh’s narrative vacillated seamlessly between material and moral descriptions of the city’s transformation. Social and political upheavals were described and critiqued through embodied experiences of the shifting cityscape. Somesh suggested that “unplanned growth” has ruined the city, and that this growth is the direct result of greedy developers who “have become rulers.” Ten years ago, he explained, most politicians were “freedom fighters” who remembered the struggle for independence, who “sacrificed many things” and were committed to development for all. Today, however, “the political power here is not for development. It is for self-development.” The problem, he said, is that politicians and developers are concerned only with power and personal wealth: “once they [politicians and developers] become money hungry, they cannot do anything.” Their greed “has resulted in haphazard growth.” He lamented how this growth has affected his previously tranquil “farmhouse”—just ten years ago, he said, he used to see snakes in the early morning as they made their way from a nearby lake that has since been wiped from the landscape.

Somesh narrated the stakes of these changes through food and the body, weaving a logic that linked urban development and moral breakdown with the declining health of Bengaluru’s residents. Before the “land grab” that pushed farmers from the city, he explained, “you were getting the vegetables grown very well, by means of organic manure, and it was healthy. Even paying one or two rupees, you would get sumptuous vegetables.” Today, farmers are leaving agriculture for other work, and because of this, urban residents’ food has changed drastically. Now, “your quality of vegetable is totally bad, very bad. Even though they look good for you, their source of growth is very, very bad. They spread a lot of medicines [pesticides], they spread

a lot of chemical manure [fertilizer]. And this has resulted in a lot of disease and a lot of early deaths.” He contrasted this with members of his father’s generation, who purchased food directly from nearby farmers, ate only unpolished and semi-polished rice, and had access to “good cows’ milk.” His father, he said, lived to ninety years old, and “did not have even a single day’s medicine. He did not complain about sneezing or anything. That is because they were having good food. And [the] air was not polluted. And there was no traffic pollution. Minimum he used to walk forty-five kilometers per day. Minimum! He died not because of any ill health, he died because of old age.”

Somesh’s nostalgic (and likely hyperbolic) description of Bengaluru’s past cityscape—and the lives it supported—captures the embodied experiences of urban transformation that are expressed in both material and moral terms. As with many narratives of Bengaluru’s past, Somesh used food and health as a narrative locus to describe the interlinked environmental, economic, and ethical effects of urban development on diverse lives and livelihoods. This includes the shift from agricultural to urban landscapes, worsening food quality, and increasingly unhealthy urban communities. Such narratives are rooted in an understanding of the city and the body as intimately linked. It is in this relationship that many of the economic and environmental insecurities of urbanization are envisioned, lived, and contested.

This perspective requires an approach to the city as embodied and the body as embedded in the city. Theoretical considerations of the interconnections among bodies, cityscapes, and power have been foundational to anthropological understandings of urban social worlds (de Certeau 1984; Foucault et al. 2008). Recently, anthropologists have used embodied experiences of the city to analyze complex social phenomena, from political subjectivity (Anjaria 2015) to masculinity and violent labor (Hoffman 2011). Thinking about the city through its relationship to

the body highlights how surveillance, power, and violence, as well as collaboration and creative subversion, are embedded in lived experiences of urban space.

Food is a productive site for exploring the intimate intersection of bodies and cities. This is in part due to the inextricable relationship between food, the body, and place. As scholars have long identified, food is a symbolic and material force that transcends and delimits particular places and communities.⁴ Appetites and aversions are inseparable from power structures (Roy 2010). In his essay on “gastropolitics,” Arjun Appadurai details what he calls “the biophysical propensity of food to homogenize the human beings who transact through it” (1981, 507). In the South Asian context, this propensity makes eating a particularly powerful, and potentially transformative, practice. Food is at the center of South Asian understandings of self and other, and, as Appadurai suggests, the limits of this distinction.

The “homogenizing” qualities of food lend a particular character to concerns about food safety and health that are closely linked with place. Harris Solomon (2015a; 2015b; 2016) argues that experiences of ingestion are central to how urban Indians understand and mediate risk in their daily lives. He uses the framework of metabolism to consider the porous relationship between bodies and the urban environment in Mumbai, suggesting that concerns about obesity and food safety are connected with the lived experiences of life in the city.

The homogenizing and porous qualities of food are realized not only through ingestion, as Appadurai and Solomon each identify, but also through supply chains, as forces that link, for example, fields, delivery trucks, store shelves, and bodies. In the processes of supply chains, objects, environments, and practices blur. For example, as sites for production and processing practices that are undetectable to the end consumer, supply chains illuminate the intimate yet often invisible (and therefore dangerous) relationships between actors embedded in the food

⁴ For a discussion of food, place, and identity in Bengaluru, see Srinivas 2007.

commodity. It is in this porosity that supply chains illuminate the inequalities, insecurities, and aspirations that characterize shifting food ecologies.

Supply Chains

I approach supply chains as both an empirical and analytical category. As critical sites and processes of exchange, supply chains capture the economic, political, and cultural mores that make objects valuable. From its beginnings, anthropology has used exchange to understand broader cultural practices, processes, and beliefs (Malinowski 2013 [1922]). The debate about the relationship between gifts and commodities gave rise to critical theorizations about material culture and social and economic life (Appadurai 1986; Mauss 2000 [1950]; Miller 1998; Weiner 1992). Rooted in these approaches to materiality, anthropologists have used supply chains to explore diverse phenomena, from global markets (Çalışkan 2010), to certification programs (Besky 2014), to human-nonhuman interrelationships (Tsing 2015).

Food anthropology has built from this tradition to follow food commodities as insight into economies, hierarchies, and relations of power and exploitation (Mintz 1985). Recent analyses have used global food supply chains to understand divergent and at times contradictory experiences, desires, and insecurities embedded in global capitalism (Benson and Fischer 2007; Besky 2014; Lyon and Moberg 2010; Moberg 2008; Tsing 2015; West 2012). More broadly, social scientists have analyzed agro-food systems to understand the role of the "food regime" in processes of capital accumulation and global economic restructuring (Friedmann and McMichael 1989; Jakobsen 2018; McMichael 2009). Tracing the circulation of food products and their changing valuations illuminates the uneven distributions of risk and responsibility in global economic systems, as well as the effects of these uneven distributions on diverse ecologies.

While the majority of existing analyses of food supply chains focus on global markets and commodity networks, this dissertation analyzes the regional fresh fruit and vegetable supply chain that connects urban consumers in Bengaluru with nearby farmers. Focusing on the regional fresh fruit and vegetable supply chain opens up a critical issue that speaks to larger questions about what makes food "good": the proximity between producers and consumers. In India today, managing the circulation of highly perishable commodities remains a challenge—refrigerated transportation is rare, as are infrastructures such as ripening chambers, and basic utilities such as electricity remain sporadic. These limitations mean that highly perishable food is necessarily local. Given the rising influence of the local food movement that envisions local supply chains as an answer to the ills of the industrial food system (Paxson 2013; Weiss 2016), India offers an interesting case study to understand the potential manifestations and effects of highly localized supply chains. It also opens up new ways to interrogate the discourse of locality shaped by the local food movement: How do the geographic mobilities and temporal rhythms of the supply chain change between perishable and non-perishable food commodities? What different understandings of locality, quality, and authenticity are produced in a place where supply chains are largely restricted by the inefficiencies of infrastructure rather than the desire to “go back” to localized food networks? What relationships between farmers and urban consumers emerge in this context?

The last question gets at a key dynamic at the heart of this dissertation: the changing relationship between the country and the city in the context of a rapidly expanding cityscape. The relationship between the city and its outlying communities has consequences for ecologies and economies that transcend the categories of urban and rural. Supply chains help us envision the interconnections that complicate the urban-rural dualism. William Cronon’s *Nature’s Metropolis*:

Chicago and the Great West (1991) sheds historical light on how Chicago's hinterland was critical to its creation as a metropolis. By following wheat, lumber, and meat into the city, and tracing how urban markets in turn changed the countryside, Cronon argues that the distinctions between nature and culture and rural and urban are artificial. Rather, the natural resources of the countryside are instrumental to the city-building process.

Similarly, this dissertation follows fruits and vegetables to trace the interconnections among agrarian and urban communities. I show that urban consumers' insecurities and desires are inextricably connected with those of peri-urban producers, highlighting the spaces and practices of overlap between the city and its agrarian countryside. However, my goal in so doing is not to refute the lived reality of the rural-urban divide. For the people who occupy spaces categorized as urban or rural, the inequalities embedded in this distinction are very much real, with concrete manifestations in their daily lives. This dissertation engages with these categories and the lived experiences of overlap and divergence in order to explore how city residents and nearby farmers understand and experience the effects of the rapidly expanding cityscape on their present lives and possible futures. For each, food offers a narrative locus, embodied experience, and site of intervention into the ambiguities of urban development.

I take inspiration from Anna Tsing's (2005) concept of "friction" as generative forms of interaction across difference. While Tsing is interested in understanding global connections, attending to the conflicts and collaborations captured in the "sticky materiality of practical encounters" (2005, 1) is constructive in understanding relationships among diverse actors in Bengaluru's food ecology. While the supply chains that I follow are highly localized, the practices, identities, and experiences represented in these chains vary widely, and in ways that

result in miscommunication and misunderstanding. It is in these gaps that many of the challenges and opportunities of reworking supply chains are most visible.

Market Materialities and Moralities

Alongside the shifting materialities of food ecologies are changing ethical understandings and practices of food and agriculture. In Bengaluru today, the term “market” is used extensively among English- and Kannada-speakers, villagers and city residents alike. For the majority of my interlocutors, the market represents both the problem and solution—access to the urban market provides an opportunity for higher incomes among farmers, but is also a source of widening disparities within and between agricultural communities. Among urban consumers, the market is seen as both the source of contamination and generative of better options. This attention to the market both reflects and informs a wide variety of changes to Indian agricultural commodity markets and their linkages (Vijayshankar and Krishnamurthy 2012).

In India today, the market is understood to be anchored in the laws of supply and demand. However, this coexists with the belief that the government can and should intervene to make the market fairer and more effective. I heard from many farmers, for example, that the government should support them by better connecting them with the market. This approach to the market defies any easy separation between political context, social responsibility, and market forces. Despite the language of the “free market” that sets economic forces apart from the sociopolitical landscape, scholars have demonstrated that markets are in fact performed and produced (Busch 2007; Çalışkan 2010; Callon 1998; Elyachar 2005). Rather than existing in a sphere separate from social norms, markets become sites to contest moral grievances (Scott 1976; Thompson 1971).

I approach the market as embedded in specific historical, sociopolitical, and ecological contexts. Attending to the materialities of markets illuminates their moralities, and vice versa—“trust” and “quality” are interdependent. However, these interdependencies and their meanings are not singular. As I discuss in chapter 4, damage from insects can be a flaw that make vegetables less palatable, or proof of a farmer’s commitment to organic agriculture.

These ambiguities are made visible in the middle of the supply chain, where power and profit are generated and aggregated. As discussed in chapter 1, actors in diverse sites of the food network position the nebulous category of “middlemen” (*madhyavartigalu* in Kannada) as responsible for many of the problems plaguing Bengaluru’s food ecology, from debt to contamination. This understanding of middlemen as the problem has led to a range of government, corporate, and NGO-led solutions that aim to establish “direct” connections between farmers and consumers. I interrogate what it means to create direct connections that rely on the intervention of a new intermediary form. Increasingly, companies occupy these intermediary positions, often with the support of NGO and governmental resources. In place of the wholesale trader, there is a contract farming company. In place of the local broker, there is a company employee who handles local logistics.

To capture these changes, I began my research in the middle of the supply chain, using my connections with corporate intermediaries to trace the supply chain from producers to end consumers. Starting in the middle of the food network in this way allows insight into what Anna Tsing calls the “grey zone” of supply chains (2009, 150). Examining the practices, ideologies, and ethical ambiguities of actors in the middle meets Tsing’s call for an understanding of the diversity of labor relationships embedded in supply chains:

It is clear that other figurations of labor are needed to tell effective stories about contemporary capitalism. What kinds of figures emerge from supply chain capitalism? While it is possible to find recognizably generic figures of oppression and struggle, supply chains also team with politically ambiguous, liminal figures, caught within the contradictions between varied forms of hierarchy and exclusion. I suggest that we pay attention to these figures, rather than rejecting them as flawed protagonists. (Tsing 2009, 154)

In her ethnography on matsutake mushrooms, she sees these liminal actors as possible allies, and these spaces as potential platforms for entanglement and understanding (2014, 254-55). I find this approach valuable in understanding the interlinked labor of actors in the middle of Bengaluru's supply chain, as it allows room for their actions as both "flawed protagonists" and as possible allies in reconceiving the problems plaguing Bengaluru's food ecology. It is in these intermediary positions and processes that the ambiguities of urban transformation are most apparent. For example, consumers' concerns about adulteration and dangerous processing practices, such as using pesticides to preserve the shelf life of vegetables, have strained relationships between local retailers and customers. Positions and practices in the middle, which provoke uncertainty, confusion, and sometimes distrust, also allow for opportunities to see the cracks and fissures that make supply chains and their relationships dynamic.

Class, Consumption, and the City

Since the struggle for independence, consumption has been closely tied with ideologies and practices of national belonging in India (Chakrabarty 2000; Mazzarella 2003). In the post-liberalization period, global capitalism and middle class consumption patterns and desires (both real and imagined) have come to occupy the national imagination and play a critical role the

workings of politics (Anjaria 2016; Baviskar 2006; Baviskar 2016; Mankekar 1999; Nair 2009). As elsewhere, the effects of Bengaluru's transformation on present lives and possible futures are class-specific. I focus on the aspirations and insecurities of the middle and upper classes that drive the projects and supply chains that I consider here. I show how the lived experiences of class privilege and disparity differ between agrarian and urban communities, and describe how existing structures of class inequality intersect with changing food ecologies.

While class categories are generally difficult to demarcate, this is especially true for the “middle class.” Here, I use the term to describe the “in-between-ness” of many of the individuals whom I describe, who lead lives that are privileged in many ways yet precarious in others. As discussed in chapter 4, middle class consumers have the disposable income to make choices about where and how they shop, but they also must spend their money wisely—for many of my interlocutors, this was a complex game of give and take. Similarly, farmers who link with corporate intermediaries are often in the middle positions of rural society. As small landowners with varying forms of access to water and labor, they are neither the most marginal nor the largest agriculturalists in their communities (see chapter 3).

However, in India today, farmers are rarely described as middle class—indeed, it is debatable whether the middle class is a category specific to the city (Jeffrey et al. 2011). This is due in part to how caste overlaps with particular livelihoods, as well as a long history of scholarship that focuses on the role of caste, rather than class, in understanding village communities (Dumont 1970; Marriott 1955; Singer and Cohn 1968; Srinivas 1960; Wiser 1936; for an exception, see Beteille 1996).⁵ However, the hesitancy to refer to rural communities as middle class is also partly due to the centrality of urban life, livelihoods, and consumption

⁵ Caste is a critical category in urban life and livelihoods as well; for example, see Upadhyia and Vasavi 2008.

patterns in defining what it means to be middle class. As elsewhere in the world, in India the “new middle class” is the subject of intense media attention and speculation (Lange and Meier 2009). Within these representations, consumption (in particular, forms of consumption seen as urban, such as malls) figures as key to accessing middle class identities (Deshpande 2003; Fernandes 2006; Mankekar 1999; Upadhyia 2009). However, scholars are increasingly pointing to the middle class’s sense of ambiguity about the role of consumption in understanding themselves and their communities. In her discussion of middle class IT workers in Bengaluru, Carol Upadhyia suggests, “while many of our informants have adopted the consumption-oriented lifestyle of the new middle class, their discourse about consumption, materialism, and sociality contain direct or indirect critiques of India’s emerging consumer culture and its consequences, and of their own cosmopolitan lifestyles” (2009, 261).⁶

These ambiguities highlight the ways in which class is always an unfinished process. In understanding the aspirations and insecurities of the middle class, I follow Sherry Ortner’s approach to class as a project: “We may think of class as something people are or have or possess, or as a place in which people find themselves or are assigned, but we may also think of it as a project, as something that is always being made or kept or defended, feared or desired” (Ortner 2003, 13-14).⁷ Approaching class in this way focuses on its frictions (and fictions) rather than its categorical certainty. This is critical because class identities are often characterized by ambiguity, seen equally through anxieties about “proximity” and interclass interactions (Dickey 2000) as well as “defensive distinction” and difference making in intraclass relationships

⁶ See also van Wessel 2004.

⁷ Fernandes and Heller take a similar approach in their discussion of India’s “new middle class” as a “class-in-practice, that is, as a class defined by its politics and the everyday practices through which it reproduces its privileged position” (2006, 497).

(Anantharaman 2016).⁸ Attending to these ambiguities is especially critical in India, where the term “middle class” encompasses a wide variation in material and cultural capital. Leela Fernandes uses the term “fractured hegemony” to capture these differences, arguing that understanding India’s middle class “requires a shift from more generalized conceptions of class to an analysis of intersecting forms of inequality that both constitute and disrupt processes of class formation” (2011, 61). These inequalities include property and other forms of material wealth, but just as critical to marking middle class status in India are inequalities in livelihood, education, and language, as well as other forms of material and cultural capital (Fernandes and Heller 2006, 504).

Throughout this dissertation, I heed Fernandes’ warning to be careful about overgeneralizations that represent India’s middle class as a singular category that always, and in equal measure, benefits from the effects of liberalization.⁹ To avoid such overgeneralizations, I use middle and upper class as shorthand terms rather than analytical categories. I use these terms when and how they were used by my interlocutors, but I also give specifics about the lives and forms of material and cultural capital included under these umbrella categories. In so doing, my goal is to capture the lived experiences of class and class making without assuming class belonging. This is most effective in illuminating how class informs experiences and understandings of Bengaluru’s shifting food ecologies.

One key point emerges from this approach: the narrative of the emergent middle class does not accurately capture the class positions of the majority of my interlocutors, who were

⁸ The ambiguity of the middle class, and especially the “new middle class,” is in fact productive of class power: “Such ambiguities allow the NMC [new middle class], as bearer of the liberal ethos of opportunity and mobility, to hold out the promise of inclusion to other aspiring social segments even as it reconstitutes the subtle hierarchies and exclusions that anchor its class position” (Fernandes and Heller 2006, 501).

⁹ See also Kamath and Vijayabaskar 2009.

often the children of lower-middle or middle class families and thus—at the time of my research—were situated squarely in the ranks of the middle or upper-middle classes. Unlike many of Purnima Mankekar and Akhil Gupta's (2017) interlocutors in Bengaluru's Business Processing Outsourcing (BPO) industry—many of whom are from lower class backgrounds—the business owners, NGO employees, farmers, and urban consumers involved in the distribution networks that I describe came from established middle class families. If they were experiencing a rise in class status, then, it was from the ranks of lower-middle class to middle class, or middle-class to upper-middle or upper class. This was as true for the large wholesale traders, many of whom owned multigenerational businesses, as it was for the corporate executives. Similarly, many of the shoppers who purchased Farm Fresh or Prakriti's products were from well-educated middle class families, and the farmers who partnered with these two companies had inherited their land from their fathers. Thus, this story is less about India's emergent middle class than it is about how conceptions of the growth of the urban middle class guide projects to rework Bengaluru's food ecologies.

From Garden City to Garbage City?

“Help us stop Garden City turning to Garbage City,” proclaims a mural near Bengaluru’s central bus terminal. This common description of the city’s transformation captures the tensions among competing cityscapes—with its rise as India’s IT Capital, Bengaluru’s status as the Garden City has grown increasingly precarious. The Garden City nickname arose in the early twentieth century and was closely linked with the city’s temperate weather, seen as a refuge for British coming from the hot and humid eastern coastal region (Mathur and Da Cunha 2006, 1). The area has long been the site of horticultural and agricultural production, with a series of interlinked manmade water tanks that fed the city and its nearby gardens (Nagendra 2016; Nair

2009; Srinivas 2004). It was under British colonial rule, however, that Bengaluru became a city of dense tree cover and large parks (Mathur and Da Cunha 2006; Srinivas 2004). The city was instrumental to the colonial government's efforts in the field of "economic botany" and served as an experimentation ground for acclimatizing diverse species to Indian soil (Mathur and Da Cunha 2006, 170). This role was linked with the city's temperate weather. As Dr. M. H. Mari Gowda, Karnataka's Director of Horticulture following independence, described it, "Bengaluru is 'India without its scorching sun and Europe without its snow'. It may therefore be said to occupy a position intermediate between the temperate and the torrid zones. Many of the plants of the extra-tropical regions flourish equally well in the City with those indigenous to India" (Mari Gowda 1988, 256).



Figure 1: The Bengaluru skyline, looking west from MG road. The metro line runs through the center. The large wooded area belongs to the military. The cricket stadium and new high-rises under construction occupy the horizon line

Lalbagh, a large botanical garden at the center of the city, was established in the second-half of the 18th century and is credited to Haider Ali and his son, Tipu Sultan, the last Muslim ruler of the Kingdom of Mysore (Srinivas 2004, 43). Lalbagh began as an Islamic pleasure

garden that lay outside the central fort and city area established by Kempe Gowda in 1537. After the British takeover of the city in 1799, Lalbagh passed through a few different forms of colonial oversight before it became part of the Agri-Horticultural Society of India in 1839 under Sir Mark Cubbon, who also founded the extensive Cubbon Park that today sits at the heart of Bengaluru. During the period of British rule, Lalbagh became a site for cultivation of both horticultural diversity and class- and race-based distinction. Its glass house was the site of tea parties intended to bring refinement to the city, and its director, German botanist Gustav Hermann Krumbiegel, used gardening competitions to inspire recreational horticultural cultivation among home owners in the city (Srinivas 2004; Mathur and Cunha 2006; Nagendra 2016).

These histories have contemporary resonance. In December 2015, I joined an English-medium tour of Lalbagh as part of a celebration of Krumbiegel. The tour guide, speaking in English to a small audience of middle and upper class residents of Bengaluru, emphasized the city's history as a center for horticultural production, collection, and distribution. Not only was Bengaluru the place where species from different parts of the world were brought and propagated, he said, but it was also the site from which species native to India were distributed to other parts of the world. It was to Bengaluru, for example, that Krumbiegel brought English carrots (still called "English carrots" or "Ooty carrots" today), chowchow (chayote, a gourd native to the Americas), knol khol (also known as kohlrabi, a popular vegetable in Germany) and a variety of roses, among many other species, to the Indian subcontinent. Our guide represented these introductions as great botanical feats, the successful realization of Krumbiegel's vision for Bengaluru as a center for horticultural diversity.

Bengaluru owes its horticultural history not only to the British, but to the market gardeners who fed the city (Nagendra 2016). In Bengaluru, caste and horticultural production

have been closely tied. One caste in particular, the Vahnikula Kshatriya (also known as the Tigala) caste, has been and continues to be well known for its horticultural prowess. The caste is part of the “Other Backward Classes” (OBC) category established in the Indian Constitution that includes lower castes (but not the lowest, the Dalit and tribal groups, which make up the “Scheduled Castes” and “Scheduled Tribes” categories, respectively) that have historically been disadvantaged and today receive specific reservations in public sector employment and education. The Vahnikula Kshatriya community originated in present-day Tamil Nadu and traces its history in Bengaluru to an invitation from the sultan of the Kingdom of Mysore, Hyder Ali, to assist in the building and maintaining of his gardens at Lalbagh in the mid-1700s. The community settled in the center of the old city and grew horticultural and agricultural crops to sell to city residents (Srinivas 2004).¹⁰

With time, many of the Vahnikula Kshatriya fields (as well as the water bodies from which they drew) have given way to buildings and urban infrastructures. A Vahnikula Kshatriya community elder and leader, Chennappa, explained to me that during the British period and following independence, “development” works displaced the Vahnikula Kshatriya agricultural lands from the city center to its peripheries (see chapter 5). Because of this, many community members no longer farm, although they are still involved in horticultural trade by running small market stalls at fruit and vegetable markets in the city center. Given this history of displacement, however, a relatively large percentage of Vahnikula Kshatriya community members do still farm, even if on a small scale. As community members told me, this is largely because land earns

¹⁰ Bengaluru is unique in that its only source of water has historically been a series of connected rain-fed lakes (also called “water tanks”) built very early on in the city’s history (Nagendra 2016). Today, the city receives water from three primary sources: the Kaveri river, about 60 miles south of the city; the smaller Arkavathy river, which today is more urban sludge than water; and groundwater, some of which is pumped illegally in surrounding peri-urban areas, trucked into the city, and delivered in water tankers to apartment buildings (Shekhar 2018).

respect within the community. Many of the farmers who reside in peri-urban villages and who grow for the companies I discuss in this dissertation are members of the Vahnikula Kshatriya caste community, and this is partly why they are believed to be so exceptional at producing fresh fruits and vegetables for the city.¹¹

These farmers' experiences of displacement reflect a long history of government-led urban development in which agricultural fields gave way to densely packed urban infrastructures. However, the most recent period of urbanization has changed the cityscape in ways that have particular impacts on the urban ecology. Generally, Bengaluru's drastically altered cityscape is believed to be the result of the IT industry boom that began in the early 1990s. Since then, the city has grown rapidly, and in the decade preceding the 2011 census it witnessed a 46.68% urban growth rate. In that time, Bengaluru's population grew three times faster than the state of Karnataka's population overall (Government of India).

These numbers are best understood alongside the city's burgeoning role in the global IT and ITES (IT-enabled services) industries (Upadhyaya and Vasavi 2008). Historian Janaki Nair (2005) provides a more nuanced picture of the city's historical ebbs and flows—she argues that over the past few decades Bengaluru received several influxes of laborers and middle-class workers in a variety of government agencies and services. However, the IT industry has brought with it a range of new challenges to Bengaluru. From a city imagined throughout India to be idyllic, Bengaluru is now making headlines for its traffic congestion and polluted waterways. One particular intersection, Silk Board Junction, has become the butt of many internet memes and jokes. The junction has its own tongue-in-cheek Twitter account, with a bio that reads, “timely and detailed traffic updates from India's largest parking lot” (see Devi 2015). The

¹¹ Alongside members of the Vahnikula Kshatriya caste, families with the Gowda and Reddy surnames, which denote belonging to historically landowning castes in Karnataka and Andhra Pradesh, respectively, also own and farm much of the agricultural land surrounding Bengaluru.

anonymous creator has a flair for funny self-deprecation on behalf of the “IT capital.” A Tweet from July 28, 2016 reads, “thank you for calling Bengaluru. All our representatives are currently busy. Please try again later or consider moving to Mysore.” Despite the ability to make light of the situation, traffic was a regular topic of conversation and the most common complaint about the city that I encountered during my time in Bengaluru.

Traffic is not the only problem gaining visibility. Bengaluru regularly makes the international news when one of its largest lakes, located at the edge of the city’s IT hub, begins foaming with pollutants (most recently, see Chatterjee 2018; see Jumbe and Nandini 2009 for an assessment of heavy metal pollution in the city’s lakes). That the city’s few remaining urban water bodies are highly polluted is especially disheartening to residents given the longstanding importance of these man-made lakes to the city (Nair, 2005; Unnikrishnan and Nagendra 2014a, 2014b). Expressions of concern about Bengaluru’s declining lakes often represent broader fears about the city’s future, as evidenced in a *Deccan Herald* (2013) article about the need to “save the precious water bodies” in order to ensure water security for the growing city.

Alongside its lakes, Bengaluru’s horticultural fields have been on the decline in the last decade. This is often expressed as a loss in popular descriptions of the city, and is also central to the state government’s understanding of the effects of urban expansion. Sitting on either side of his desk in his large office in the Cubbon Park Department of Horticulture office, an administrator for the Bengaluru Urban district explained that twenty years ago his district (which includes a total area of around 2,000 square kilometers) provided a wide variety of vegetables and flowers to the city center. Flipping through the pages of a lengthy report, he read me the numbers: as of 2012-13 when the report was compiled, around 12,750 hectares (just over 17 square kilometers) in the Bengaluru Urban district were under horticultural production. This

included 4,000 hectares of vegetables, 4,500 hectares of fruits, 1,200 hectares of flowers, and 2,500 hectares of plantation crops (coconut, for example). A reader adept with numbers will notice that these statistics do not add up, indicating the extent to which the state's knowledge is based on speculated averages and ranges. The administrator contended that these numbers represent a significant decrease from the decades before, and that at the time of our conversation in February 2015, these numbers would have probably decreased to somewhere between 9,000 and 9,500 hectares in total under production. His primary explanation for this change was that increasing land prices in the urban district made agriculture the "last priority."

To address this decline, he was involved in creating state-sponsored initiatives to promote the production of horticultural crops in his and surrounding districts. As he and other corporate, government, and NGO representatives explained to me, there are two goals that motivate projects to increase horticultural production among farmers in the areas surrounding Bengaluru. The first goal is to meet the rising demand for high value agricultural commodities in Bengaluru as income levels rise in the city. Although this assumed link between rising incomes and rising consumption of horticultural commodities in Bengaluru is tenuous (see chapter 4), industry professionals, agricultural economists, and government and NGO employees take for granted that demand for fresh fruits and vegetables increases as income levels rise. The second goal is to provide more consistent income to farmers. Horticultural crops have shorter growing cycles and generally sell for higher rates than grains and pulses, meaning that farmers who grow these crops receive a higher and more consistent income. This is not always true, and there is a high rate of volatility in the fresh fruits and vegetables sector due to the ever-changing nature of supply in perishable commodity systems. However, due to the potential for higher earnings, horticulture

inspires certain class aspirations and mobilities on the production, as well as the consumption, side of the supply chain.

Agricultural products are a part of Prime Minister Narendra Modi's "Make in India" campaign, and the market potential of both producing and consuming "high value" agricultural commodities is seen by many to be the next big step in growing the Indian economy. Meeting this rising demand is central to farmers' understanding of what it means to be "progressive" farmers who are an agentive part of modern India (see chapter 3). Similarly, accessing a wider variety of foods, especially those that are considered critical to one's health such as fruits and vegetables, is at the heart of urban middle and upper class identities and class making practices (see chapter 4). This dissertation attends to these aspirations—also highlighting their associated insecurities—among producers and consumers, asking how changing consumption habits and agrarian production practices intersect in Bengaluru's shifting food ecology.

Tracing Supply Chains: Methods and Objectives

I approached the food network from the middle and used intermediary actors to access the producers and consumers on either end of the supply chain. After surveying a range of market forms, I chose two companies—Farm Fresh and Prakriti, described in chapter 2—as the focus of my research. I relied on connections with company representatives to trace these companies' operations from their partner farmers to their urban buyers.¹² I decided on these two companies because they offer an interesting comparison. In a very fundamental way they are similar, since they are both considered innovative and in line with efforts to re-envision the food network by creating more "direct" supply chains. They thus offer critical insight into current and potential projects to rework Bengaluru's food ecologies. However, the scales at which these

¹² I chose not to focus on cooperatives because they are no longer the subject of government and NGO initiatives—the shift has been from cooperatives to companies, as discussed in chapters 1 and 2.

operations operate are very different, as are their primary methods of engaging with farmers and retailers. Farm Fresh is a large contract farming company that also grows horticultural crops on company-owned land, while Prakriti is a registered and certified organic Farmer-Producer Company. It works with small landowners near the city's edge to grow fresh fruits and vegetables for organic retailers.

With both companies, I first scheduled interviews with company representatives, then visited their farmers' fields and packing facilities, and finally interviewed customers at retail locations where the companies' products are sold. When conducting fieldwork with these companies and other actors in the broader supply chain, my methods included: 1) formal, semi-formal, and informal interviews (approximately 250 in total) with people in different positions in the food chain, including farmers, wholesalers, street vendors, shoppers at different retail locations, retail shop owners, restaurant owners/consultants, company founders/representatives, NGO officials, government officials, agricultural university professors, agricultural activists/event organizers; 2) participant observation at a variety of sites related to my research questions, including food markets of different kinds, farmers' fields, farmers' events/meetings, food retail stores, distribution centers, gardening/agriculture workshops and fairs, seed exchanges, agriculture/environment fairs/activist meetings; 3) qualitative surveys with customers at two food retail locations in Bengaluru (117 respondents; see Appendix); 4) price comparison across twelve different retail formats (see Appendix); 5) accompanying four individuals on shopping trips for fresh fruits and vegetables; 6) close monitoring of print and web media (primarily English-medium) for topics related to my research questions.

Throughout the completion of this project, I faced challenges related to language and my methodological choice to begin with intermediaries in the food supply chain. Despite being

relatively adept at Kannada, and being one of the few foreign researchers in Bengaluru who spoke Kannada beyond the introductory stage, language proved to be a challenge. This is partly because Bengaluru is home to speakers of many languages other than Kannada—the relatively small percentage of Kannadigas (people whose mother tongue is Kannada) is a common complaint among Kannadigas in the city. This meant that it was difficult for me to use Kannada consistently while in Bengaluru. The other challenge was that Kannada, like other Indian languages, changes drastically from community to community, and village Kannada is quite different from Kannada spoken in the city, or in a different village. This meant that interviews in different communities were difficult, and my classroom Kannada and strange accent often fell on uncomprehending ears.

Because of this, I chose to hire a research assistant, Deepa, who at the time was a Ph.D. student in the food science and nutrition department at the University of Agricultural Sciences, Bengaluru. Deepa is from northern Karnataka, so she also struggled at times with the accent and vocabulary of the communities near Bengaluru. Nonetheless, she was a true asset and a pleasure to work with, and made my field experience much more productive. As a team, we interviewed farmers in peri-urban communities around Bengaluru and afterward listened to the audio files to translate them into English. We both spoke Kannada when conducting interviews with farmers. I would ask Deepa for on the spot translations when required, and she would translate my more complicated questions from English into Kannada. It worked very well, because my Kannada was strong enough to understand the basics of what was said and compare them with her translations.

I found that using agricultural intermediaries to access either end of the supply chain proved effective but also limited the kinds of conversations that were possible. In her

ethnography *French Beans and Food Scares*, Susanne Freidberg (2004) discusses the challenges of using food companies to navigate the green bean trade between Europe and Africa. Her description aligns very closely with my own experiences. While representatives at Farm Fresh and Prakriti were quite candid with me and were sincerely interested in my feedback, as upper-level management they were also compelled to represent themselves and their companies in a positive light. These companies have a well-defined set of corporate talking points, and it took time to break through these to ask questions and receive thoughtful answers that probed the more challenging aspects of their operations and the kinds of conflicts that might arise.

These same company representatives were also willing to go out of their ways to connect with their producers, but being funneled through this channel meant that I had only certain kinds of access. While I was able to ask all of my research questions, I still had to tread carefully in the manner in which I asked them, and I am certain that the answers I received were impacted by the fact that the companies served as a go-between in my relationship with farmers. This did not mean that farmers were always hesitant to state their complaints, however, and most farmers were very willing to tell me about what made their lives difficult, even if the company representative was nearby (this is generally true about how farmers represent themselves, in my experience—they are happy to discuss their hardships with those who are interested in listening). This too might have been the result of my position in relation to the corporate intermediaries—as an outsider, I might have been able to pressure the companies in ways that were desirable to farmers.

As a young foreign woman, my access to various communities and resources was restricted as well as expanded. As a white researcher, and especially one who speaks Kannada, I received permission to access spaces that might have otherwise been inaccessible. However, my

positionality also limited when, where, and how I could conduct fieldwork. In Bengaluru, most of the action at horticultural markets occurs in the middle of the night, between midnight and five o'clock in the morning. I was told repeatedly that I should not venture into these spaces without a male guide, and while people generally overemphasized safety concerns (fear about women's safety in public spaces is a common topic of conversation among middle and upper class Bengaluru residents), the time I spent in these markets during the day convinced me that it was better to remain cautious. For this reason, I was able to visit the central market during its busiest time only twice, with the assistance of a middle-aged Kannadiga man who was himself interested in the markets and was therefore willing to take me along with him. This instance was one of many in which a roadblock turned into an opportunity to engage with different actors and understand divergent perspectives.

Overview of Chapters

This dissertation is divided into three parts: 1) Market logics and ethical ambiguities in the middle of the supply chain; 2) Aspiration and insecurity among producers and consumers; and 3) Reworking production and consumption. Each section contains two chapters that explore these themes in detail. I have organized the chapters by categories that allow for comparison across formats. For example, rather than discussing Farm Fresh and Prakriti in turn, I outline their ideologies and practices in chapter 2 and then discuss producers' (chapter 3) and consumers' (chapter 4) understandings of these new food supply formulations. This allows for a more nuanced comparison.

Part I: Market Logics and Ethical Ambiguities in the Middle of the Supply Chain

Chapter 1 describes the wholesale food supply networks that link agrarian producers and urban consumers. Based on interviews and participant observation at every step in the supply

chain—including farmers’ fields, wholesale markets, and retail stores—I show how ideologies of the “free market” position middlemen as manipulative actors and motivate changes in government regulations and corporate structures. In Chapter 2 I introduce two corporate models that reorganize the food supply chain: contract farming companies and farmer-producer companies. I trace the complexities of these supply networks to suggest that despite providing a “new” format, many of these companies’ relationships and practices are similar to those in the wholesale network described in chapter 1.

Part II: Aspiration and Insecurity Among Producers and Consumers

The preceding discussion of new agricultural intermediaries lays the foundation for chapters 3 and 4, which consider how market-oriented formats are perceived to benefit both food producers and consumers. Chapter 3 examines how the ideologies and practices of reformatting food supply chains work out on the ground in agricultural communities at the edges of the expanding city. Based on observation and interviews at village markets and in farmers’ fields, I argue that contract farming and producer company arrangements provide farmers with more consistent income while simultaneously exacerbating many of the insecurities already plaguing agricultural communities, such as access to water. Chapter 4 transitions to the consumption side of the food network. I present ethnographic data gathered in homes and retail locations around Bengaluru to examine middle and upper class urban consumers’ descriptions of their food choices and the concerns and desires that motivate them to build a “lifestyle” around food. I show that “quality” is a moral and material category by which urban consumers navigate increasingly untrustworthy food producers and distributors.

Part III: Reworking Production and Consumption

Part III considers urban middle and upper class efforts to rework the forms of food sourcing discussed in the preceding chapters by growing food for home consumption. Chapter 5 considers the organic terrace gardening community in Bengaluru as a class-specific form of urban agriculture that both sustains and resists processes of urban development. Chapter 6 discusses “IT agriculturalists” who work in the urban IT industry but spend their weekends on their farms outside the city. These chapters present data gathered from close and continued interaction with these communities through seed exchanges, farm visits, and local fairs. IT agriculturalists and organic terrace gardeners figure prominently in popular discourse about urban professionals’ attempts at grappling with the changing city. While they create alternative engagements with Bengaluru’s food ecology, their interventions remain anchored in class and caste inequalities that characterize the unevenly distributed insecurities of urban development.

PART I

Market Logics and Ethical Ambiguities in the Middle of the Supply Chain

CHAPTER 1

“The Middleman is Eating Money”: The Materialities and Moralities of Bengaluru’s Wholesale Supply Chain

In a gleaming three-story glass building in south Bengaluru, I met with the founder and CEO of a new company that had created an online platform for farmers to sell their goods “directly” to international buyers. He explained that in contrast to the existing wholesale supply chain with its proliferation of middlemen, their platform will start “producing food to demand and using smart logistics,” thereby “optimizing everything everywhere.” This language of optimization, linked with a logic of “direct” transaction between sellers and buyers, rested on the company’s intervention in the middle of the supply chain, as the provider of both a market platform and transportation between buyers and sellers. As the founder explained, the company had partnered with distributors who collect items from the farmer and deliver them to the buyer.

This conversation solidified a set of questions that had been at the back of my mind during interactions with diverse actors in the supply chain, from farmers to retailers: Why are more “direct” linkages between farmers and buyers the key to “optimizing” the supply chain? Why is the vague but ubiquitous category of “middlemen” considered by a variety of actors to be inefficient and ineffective, and why are newer intermediaries such as NGOs and tech-oriented and backward-integrated companies excluded from this category? This and the following chapter work through these questions. My goal is to understand the market logics and ethical ambiguities that reflect and define the market encounter and efforts toward re-formulating existing relations of production, exchange, and consumption.

Bengaluru’s fresh fruit and vegetable supply chain connects diverse actors with divergent concerns and desires. Following how produce moves through these networks exposes the

intersecting moralities and materialities of market relations. Specifically, attending to the middle positions in this network—the sites where food commodities are bought and sold—illuminates the flows and frictions of food in motion. The actors, practices, and processes in the middle are the site of ongoing governmental, NGO, and corporate-led interventions aimed at reworking the supply chain. These efforts are often anchored in ideas about the nebulous category of “middlemen” (*madhyavartigalu* in Kannada), a term used broadly to describe actors in the middle of the supply chain. In the following, I consider how the ideologies and practices of market logics overlap with the ethical ambiguities of the middle positions in the food supply network.

Diverse actors, from government officials to NGO founders, are guided by trust in the “free market.” Their goal is to use the market to capture rising income levels among the urban middle class, thereby providing higher incomes to farmers and higher quality food to urban consumers. I consider this point over two chapters. The first chapter traces the most common iteration of the food supply chain: the wholesale market. I provide a brief description of the process by which fresh fruits and vegetables (known in the industry as “F&V”) move from the farm or the village-level market into the urban wholesale market. I suggest that the diversity of relationships, practices, and livelihoods in the middle positions of this wholesale supply chain refute any simple understanding of middlemen as meddling in the mechanisms of the “free market.” I conclude with a discussion of two government-led initiatives that reformat the wholesale network in order to highlight the market logics guiding state efforts toward creating more modern, transparent, and fair food supply networks.

The second chapter examines efforts considered alternative to the wholesale supply chain, focusing on two examples: farmer-producer companies and contract farming companies. I

consider how these initiatives are positioned as different from the wholesale network described in this chapter, arguing that despite their attention to the ethics and efficiencies of more “direct” supply chains, I find that the ethical ambiguities of the middle remain problematic in these formats. These two chapters establish the setting for chapters 3 and 4, which consider the shifting anxieties and aspirations of urban consumers and peri-urban producers that are driving efforts to rework Bengaluru’s fresh fruit and vegetable supply chain.

The wholesale supply chain in Bengaluru

Despite efforts by company executives, NGO leaders, and government officials to establish a variety of formats for organizing the flow of fresh fruits and vegetables, today the majority of Bengaluru’s produce is channeled through wholesale markets, or *mandi*.¹³ As an official in the Karnataka Department of Horticulture told me, the two major vegetable markets in the city receive on average 700 tons of produce daily, and the government-regulated and monitored market for potatoes, onions, grain, and other “non-perishable”—meaning less quickly perishable—food commodities receives around 3,000 tons per day. In contrast, only 18-20% of produce traded daily is sold through “organized players” such as supermarkets, the largest of which retails only 5-6 tons of vegetables per day. As these numbers indicate, despite efforts to shift the flow of fresh fruits and vegetables discussed in chapter 2, the majority of produce that enters the city is bought and sold in large wholesale market yards.

Due to the diversity of items in the F&V network, each with its own set of challenges related to perishability, the general process I describe here changes to meet the specific requirements of each commodity. However, the following figure provides a broad sketch of how produce moves from farmers to urban consumers:

¹³ For a detailed analysis of wholesale *mandi* in Madhya Pradesh, see Krishnamurthy 2011.

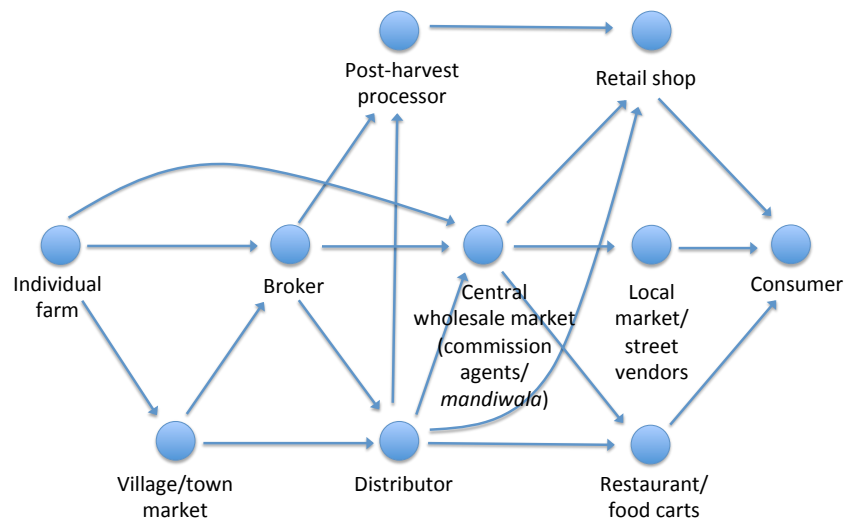


Figure 2: Wholesale food supply chain from farmer to urban consumer

The supply chain starts with the farmer. There are a variety of methods by which he can sell his produce, but farmers often sell to the same buyers, in the same ways, year after year once relationships have been established. Sometimes these relationships include moneylending on the part of the buyers, so that farmers are obligated to sell to particular individuals. A farmer can transport a harvested item himself to sell at the local village-level market, or, less commonly, to the wholesale market in the city. Or, he can sell to a broker who transports the farmers' items to market on his behalf (for a fee), or a trader who purchases them outright. Depending on the commodity, traders will approach a farmer in advance of harvest to form an agreement about the purchase price—either a set price for the entire lot, or a price per piece or kilogram. The trader or the farmer will provide the harvest labor, and the trader will take the produce directly “from the farm gate” for sale elsewhere.

Once an item leaves a farm—by sale to a broker or trader or by the farmer transporting the item himself—the next stop is a village-level market or a wholesale market in the nearby

town or city. Village-level brokers and traders sell to local retail shops and sometimes also directly to local consumers, as well as selling wholesale to city-based traders who purchase at village markets and transport the food items to urban wholesale markets. These transactions are facilitated by commission agents, who oversee the first point of sale in the wholesale market between buyer and seller. They are central to the process of exchange in the wholesale market yard.

Bengaluru's wholesale markets are scattered around the city, often alongside markets for other kinds of commodities. For example, there is a large vegetable market near Yeswanthpur, the site of the government-regulated market yard for "non-perishables" like potatoes, onions, garlic, grains, and spices. For fruits, the main wholesale market is located on the southern edge of the city just off the Hosur Road highway linking Electronics City and the heart of Bengaluru. For vegetables, the largest wholesale market is Kalasipalya, located in the very center of Bengaluru, separated from the wholesale flower market by a highway overpass. This central market area is also known as K.R. (Krishnarajendra) Market and City Market, which spans not only the vegetable and flower markets but also a plethora of businesses, ranging from electronics to transportations services.



Figure 3: Yeswanthpur APMC market



Figure 4: Kalasipalya vegetable market

Wandering through these wholesale yards, you cannot miss the materialities of the food marketplace. They hit you with full force, engage every one of your senses—the smell of fresh coriander and rotting trash piles, the sights of bright tomatoes and the sounds of the auction as they are offloaded from the truck. The taste of chai as you chat with the traders, and the bumping

of elbows with the swarm of sellers, buyers, and laborers. Depending on the time of day, the market changes drastically enough to be almost unrecognizable. During delivery and distribution, the streets between platforms are crowded to the brink with trucks, and the marketplace is be filled with the din of rumbling motors and men shouting angrily as tires near their piles of vegetables. During the middle of the day, between these busiest periods, the same roads are crowded with vendors, mostly women, sitting on the ground with their vegetables for sale set out on tarps or gunnysacks in front of them.

As an American accustomed to grocery stores and farmers' markets, I experienced these spaces as both exhilarating and exhausting. I always went with a Kannadiga friend, both because I had been advised not to visit wholesale markets alone and because it took two voices shouting through the din of the market to be heard and understood. But I was not the only one who found these market spaces to be overwhelming—the majority of middle and upper class Bengaluru residents with whom I discussed my project expressed their amazement that I was brave enough to venture into wholesale market yards. As one man told me, he was surprised I ever ate in Bengaluru again after visiting these wholesale markets and seeing how food was handled.

Individual consumers rarely venture into wholesale markets. Buyers at wholesale markets generally include local retailers and restaurateurs; traders, who buy and transport items to other markets throughout India; suppliers to large retail stores, restaurants, or hotels; caterers for events such as weddings; and, more rarely, individual consumers looking for a good deal or buying in bulk for a special event. Within each of these categories there is a diversity of forms. For example, a retailer could be a pushcart vendor, or the owner of a neighborhood *angadi* (or *kirana*)—a small shop with a variety of daily items. Or, the buyer could be a supplier for large retailers, primarily supermarkets, that purchase and transport commodities in large quantities.

The method of sale depends on the commodity, the existing relationship between the buyer and seller, and the supply and demand for that commodity on that particular day. For instance, tomatoes can be sold either by auction or by what is described as “mutual negotiation”—if there is high demand, the preferred format is an auction, otherwise individual buyers and sellers negotiate a price based on the prevailing rates for the day. Auctions are most often overseen by commission agents, who were described to me by a government employee charged with overseeing an APMC market as those who “don’t go outside,” meaning they do not participate in distribution, but instead “connect” sellers and buyers in the marketplace. In the F&V sector, commission agents often take a 10% commission fee from the seller—sometimes a farmer, more often a broker or trader—despite a system of transactional ethics established by now-defunct governmental regulations that stipulated that buyers, rather than sellers, pay the commission fee.

If there is no auction to establish rates for particular commodities, they are set through “mutual negotiation.” Traders and commission agents contend that negotiated rates are set by “supply and demand,” often using this English phrase to describe the process. In many ways this is accurate, since the market price depends on what is available in the market and how much buyers are willing to pay for it. But, as many scholars have shown, the laws of supply and demand go only so far in describing economic processes and relationships (Harriss-White 2004; Krishnamurthy 2011; Cohen 2013). Traders, brokers, and commission agents are constantly communicating with one another, via text message and phone call, to gauge what is going on at their market and other wholesale markets in the city. They decide on the day’s rates based on these exclusive channels of communication and knowledge production. Marketplaces, while always relational, are extremely so in Bengaluru’s wholesale markets—based on longstanding

relationships among buyers and between buyers and sellers, seemingly objective indices of value such as quality, quantity, and demand, become inextricably tied with responsibilities toward one's longstanding associates and clients, who are sometimes also their debtors or lenders.¹⁴ It is these close relations of exchange that often feature in arguments that middlemen corrupt market mechanisms, to which I now turn.



Figure 5: Trading platform at Kalasipalya market

Meddling middlemen

According to many of my interlocutors on either end of the supply chain, middlemen are unethical actors motivated by greed. As a farmer who sells coffee and fruit through a local farming association described it, “the middleman is eating money” (*madhyavarti duddu tinntidaane*). In telling me about the work of his company in connecting farmers with markets, a representative explained that in the current wholesale system “the farmer gets a peanut.” That one of these quotes is from a farmer and another from a company employee illustrates how

¹⁴ See Tsing's (2015) discussion of similar relationships among matsutake mushroom pickers and brokers.

common this language is in conversations about the food markets. I heard disparaging remarks about the ubiquitous but ill-defined category of “middlemen” time and again. Often, removing middlemen featured as the central point in arguments for how to make the food system both more fair and efficient.

Despite their centrality, middlemen often occupy spaces of political and ethical ambiguity (Rodman 1977; Leggett 2010; Khanna and Johnston 2007; for an economic perspective, see Masters 2008). As a site where much of the money to be made in the food supply chain is realized, they are the most visible actors who profit from their dealings on either side of the supply chain. A wide variety of actors, including farmers, company owners, government officials, and consumers, told me that middlemen have the power to both drive down purchase rates paid to farmers as well as drive up sale rates for consumers in order to extract the highest possible profit from the transactions in the middle. It is often this drive for profit that is evoked in arguments against middlemen.

It is difficult, however, to track how this works on the ground. The range of formats, as well as the differing opinions among actors, makes it challenging to parse fact from fiction. For example, although many of the F&V commission agents with whom I spoke asserted that they take only a fair commission fee of around 5-6% from the seller for their work in organizing and leading an auction, other market actors explained to me that commission agents take 10% from the seller and then increase the sale price another two rupees. In other words, they make 10% profit from the seller, and another few rupees in profit from the buyer. The disparity between these numbers suggest that many of the commission agents with whom I spoke were aware of their position and practices as ethically ambiguous. That being said, not all commission agents were hesitant to tell me about their market practices. Many were upfront that they took 10% from

the seller, but were also very quick to tell me that this was fair based on their costs and responsibilities in the market.

Regardless, the practices of commission agents in wholesale markets in the city describes only a very small percentage of what the term “middlemen” includes, and therefore even the truth of how commission agents make their money—and how much—does not represent, for example, the market practices of village-level brokers who have high transport costs in bringing produce from the village to the city wholesale market. Despite these differences, middlemen have become *the* central category in descriptions of the failings of the government-regulated wholesale market system. As an article in *Forbes* put it, India is perfectly situated to produce food for the world, but for its middlemen and the governmental structures that support them: “With as many seasons and climates as can be found anywhere around the world, India’s soil has the ability to grow just about anything. Yet, farmers are still losing out amid the chaos of middlemen and government initiatives” (Behal 2015).

Government regulations, proliferating middlemen, and the “free market”

Middlemen are often associated with government interventions because they are the critical “market functionaries” in government-regulated wholesale market yards, which restrict the flow of agricultural commodities. Central and state governing bodies have long been involved in (meaning passing legislation, but not necessarily enforcing) the management food markets, from instituting minimum support prices, to monitoring food handling and safety, to regulating marketing and trade, but today the general feeling is that these regulations have proved unsuccessful (Cohen 2013; Singh 2016). Despite pushback from a variety of actors in the middle positions of the food supply chain, the Karnataka government amended its Agricultural Produce Marketing (Regulation and Development) Act—known as the APMC Act—in 2014 to

remove fruits and vegetables from the purview of the Agricultural Produce Marketing Committee (APMC). The primary justification for this change was to better account for the materiality of highly perishable commodities, which require speedier market processes and more intensive infrastructures.

The APMC Act, which is still in effect for non-horticultural crops (cereals and pulses) as well as “non-perishable” vegetables like potato, onion, and garlic, requires that registered commodities be sold in APMC-regulated markets. These markets must abide by stipulated regulations for the purchase and sale of food commodities, largely organized around registering a diversity of actors as “market functionaries” and ensuring proper weighing and payment. The Act also establishes particular practices for transactions, such as that the rate should be set by open auction and the buyer should pay the commission fee. The removal of fresh fruits and vegetables from the purview of this Act did away with the government’s responsibility to enforce these regulations in F&V marketplaces. Despite this change, the link between government regulation and the proliferation of middlemen continues to guide ideas about state intervention in horticultural markets.

This leads me to a critical point: the connection between government regulation and middlemen is important because for many corporate executives, NGO employees, and government officials alike, the argument to remove middlemen is an argument for a “direct” and unmediated market. Along this line of reasoning, middlemen and the government-managed markets where they operate are seen to be meddling in the market mechanisms of supply and demand. In describing the current wholesale format where middlemen control the supply chain from the farm gate to final retail, the founder of the company with which I began this chapter explained that middlemen are “disrupting that market.” In establishing a virtual direct-sale

platform between farmers and large buyers—these could be traders or large retail or export companies, for instance—his goal was to “free” the food market from unsuccessful government interventions that promote these disruptions. As he said, “the shackles that are being put around agriculture have to be removed.” He further explained, the “free market economy has always been successful, we know that from the U.S. and Europe example.” For him, removing government interventions in the marketplace would free the supply chain from the middlemen who currently control it, and in so doing set up a “free market” system that would better serve both sellers and buyers.

I was surprised to hear a similar argument about removing government regulations from a recently retired upper-level government official, Sayed, who during his tenure had overseen the Yeswanthpur APMC market for grains and other “non-perishable” food commodities. He joked that he could give his personal opinion, now that he was retired, and explained why he thinks that government-regulated markets are ineffective and unnecessary in today’s context of technological connection:

These markets earlier were established to protect the interest of the farmers....Now the trend has changed. It has undergone a lot of change. The producing system has changed, the consumption has changed, the pattern has undergone a lot of change, and the system of marketing has also undergone a lot of change. In the changed scenario, in my personal view, these markets are no more relevant. That’s my personal opinion. Because, there is no point in seeing that the commodity should come from this scattered place to a central place, and again it has to disperse. There is no meaning for it. It is not at all relevant at this juncture. Everybody is enlightened. Now they know this information technology has developed manifold. And the information about availability of commodity is known—

you can get it at the touch of a button. A consumer can also have access to this availability of the commodity, or the food grains. And they can directly interact with the producer. And what is the use of this, another middleman?

Technology's ability to disperse and equalize market knowledge makes the controlled flow of agricultural commodities outmoded. I asked him, what, then, would be a better way to manage food markets? He responded using the language of "free" trade:

See, for ages barter system was there. Some type of exchange, buying and selling will take place. It is a natural system. Why these controls, and law, and everything? Let it be a free zone. The agriculturalist can take his produce anywhere in the country. A buyer can purchase from anywhere in the country. Why should [there] be regulation, licensing, that, this, all these stations. Do you think it is necessary? It should be a free zone.

For Sayed, the distribution networks central to the functioning of APMC markets, and the actors who manage them, are no longer necessary given the access to information about prices and marketing that technology provides. Rather, permitting buyers and sellers to manage their own transactions—without the intervention of the state—is, for Sayed, the best path forward.

But as others have argued, the "free market" is as much a product of legal structures and governance as a "regulated market." Legal scholar Amy Cohen makes this argument especially well in her discussion of the debate whether to permit large supermarket chains to purchase directly from farmers in West Bengal (2013). As she suggests, allowing for contracts between supermarkets and farmers requires a shift in legal regulatory structures that will have repercussions for the entire food supply chain. Cohen suggests that West Bengal's wholesale markets are closer to the idealized supply and demand market logics than the proposed changes

allowing for direct contracts between large supermarket corporations and producers. Wholesale markets in West Bengal

were regulated, first, to privilege local commercial elite and then to exclude far more powerful national and multinational corporate actors. So they are by no means an ideal type of free market. But perhaps they are closer to the economist's free market than the standardized, centralized, large-scale contractual forms of exchange required to support a supermarket ever would be in West Bengal. (Cohen 2013, 78)

For Cohen, the regulatory structures required to support the proliferation of contractual agreements that work to limit farmers to particular commodities, methods of production, and points of sale are less representative of a competitive market economy than the current iteration of wholesale markets. More generally, the state is always and inherently involved in the workings of capitalism through its relationship to private property (e.g. Harvey 2011 [2005]).

The role of government regulations in shaping the food supply chain is a central debate in the literature on agricultural policy. For example, Bhogal and Singh argue that commission agents (*arthiyas*) in Punjab “trap the farmers in a vicious cycle of indebtedness” and interrupt fair payment to farmers (Bhogal and Singh 2015, 56). Because of this predatory relationship, the authors argue for measures to restrict commission agents' power in the marketplace, including providing direct payment, increasing institutional credit, registering all commission agents, and establishing alternative marketing systems. However, these measures do not go far enough for agricultural economist Sukhpal Singh (2016). He critiques several of Bhogal and Singh's arguments, stating that actions such as registering commission agents will do nothing to curtail their predatory moneylending and payment practices; rather, he argues that alternatives to the commission agent system should be at the center of the discussion (Singh 2016, 69). For Singh,

the answer is not in improving existing regulatory structures, but considering alternative ways of organizing markets. These debates provide a backdrop for the following description of the wholesale network, and are central to my understanding of the motivations and practices of government, corporate, and NGO-led efforts to reformulate the supply chain that I consider at the end of this chapter and into the next.

Services and challenges in the middle

Whether they are considered exemplars of or disruptions to the competitive market, middlemen provide a few essential services in the working of the food supply chain. First, middlemen are key to producing “market intelligence” since they are extremely well linked into the ebbs and flows of supply and demand, and companies still rely on scouts sent to wholesale markets to figure out the going-rate for a commodity on a particular day.¹⁵ Linked with this role is the importance of middlemen in providing a consistent platform for buying and selling, without which establishing regular buyers and sellers is a struggle. This is not to suggest that middlemen’s market practices are always fair; indeed, they are well known for cheating farmers during weighing and payment (Cohen 2013; Bhogal and Singh 2015). This point becomes central in governmental, corporate, and NGO-led efforts to make market transactions more transparent and therefore fair.

Kalasipalya vegetable market is a “24 into 7” market, meaning it is open all day, every day (the market for grains, on the other hand, opens around eleven o’clock in the morning and

¹⁵ The rates established at wholesale markets become the basis for a variety of other market forms. For example, the Karnataka Horticultural Producer’s Cooperative Marketing and Processing Society (HOPCOMS), a horticultural cooperative that is unique to Karnataka and has been fairly successful in establishing itself as a reliable buyer for farmers and retailer for consumers (with some issues, as discussed in chapters 2 and 3), sends agents into wholesale markets early every morning to gauge the going-rate for specific commodities. They also look at supermarket rates, which are a further reflection of wholesale market rates. HOPCOMS then uses this daily market knowledge to establish its own purchase and sale rates, which are again used by other companies in the city, such as small organic retailers, to set their own prices.

closes in the evening). This is necessary because of the highly perishable nature of the F&V category, which causes many of the challenges faced by actors all along the supply chain, and is linked with the high fluctuations in cost that characterize F&V commodities.¹⁶ While talking with fresh greens vendors near K.R. Market early one morning, a fresh coriander trader talked through the daily and seasonal fluctuations in the price for his goods: that morning, the going estimate was that 1-2 lakh (1-200,000) bunches of coriander had arrived in the market. The average is about 1 lakh, so there was “too much.” This meant that while the day before the price per bunch of coriander had been Rs. 15, that day it had dropped down to Rs. 10. One major reason why supply was higher than usual was because a large truck, insulated with sheets of Styrofoam, had arrived from Indore, a city in Madhya Pradesh almost 1,500 kilometers from Bengaluru. The trader explained that these large trucks come only in the summer, when the price is higher in Bengaluru than in Indore and other closer cities, and this badly impacts the locals’ business.

Because of these fluctuations—and the impossibility of keeping fresh fruits and vegetables for longer than just a few days with the prevailing infrastructures of these markets—F&V middlemen said that they were unable to make as much profit as large-scale grain and other “non-perishable” traders. One trader who dealt primarily in gourds, an 85 year-old man whose family had been in the wholesale trade for four generations, said that the grain traders at the APMC yard in Yeswanthpur can make Rs.10 lakh (1 million) in profit per day, but at the Kalasipalya vegetable market you can’t deal in such large quantities. Something like rice can

¹⁶ These fluctuations in price are a common topic of conversation and often covered in the press. For examples from the English news media, see Bhosale 2016 and Bera 2016. The first of these details the rising cost of tomatoes, and the second the plunging rates for onions. I consider how these fluctuations impact producers in chapter 3 and consumers in chapter 4.

keep for a long time, he said, but with highly perishable goods like vegetables you have to have to vigilantly (*hushaaraagi*) set a price and sell your commodities within four days.

Alongside the challenges of storage, traders provide an extremely important service in the form of transportation. Transportation is one of farmers' greatest challenges, both in terms of cost and accessibility. Village-level traders and brokers therefore provide an important service in buying from farmers "at the farm gate" or in the local market. Although farmers receive lower rates in the village than at a wholesale market in the city, the farmers with whom I spoke often told me that the cost—in terms of both time and money—of transporting their goods to a wholesale market means that it's only worth doing if they have an abundance of goods to sell. This suggests that accessibility to wholesale markets is especially limited for more marginal farmers with smaller landholdings.

Middlemen are also a crucial source of credit to both farmers and retailers. Most commission agents and traders in the large city wholesale markets with whom I spoke said that they offer credit to buyers and less frequently to sellers. Many of them expressed this as a service they provide despite its risks, since they will incur a loss if they aren't repaid. Defaulting on loans is not uncommon—one commission agent explained that he takes a 10% commission but he sees only about 8% of that, since so many of his debtors never pay back their loans. Despite describing these credit relations as risky, intermediaries' moneylending practices are often extremely predatory (see Harriss-White 2008; Bhogal and Singh 2015). For example, many pushcart vendors in Bengaluru become trapped in a cycle of debt in which they must continue to buy from a particular wholesale trader because they owe him around 10% interest *each day* on the monetary value of the goods they borrow, meaning they often barely make enough to repay him and have to again borrow from him the next day. Despite the predatory nature of these types

of credit relations, it's not enough to simply remove middlemen from the supply networks without providing alternative, and preferably fairer, forms of capital and credit. I discuss this in more detail in chapters 2 and 3.

Marketplace insecurities and tense relationships with the state

Despite discourse that equates government intervention with the proliferation of middlemen, wholesale market intermediaries do not have an easy relationship with the state. The crowded vegetable market at Kalasipalya is poorly laid out and packed to the brim, and I heard from several sources that the Karnataka government had long been promising a larger, more spacious, and better-equipped market yard on the western edge of the city (see also *The Times of India* 2003). This led to a lot of anxiety about what would happen to existing businesses when the market shifts to the new location, even while many traders were pinning their hopes on access to larger and better facilities. Wholesalers, commission agents, and traders had begun taking out additional licenses from the government in order to reserve a spot in the new market, despite no clear target for when the market would be ready, because they were concerned that they would be left behind if they did not purchase additional licenses well in advance. Despite this, many middlemen in Kalasipalya were very clear that they doubted the new market would ever open, saying that the government has been making promises for a long time and nothing had happened. “We will see” (*nodatiivi*) was a common response to my questions about the new marketplace. One trader whose family had owned a wholesale facility in Kalasipalya since the market's beginnings explained to me that 30 acres of land had already been secured in Devanahalli but the government was worried about traffic on the way to the new airport, so they were leaving the space empty. His reasoning for the delay, whether or not accurate, exposes a

deep frustration that the wholesale vegetable market does not rank highly in the government's priorities. Not all infrastructures are weighted equally, and middlemen know this well.

Diverse formats and livelihoods

This anxiety among the Kalasipalya middlemen illustrates that trading in fruits and vegetables is not as easy and profitable as imagined by non-middlemen. This is especially true when considering the wide variety of formats that comprise the middlemen category. Much of this nuance is lost in descriptions of middlemen as disrupting market flows. In this section I provide descriptions of several different *madhyavartigalu* whom I encountered in my research, with the goal of illuminating the complex relationships and practices in the middle of the supply chain.

At the largest scale of operation are wholesale traders, suppliers, and brokers who deal in produce by the truckload. As I stood talking with a young man at his family's wholesale fruit business nearby the K.R. flower market, a large truck loaded with papayas pulled up outside the shop. He explained that they are suppliers, and described his business as "somewhere between wholesale and retail" since he was the last point of contact between the producer and the large retailer. The truck was coming from a single farm in Andhra Pradesh, about 200 kilometers away. He buys papayas by the truckload from the distributor, who takes it directly from the farmer. He talked me through the transaction: he will purchase these papayas from the distributor at around Rs. 8.5 to 9 per kilogram, of which the farmer will have received about Rs. 6. He will sell these papayas wholesale to retailers at Rs. 12 per kilo, and he projected that at retail they will cost the final consumer somewhere between Rs. 15 and 20. He estimated that the company's average annual sales are about Rs. 40-50 lakh (4-5 million), with a profit of around Rs.15-20 lakh (1.5-2 million) per year.



Figure 6: Papayas and mangoes on display outside the wholesale trader's shop

I asked about whether large retailers purchase from him, and he explained, “those people come to us. You know, they don't go to [the] farmer because when they go to farmer, they [the farmer] won't give the selected quality. When they [the buyers] come here, we give [sell] for the lesser price because we purchase more quantity.” He went on to describe how he sets his company apart from others, not based on reputation but on cost: “In this market, a lot of supplies are there. So it's not about the reputation. They [buyers] see the product, the quality of the product. So when they come we have to give at least a reasonable price. If we make the price high they won't come, they'll ask us about the less price, they'll bargain and they won't come.” His family had been in the wholesale business for generations, but the younger generations shifted the business model: his grandfather traded in rice, while he and his father trade only in fruit, which provides a higher profit margin. But this isn't his only source of income—he also trades in wholesale electronics like cell phones, and has a real estate company with some friends in Mysuru. I asked him whether he will keep his family's F&V wholesale business, and he says, “yeah, yeah I want to keep it. Because, it's like, what do you call it—last resort.”

The opposite end of the spectrum looks very different from this large-scale and multi-generational model. These divergences speak to the class differences and complexities of forms and practices that are elided by the term "middlemen." Many of the traders working at a makeshift wholesale market where the Kanakapura highway meets Bengaluru have a more temporary and insecure business than the trader quoted above, since their presence in this market is restricted to the early hours of the morning and they have no permanent space.¹⁷ One man who was selling coconuts on the roadside, just as they are offloaded from the trader's truck, described himself as a *mandiwala*, or wholesale trader. He explained that he doesn't make as much money as other traders for each coconut—he makes 50 paise profit, whereas those with permanent businesses make 2 rupees. But this format works for him because he is able to “turn it out within hours,” meaning that he buys and sells his entire stock within a short period of time. Since he has no warehouse to store his goods, this is the best way he can operate. He reported that he generally sells around 1,000 coconuts per day, so at about 50 paise profit that puts him at around Rs. 500 income from a few hours of work. The scale at which this *mandiwalla* operated, and the income that it supported, placed him in a lower class position than the owners of the multi-generational fruit wholesale company described above.

¹⁷ This also means, however, that they don't pay fees to the government, other than occasional bribes to the police.



Figure 7: Small-scale coconut mandiwala

Often, the distinctions between formats within the category of middlemen are hard to piece apart, and illuminate the intersection between agrarian and urban spaces, communities, and livelihoods. When talking with a man near his small truck at the Yeswanthpur vegetable market, he said he could not answer my questions about the price of tomatoes because he has nothing to do with the auction—he provides transportation for farmers in nearby villages, and is paid Rs. 17 per kilometer by the farmers for his services. But as we stood talking, a few laborers began loading up his truck with a variety of vegetables. I asked what was happening, and he explained that he has his own retail shop in the city, so he buys at wholesale rates while at the market and sells retail at his shop. He made his livelihood from two ventures: his small transportation service and his retail shop. These kinds of dual enterprises were very common among intermediary actors in the wholesale marketplace.

Just as the distinctions between types of market intermediaries become blurred, the division between producer and middleman is often unclear (see also Cohen 2013, 44-45). Many

middlemen belong to farming families, and started this work in order to make additional income for the family while others manage the farm. As a hired laborer offloaded cauliflower from a small TATA Ace truck, the truck driver explained that he is a farmer but could not make enough income from farming alone. So, he began leasing this truck and started his own small trading company. He collects cauliflower and other crops, depending on the season, from farmers in his village near Hoskote and transports them to the city. Whereas brokers transport and sell produce on behalf of the farmer, taking a cut, traders purchase the commodity from the farmer and sell it in the city. In this case, the farmer was acting as a trader. He explained that he purchases cauliflower on a land-based model, where he and the farmer agree upon a price for the entire lot fifteen days before harvest occurs, based on land size and anticipated output. Since he visits the market daily he is familiar with the market rate and can negotiate a good price with farmers. But once he commits a rate to a farmer, fifteen days ahead of harvest, he can't renegotiate, meaning that he "sometimes gains and sometimes loses," depending on market fluctuations.

Examples like this are easy to find, suggesting that despite language that pits middlemen against farmers, the divisions between producer, distributor, seller, and retailer are not clear-cut. Often, families will have at least one member engaged in farming while another takes on a distribution, retail, or wholesale business. For example, I met a mid-sized coconut *mandiwalla* who said that he was the younger brother in a landowning family. He spent the majority of his time running the family's wholesale business in Bengaluru while his elder brother farmed their ancestral land near Mysuru. Such arrangements lead to a range of intermediary forms and practices in the wholesale supply chain that allow for a large amount of flexibility. Barbara Harriss-White captures this well when she describes the "plasticity" of forms in the marketplace

(2008, 294). But not all actors and formats are equal—within these diversities of positions and relationships to the market and commodity there are sharp gender, caste, and linguistic divisions.

Embedded inequalities

Marketplaces are sites for mapping linguistic, caste, class, and gender hierarchies. The spaces one occupies and the labor one performs vary based on these measures of difference. The inequalities between daily laborers (called *coolies*), hired laborers (*kelasaavaru*), and their employers are visible in how they move through the marketplace. Traders are often absent from the market during slower times but are represented by their salespeople, who sit on the platform in front of the storeroom calling out to passersby. Daily wage laborers pick their way through the muck of the market, straining under gigantic sacks of vegetables on their backs. Linguistic and caste differences overlap with these different actors in the marketplace. As other scholars have shown, the majority of daily-wage workers in cities are from the scheduled castes (Banerjee and Knight 1985). In Bengaluru, most of the daily laborers are from the neighboring state of Tamil Nadu and speak Tamil. One of the traders told me that he is Kannadiga but had to learn Tamil just so he could communicate with his laborers.

Not all day laborers are from Tamil Nadu. I met a young woman, sitting with her back against the tire of a truck parked in the central delivery road, who had migrated to Bengaluru from northern Karnataka. She was using a dull knife to cut away outer leaves and bug-eaten spots from heads of cabbage. She explained that she had migrated to Bengaluru for work in construction, but right now there wasn't enough work to go around (it was monsoon season) so her husband did daily labor in construction while she came to the market to do "*clean kelasa*" (cleaning work) for the traders. For her labor, she was paid in food.



Figure 8: Cleaning work at Kalasipalya market

This woman's place in the delivery road, at the foot of a truck, was a common one for women in the marketplace. In general, women filled the most marginal roles in the supply chain. They were the least permanent, occupying spaces when available and being evicted when others needed those spaces. They were the ones doing sorting and cleaning work, selling retail from their seat in the road—very rarely the platform—or hunting through piles of discarded produce to find somewhat acceptable items to eat themselves or sell at reduced rates elsewhere. Many women had developed systems for their work, despite its impermanency. For example, they would bring their own umbrellas to shade them from the heat of the sun in midday, when they were most able to carve out space in the marketplace.



Figure 9: Sorting work at Yeswanthpur APMC market



Figure 10: Women vendors in the road at Kalasipalya market

These gender inequalities extended from the wholesale marketplace to retail markets outside the city, where again women were much less likely to have permanent stalls or even pushcarts. The

majority of women in the supply chain could be found on the curbside, where they stayed until the traffic became too heavy or the police arrived, forcing them to run.

Given the broad range of formats, backgrounds, and daily practices of actors in the middle of the food supply chain, I find a general disavowal of middlemen as greedy and disruptive of market mechanisms to be a political tool—used by farmers, city residents, government officials, company owners, and NGO representatives as indicative of their commitment to a "direct" market that will meet the needs of both producers and consumers—rather than an accurate description of the complexities of how the supply chain functions. Many actors in the supply chain acknowledge this point, and not all efforts toward making the middle more “efficient” are focused on removing middlemen entirely. Below I consider two government-led programs to “modernize” wholesale markets with the goal of making transactions more “transparent.”

State interventions and their market logics

Changing regulatory structures provide insight into the shifting market logics that guide government interventions. In the following I consider how the government's role in mediating food marketplaces have changed in recent years. I provide two examples of new formats for organizing wholesale supply chains in order to argue that technology and market access have taken center stage in state efforts to create more efficient and transparent spaces for exchange.

As discussed earlier in this chapter, the 2014 changes to the Karnataka APMC Act delisted fruits and vegetables from the purview of the Act. But, as Amy Cohen argues, “formal state marketing law structures little of market life” (2013, 56). For a long while I was confused about what exactly had changed after the revisions to the APMC Act, since most middlemen in fruit and vegetable wholesale markets continued to talk with me in the language of government-

regulated marketplaces. For instance, they described the government office at Kalasipalya as the “RMC” (Regulated Marketing Committee), the name of the government office that oversaw the market before it became the APMC. Yet both of these titles were irrelevant, and the office was just a shell of a room that housed a few police officers and government managers who were there to oversee the market space and collect fees in order to cover the infrastructures of the government-owned marketplace. One change is clear: instead of calling the 1% fee collected by the government a “cess,” it is now called a “user fee,” charged to traders in the market based on sales. As this change is in name alone, and since practices that are prohibited under the APMC Act—such as taking a high commission from the seller—were already well established in these marketplaces, the removal of F&V from the APMC Act was not a topic of conversation at fruit and vegetable wholesale markets. When I did ask questions about the APMC, no one could quite articulate what had changed in the marketplace and why. It was even difficult to learn the details from government officials, to whom I had to ask a number of questions in a variety of ways to learn more about how changing state regulations impacted fresh fruit and vegetable wholesale markets.

The change that was much clearer was the revision to the Karnataka APMC Act that allowed for the sale of food commodities outside the purview of government-regulated APMC markets, thereby allowing for direct involvement in the production and sale of food commodities through models such as contract farming. These changes have been lauded as a step in the right direction by government, corporate, and NGO actors alike. The legalization of contract farming and other direct-purchase formats will be the focus of the next chapter. Here, I show that moving toward unregulated markets is not the only path being considered and implemented by the state and central governments. There is also an increasing emphasis on using public-private

partnerships (PPP) to bring technology—believed to also offer transparency and fairness—to wholesale supply chains (for example, an opinion piece by the chairman of Cargill India published in the online news source *Livemint*: Chaudhry 2015). I will discuss two examples in Bengaluru's supply chain: 1) the ReMS market platform in Tumkur, and 2) the Safal auction and market yard in Whitefield.

Public-private partnerships and virtual markets

In April 2016 Prime Minister Narendra Modi launched the Electronic National Agriculture Market (e-NAM), an electronic trading portal linking regional APMC markets from eight states into one virtual marketplace (“PM Modi launches e-platform” 2016). The chain of actors I described above is very similar in this new market network, but now includes virtual bids by buyers across India via e-tender and online trading. This is not to suggest that national-level trade did not exist previously. Rather, the e-NAM format is intended to make these transactions easier and bring technology and transparency to the food supply network; because transactions are performed online, the exchange is believed to be more transparent and traceable than when conducted via phone call or intermediary brokers.

Karnataka played a central role in the creation of this virtual market, since the primary model used in creating the e-NAM platform was Karnataka’s ReMS platform, India’s first virtual unified market platform (UMP). As the government official who oversees the Tumkur APMC market proudly told me, Karnataka has been at the forefront of such technological innovation because Bengaluru is “India’s Silicon Valley.” The ReMS platform is an ideal example of a PPP, as it is a joint venture by the Karnataka state government and the NCDEX Spot Exchange Ltd., which function as equal shareholders. It has been lauded in the English press as a way to increase “transparency” in government-regulated markets: the Karnataka ReMS market “gave the farmer

the power to accept, reject and bid the prices for his commodity on the basis of a transparent system. It increased the revenues of APMCs, helped in effective management of its funds and assets, and curbed corruption” (*Livemint* 2015). The platform has proven to be quite successful in terms of turnover, with Rs. 500 crore (5 billion) turnover in just under two years since its launch (Vijayakumar 2015).

Despite this measure of success, the ReMS program has been critiqued—especially as a format that can be extended to the national level—by those who see the program as unmoored from the existing social, political, and economic structures that anchor supply chains. Agricultural economist Sukhpal Singh (2015) argues that a virtual national market is not the answer because it challenges longstanding legislation that gives the power to manage agricultural marketing to states rather than the central government. Singh also argues that despite its proponents’ claims, the e-NAM is highly unlikely to improve farmers’ situation in the marketplace because it does nothing to counter the interlinked markets that restrict the actions of producers:

The online market integration initiative as attempted in Karnataka is also not likely to solve the problem of market linkage and get a better deal for the farmers as just creating a platform is not enough if the farmer is not free to sell. The lack of farmer freedom to sell here refers to the existence of interlocking of various markets in which the farmer operates, i.e., input and output market interlocking, credit and output market interlocking, and the like. (Singh 2015)

Due to complex economic and social relationships characterized by moneylending and debt, markets become "interlinked" so that a farmer must sell to particular buyer because, for instance, he borrowed money from that buyer for purchasing inputs. For Singh, a virtual national platform will be ineffective in creating new opportunities for producers if it does not challenge these

existing limitations in food supply chains. His argument reflects a perspective that runs contrary to the belief that creating "direct" market platforms will solve the complex social and economic challenges of the food supply system.

I would add to Singh's critique in two ways. First, transitioning the purchase and sale of agricultural commodities to virtual markets is currently limited by the infrastructure challenges plaguing peri-urban areas, where many APMC markets are located. At the Tumkur market, the large building that houses a handful of computers where buyers can place their bids also contains rows upon rows of generators. Even though the entire market is wifi enabled and many of the traders have computers in their godowns, they must go to the central office when the power is out in order to conduct business. The platform may be high-tech, but the infrastructures on which it depends remain inconsistent.

Secondly, the materiality of the food commodity matters greatly in whether a virtual platform provides increased efficiency. Although efforts were underway to bring fresh fruits and vegetables into the ReMS system, they remained outside the purview of market at the time of my research. The market official explained that this was because the structures of exchange, distribution, and storage required for the F&V sector make the virtual trading platform much more difficult to create and maintain. Because they are so perishable, fruits and vegetables must be traded immediately upon their arrival to the marketplace. The current system for grains and other "non-perishable" commodities, where the produce arrives in the morning but bidding closes at two o'clock in the afternoon, will not work for a commodity like fresh spinach. In addition, because fruits and vegetables are harvested on a daily basis rather than in once a season, sellers cannot wait around all day for the bidding to close. This will cause extra difficulties for transitioning the e-market model to the F&V sector. In contrast, the initiative to

which I will now turn is specifically targeted toward meeting the challenges of the horticultural supply chain.

A model for “backward” and “forward linkages”

Soon after arriving in Bengaluru I heard about a new Safal market yard on the eastern outskirts of the city, just north of Whitefield, one of the primary IT hubs of Bengaluru. Company representatives and colleagues who knew about my project and were familiar with the food supply chain in Bengaluru instructed me to visit the market, saying that it had all the latest technology and was meant to be the cutting edge of F&V collection, processing, and sale. At the same time, they cautioned me that the market wasn't working as planned, although the reasons were unclear. So, in May 2015, after using my connections to secure a meeting with a Safal representative, I took a cab through the infamous traffic between the city center and Whitefield to visit the Safal market.

After the chaos of Kalasipalya, the empty corridors and echoing warehouses of the Safal auction and market yard in Whitefield felt like a ghost town. My footsteps rang as I walked through the long hallways leading up to the auction room, lined with empty metal racks where the day's produce could be displayed before sale. The only thing to remind me that I was at a wholesale market was the familiar smell of rotting potatoes and onions. My visit began in a large boardroom, where I sat alone with Vishnu, the public relations manager for Safal, looking at a large projector screen. Vishnu talked me through the basics of Safal and this marketplace: the name Safal is a combination of *sabzi* and *fal*, which mean vegetable and fruit, respectively, in Hindi and Urdu. Safal is a subsidiary of the National Dairy Development Board (NDDB), which also produces the Mother Dairy brand. Because of its success in the dairy sector, the NDDB had been tasked by the central Department of Agriculture with studying the challenges of the

horticultural supply chain. As Vishnu explained, their study found several “inefficiencies” in the *mandi*-based model, related to structural issues in production such as: 1) farmers have no bargaining power; 2) farmers are dependent on credit; 3) farmers are mostly small; and 4) the *mandi* is “inconvenient” and there is no “transparency.” In order to alleviate these issues and “modernize,” the study recommended creating a “parallel market” to the APMC market.

Out of these findings grew the Safal auction and market yard, intended as a model for national programs to shift the F&V sector from existing wholesale markets to more “direct” formats. Vishnu explained that because Safal is not a private company, profit was never part of the goal. Rather, the Safal auction and market were meant to be a “model market” done “in a big way” to improve the horticultural supply chain. The NDDDB had chosen Bengaluru to develop this project because Karnataka was the first state to agree to amend its APMC Act to permit the sale of fruits and vegetables outside APMC markets, as discussed earlier in this chapter. The goal of the Safal market, which opened in 2004, was to create: 1) “backward linkages” to better connect producers with markets; 2) a fair and efficient auction that would serve as the site of exchange for all commodities; and 3) “forward linkages” to better link retailers and other buyers with fresh, high-quality produce. As the language of this initiative suggests, the idea was to remove the existing middlemen from the process of horticultural exchange, replacing brokers with farmer associations and wholesale traders with an auction system that facilitated direct purchase by retailers and institutional clients such as hotels and restaurant suppliers.

If the goal was to “modernize” the F&V supply chain, the Safal facilities appeared to deliver. Vishnu provided me a tour of the auction room, warehouses, cold storage, and ripening chambers that were available for lease by private companies. This was one of the few places in Bengaluru that had these kinds of infrastructures, and I was surprised to see spaces that reminded

me of food infrastructures in the U.S. The auction room was a display of modernity: the auditorium had rows of wooden desks that allowed for electronic bidding, recorded on a large electronic board above the stage, with all the specifics of the item—lot number, commodity, quality—displayed alongside the going rate and auction countdown.

Eleven years after opening, however, the Safal auction was floundering. Whereas inadequate supply to meet demand was the primary challenge faced by the majority of the F&V sector formats that I encountered (see chapters 2 through 4), in the case of Safal, supply exceeded demand. Vishnu did his best to avoid this topic during our meeting, but in response to my question about why the market wasn't running at full capacity he provided insight into the negotiations and conflicts among governmental agencies and organizations. He explained that Karnataka was caught between the APMC and PPP models, and was working simultaneously on their market and those such as the ReMS market described above. He suggested that if the government wants this model to “flourish,” they'll have to shut down the APMC markets altogether, and instead open this type of model on a smaller scale in different areas of Karnataka and work on establishing “links” and “integrating” these markets with farmers and buyers. Vishnu was quick to assure me, however, that although they cover 7-10% of the Bengaluru market—a higher estimate than the 5-6% given to me by a Karnataka Department of Horticulture official—they have an “indirect benefit” to 90% of farmers because the conditions in traditional markets have improved. Farmers now have an option outside the *mandi* where they have better negotiating power, thus driving up prices in other markets. So, although the volume wasn't what was expected, “the idea has been successful” because “farmers' earning margin is now higher.”

A few months later, when I called Vishnu to schedule another visit to the Safal facilities to see an auction in progress, he was adamant that he had already told me everything and there

was no need for me to visit. I explained that I only wanted permission to sit in on an auction, he did not have to again give me the presentation and tour. After repeating this point several times, he eventually told me that they were no longer holding auctions. Weeks later, when I visited the Safal market yard to spend the day at a company's distribution center, I heard more about what had happened to the Safal auction from the perspective of one of the companies leasing warehouse space. The manager explained to me that it was "internal conflicts" that led to the dissolution of the Safal auction. He asked with whom I had met last time I was there? I told him, and he said, "oh yes, I think he's left the organization."

Conclusion

A comparison of the ReMS and Safal platforms suggests that the Karnataka government has taken on a particular role in managing food markets: improving technology, transparency, and access. These three factors underline the market logics and ethics guiding efforts at cutting out superfluous middlemen in the interests of creating more "direct linkages" between sellers and buyers. But the tensions and "internal conflicts" within and between government programs often lead to the argument that government-led interventions are ineffective. Indeed, the facilities leased by private companies are all that have survived of the Safal market. Much of the language around creating alternatives to existing wholesale markets centers on the idea that the government step away from direct involvement in the exchange of agricultural commodities. In the next chapter I consider corporate- and NGO-led efforts at reworking the horticultural supply chain.

CHAPTER 2

Contract Farming and Producer Companies: New Formats for Organizing the Production, Distribution, and Retail of Fresh Fruits and Vegetables

In the preceding chapter, I argued that “free market” logics and the ethics of “direct” supply chains have motivated a series of changes in government-managed marketplaces and regulations. In this chapter, I examine two formats that are considered innovative in redirecting food flows: contract farming companies and farmer-producer companies. I center my analysis on two examples of these formats: Farm Fresh, a company that contracts with farmers and produces food on company-owned land for export and its domestic retail stores; and Prakriti, a small, certified-organic company owned by farmer-shareholders.

I argue that while non-governmental efforts to re-envision food supply chains are anchored in changing ideologies and practices that privilege profit-generating companies over other organizational forms—such as cooperatives—it is too simple to see this shift as a complete disavowal of social responsibility. Rather, the companies described in this chapter are constantly negotiating two ethical commitments by which they describe and promote their activities: first, that their formats for production and exchange benefit farmers and rural communities, and second, that they provide better food at better prices to urban consumers. These two commitments are often expressed through the language of “direct” supply chains and corporate structures, but they are more than that—they are also ethical claims about the future of agriculture, food, and health in India’s cities and countryside. This reflects a longer history in India of corporate speech that positions consumption as a social service, as William Mazzarella (2003) shows in his analysis of the Indian advertising industry. In the food sector, discussions of

business and enterprise are accompanied by the language of "direct," and therefore transparent and fair, market relationships.

While both Farm Fresh and Prakriti justify their efforts as creating more direct supply chains, the specific practices of these networks look quite different. In the following, I describe these supply chains and outline the governance structures and market ideologies that underlie both formats. I begin my descriptions of each format with a brief introduction to the role of the state in both promoting and limiting these new intermediary forms. Although these companies are independent from the state—and that is part of their appeal—my discussion must begin with the ways in which governmental regulations shape how these companies operate. This chapter focuses on Farm Fresh's and Prakriti's corporate discourses about their contributions to producer and consumer communities. In the following two chapters, I consider how these networks and relationships are understood by farmers and consumers, respectively.

Contract farming

The term "contract farming" describes a wide variety of forms, but at its most basic level involves written or oral contracts between farmers and other actors in which the terms of production and purchase are specified in advance (Roy 1972, 3). Sukhpal Singh outlines three primary configurations of contract farming relationships:

- (a) procurement contracts under which only sale and purchase conditions are specified;
- (b) partial contracts wherein only some of the inputs are supplied by the contracting firm and produce is bought at pre-agreed prices; and (c) total contracts under which the contracting firm supplies and manages all the inputs on the farm and the farmer becomes just a supplier of land and labor. (Singh 2002a, 1621)

Contract farming is common in the Global North as well as many parts of the developing world,

including South America (Clapp 1998; Collins 1993; Key and Runsten 1999; Korovokin 1992) and Africa (Buch-Hansen and Marcussen 1982; Carney 1988; Konings 1998; Little and Watts 1994; Porter and Phillips-Howard 1997), but contract farming between corporations and farmers is only recently becoming more prevalent in India. This is largely due to India's history of agricultural production and marketing policies. As discussed in chapter 1, the Karnataka Agricultural Produce and Marketing Committee (APMC) Act was changed in 2014 to allow corporate actors to purchase directly from farmers. Before this point, all agricultural commodities had to flow through government-regulated market yards. This does not mean, however, that the most basic form of contract farming—agreements between farmers and other actors that stipulate the terms of production and purchase—is new to India. Rather, as Jairus Banaji (1977) notes in his discussion of capitalist relationships embedded in the Deccan cotton boom of the 1860s, landlords often specified the terms of production and output for their tenant producers.

Despite the relatively recent changes to the APMC Act, practices that fall under the rubric of corporation-farmer contract farming were already occurring well before the legislative revisions. An upper-level manager at a contract farming company explained that they had been contracting with farmers to grow particular crops for years, but they were always very careful to make sure they weren't doing anything he described as "illegal" according to existing regulations. His company was part of the conversations that resulted in the 2014 changes to the APMC Act, which succeeded in formalizing corporate relationships with farmers that had already begun.

Contract-based relationships between companies and farmers are necessary due to India's legal limitations on corporate involvement in agricultural production. For larger companies

interested in “backward integration” through extensive and controlled production, contracting with farmers is the primary way to get around legal limits on “captive farming,” or the direct purchase of large swaths of agricultural land by corporate actors (Subrahmanyam 2000). A company manager explained to me that this regulation was “framed earlier in order to protect small farmers, who might get lured [by] prices and end up selling their livelihood for [a] one time advantage.” Because of the limitations on corporate land ownership, the “best route is to get farmers involved into this [contracting farming] project,” he said.

The rising number of companies engaged in contract farming in India is linked with larger changes in the global agro-food industry. Contract farming “is an extension of the phenomenon of global sourcing wherein a firm can produce anything anywhere, by sourcing inputs from anywhere, to be sold in any market in the world” (Singh 2002a, 1622). As discussed in the introduction, Prime Minister Narendra Modi’s “Make in India” campaign includes programs aimed at making India a global leader in food production and processing. In many ways, contract farming is an ideal platform for achieving this goal, as it links international and domestic corporations with Indian farmers to create global markets for Indian-produced agricultural commodities. In Punjab, for example, the development of contract farming was directly linked with the entry of multinational corporations (commonly called “MNCs”) in India’s agro-food industry. Pepsi Foods, a Pepsico subsidiary, was the first company to bring contract farming into Punjab (Singh 2002a, 1628).

Karnataka was one of the first states to partner with MNCs in agricultural production and processing in the early 1990s. These enterprises were primarily located in districts just outside Bengaluru and focused on the production of gherkins—contracted by Oceania Peninsular Pvt. Ltd.—and tomatoes—contracted by Hindustan Lever Limited (now Hindustan Unilever), a

subsidiary of Unilever. While the gherkins were intended for export, the tomatoes were sent to a factory that manufactured Kissan, a popular brand of ketchup in the Indian market (Subrahmanyam 2000). Because of these early ventures, a 2008 study by a group of agricultural economists found Karnataka to be a leader in contract farming, with 22 domestic and international contract farming operations that were mostly clustered in southern Karnataka (Nagaraj et al. 2008, 308).

Today, opinions about contract farming vary widely among scholars, policymakers, and the general public. An administrator at Bengaluru's agricultural university described contract farming as a boon for farmers and consumers alike, since it breaks the "monopoly" of the APMC Market and provides "alternatives" to farmers and "good vegetables to the consumers, [with] better quality, [and] at a reasonable price, by eliminating the middleman." In contrast, the general public was often quite disparaging toward contract farming. For example, a man active in the organic terrace gardening community explained to me that contract farming companies cheat farmers by giving them a good rate for a few years—until they become dependent on the company—and then reducing the rates substantially. This practice appears in the literature on contract farming as a form of "agribusiness normalization," in which firms provide special benefits in the first few years but discontinue these benefits once their production base has been established (Singh 2002a: 1632).

This introduces a key critique of contract farming: in the end, power always lies with the contracting company, leading to practices that subvert farmer interests. These practices include, for example, hiring workers from distant communities—resulting in declining wages for local landless laborers—and intensively over-cultivating land, resulting in soil depletion (Singh 2002a;

Singh 2002b).¹⁸ Because companies do not own land outright, contract farming releases businesses from many of the risks of agricultural production: "Firms need not become tied to particular pieces of land through property ownership. Instead, they can use contracts to shift the risks of production and ecological degradation onto producers, and they can respond to new market opportunities without the expense of relocation" (Cohen 2013, 60).

These unbalanced power relationships between companies and their contracted producers must be understood in relation to wider changes in the role of corporations in India's agricultural sector. Indeed, much of the debate about the problems and benefits of contract farming centers on divergent opinions about the entry of multi-national corporations (MNCs) into agricultural production. The presence of powerful transnational corporations is not new to India given the export-oriented production policies of the British Empire. But today there is a general consensus among scholars and policymakers that the Indian government's recent adjustments to policies regulating foreign direct investment (FDI) have led to a series of changes in India's economy. The divergent opinions about the effects of these changes reflects a broader debate about India's relationship to the global economy (Mazzarella 2003).

Between 2011 and 2016, the central government permitted FDI in multi-brand retail trade (MBRT, a category that encompasses food retail) up to 51%, meaning that MNCs could hold no more than a 51% share in food retail operations (Singh 2012). This limitation on the entry of MNCs into the food industry led to many of the public-private partnerships (PPPs) advocated for by companies like Cargill (see, for example, Chaudhry 2015), which allowed MNCs to participate in the Indian food sector by partnering with domestic companies. This trend was an

¹⁸ The question remains, however, to what extent farmers are ever the most powerful actors in the food supply network. As other scholars have shown, interlinking markets for agricultural production, distribution, sale, and credit often make farmers dependent upon those further down the supply chain (see, for example, Bardhan and Rudra 1978; Singh 2015).

important factor in the entry of supermarkets into Indian food retail. Supermarkets are linked with an increase in contract farming because several companies that began as large retailers, Such as Reliance Fresh, are now entering production through contract farming. As discussed in chapter 4, supermarkets have changed the materialities and practices of food production and distribution (Singh 2007; Cohen 2013; Singh 2012).

In June 2016, the 51% restriction on FDI was lifted to allow 100% FDI in India's food sector (*The Economic Times* 2016). This means that international food companies can now directly produce, manufacture, distribute, and sell food products. The ramifications of this change for existing supply chains are yet to be seen, but opinions abound about its possible effects. For example, Rajiv, an agricultural marketing professor at the University of Agricultural Sciences in Bengaluru, was adamant that allowing full FDI in the food sector would "revolutionize" India for the better (we spoke before the 2016 change in policy to allow 100% FDI, so at the time he was advocating for the lifting of restrictions that would come to pass one year later). He explained that international retailers are ready to open outlets across India, including in smaller towns, but rural areas are a "vote bank" for politicians, so the government treads too carefully. Politicians are afraid that if they bring in new companies like Wal-Mart or Tesco, small stores "can't compete." Since small-scale retail provides a large percentage of India's employment (see Vidyanathan 2014 for an overview of what he calls "India Uninc."), people are "skeptical" that 100% FDI will result in positive change. But Rajiv saw things differently: "we want multinationals to come and invest. Then automatically the infrastructure will improve, the processing capacity will improve, we can export more [and] import more."

In response to my question whether MNCs will outcompete small stores, he responded, "not in a big way." He admitted that there will probably be a decline in the number of smaller

food retailers, but MNCs “want to partner with traditional retailers,” so “they need not be scary.” He gave example of Big Basket, a Bengaluru-based online food retailer that is working with small neighborhood shops to deliver products that have been ordered on their website (see chapter 4). Rajiv explained that similar to Big Basket, larger companies “can be franchise-y,” to the benefit of smaller stores and larger companies alike. For Rajiv, large companies bring several benefits: “If multinationals come [into India], [it] means they come with technology, they come with money, they come with their own organization, management. That [is what] we want. To modernize agri-produce [and] production, we want more warehouses, infrastructure, [and] cold storage.” For Rajiv, the best way to achieve more efficient supply chains is to encourage corporate investment.

For agricultural economist Sukhpal Singh, however, the proclaimed benefits of FDI remain unrealized. In his 2012 analysis of the role of FDI in retail (published before the 2016 transition to 100% FDI), Singh argues that three questions should be considered when determining whether FDI is positive for India’s food sector: “Does it really help farmers or more importantly small farmers who are 85 per cent of all cultivators in India? Does it improve efficiency of food supply chains and help lower food inflation which India is presently grappling with? And how does it impact traditional food retailers’ livelihoods?” (Singh 2012, 286). He answers these questions with a review of the existing literature on FDI in other countries, including Thailand, Mexico, and several African nations. Generally, he finds that multinational food retailers are able to bend production to their will, leading him to argue that within existing FDI policy in India, “there is no protection of farmers’ interest in any way” (295). FDI puts pressure on both ends of the supply chain: “supermarkets would lead to concentration of market power, with upstream suppliers facing buyer power in terms of lower prices and consumers

(buyers) facing higher prices due to lower competition besides traditional retailers suffering a decline in their business” (302). For Singh, the main problem with FDI, as compared with domestic corporate involvement in the agricultural sector, is the lack of regulation that will limit foreign control over production and retail trade.

The debate about the role of FDI and MNCs in the Indian agricultural sector is complicated because corporate involvement in food production, processing, and retail occupies a wide variety of formats. In the case of contact farming, different companies have varying priorities and methods for managing contracts with farmers, and these differences make it difficult to assert any singular opinion of the contract farming format overall (Singh 2002a, 1622; Singh 2002b, 182). For example, while the companies followed by Singh (2002) in Punjab limited participation to those farmers who met the company’s minimum number of acres under production and educational requirements—factors that privilege large and wealthy landowners—the company I discuss below, Farm Fresh, held no such limitations. This was partly because production lagged behind supply, so the company was willing to work with any interested farmers, regardless of the size of their landholding.

In addition, the crop under cultivation impacts the practices and outcomes of contract farming. For example, a 2008 study found that among baby corn growers near Bengaluru, non-contract farmers had a larger area of land under production than contract farmers. However, for green chillies, the largest cropped area belonged to chili growers contracted with an MNC (Nagaraj et al. 2008: 309). These differences overlap with company priorities to affect the makeup of contracted producers. A 2000 report generated for India’s National Bank for Agriculture and Rural Development (NABARD) showed that farmers who were contracted by different companies to grow gherkins were in general less literate with smaller landholdings than

those contracted by Hindustan Unilever to grow tomatoes (Subrahmanyam 2000). These distinctions are important for understanding the role of contract farming in worsening or alleviating inequalities among farmers.

These variances mean that any discussion of contract farming should provide specific details about the contracting firm and its methods, priorities, and relationships with producers. In the following section, I will introduce the contract farming company that I followed most closely, which I'm calling Farm Fresh. Below I describe the company's supply chain and will expand upon its relationships with producers and consumers in the following two chapters.

Farm Fresh: Contract farming as farmer “upliftment”

The Farm Fresh campus, located at the edge of Bengaluru's urban sprawl, is a world apart from most farms and production facilities in the area. Once through the security gate, a paved road leads past a small employee health center, canteen, and a series of research and office buildings to the packing warehouses and, further on, the production fields and greenhouses. On my first visit to the campus I scheduled a meeting with Prasad, the General Manager of the fresh produce division. A young man was waiting to meet me as my car pulled up outside the packing facility. He led me past a loading dock to the offices on the second story. We left our shoes at the base of the stairs, and he brought me to the glass office at the opposite end of a large, bright room filled with cubicles and busy office workers. I received a warm welcome from Prasad, who beckoned me to sit opposite him at his desk. We spent the next hour talking about Farm Fresh and its contribution to the Indian food and agriculture industry.

Prasad knew my discipline was anthropology, and told me that he would explain to me the social and technical components of the business. He began by saying that Farm Fresh has

always been committed to “the upliftment of the bottom level of farmers.” The company’s founders saw modernized agriculture as a way to achieve this goal, and began a hybrid seed company in the early 1990s. These seeds “turned around the tables for Indian industry,” and today “we have almost reached to self reliance. Rather, we are [at a] surplus. That is because of the acceptance of hybrid vegetable seeds.” Prasad’s origin story for the company wove together the struggles of post-Independence India with the company’s “strength to think ahead of the time.”

After becoming a leader in seed science and production, in 2000 the company “diversified” into producing fresh fruits and vegetables for retail in India and for export to the U.K., E.U., and U.A.E. As part of this effort, Farm Fresh contracts with nearby producers to grow particular crops. Prasad spent the majority of our meeting describing how the contract farming model benefits their partner producers. For one, he explained, the cereal crops “traditionally” grown by farmers (in the area around Bengaluru, the crop was primarily *ragi*, or finger millet; see chapter 3) are cultivated during only one season and then sold for a “very cheap price” so there’s less “commercial gain out of [the farmer’s] hard work.” Under this system, the farmer will “never be able to think [of] something more” because of financial restrictions and the difficulties related to production. According to Prasad, Farm Fresh changed this by this by encouraging farmers to grow horticultural crops.

To demonstrate, he used baby corn—the crop most commonly grown in the fields around the main Farm Fresh campus—as his “case study.” Baby corn is a sixty-day crop, is easy to grow with “moderate” water use and little need for pesticides, can be grown year-round, and—since Farm Fresh offers a 100% buyback arrangement—“acts as a cash crop” for farmers who contract with the company. If farmers grow cereal crops, they have “money in their hands once a year.”

With horticultural crops like baby corn, “direct cash is coming to [the] farmer’s hand every two months. So he is having better economical support.” And perhaps most importantly, he said, farmers have an idea of the payment that they’ll receive at harvest, based on the agreed-upon buyback price set at the time of sowing.¹⁹

Prasad’s description of the benefits of contract farming introduces some of the key factors in Farm Fresh’s relationship with producers. Contracted producers are guaranteed a pre-arranged purchase price that is set at the time of sowing. These contracts are generally oral and made on an annual basis. The stipulations of the contract depend on a particular commodity’s material requirements of production, and generally do not change in relation to an individual farmer’s landholdings or resources. In the case of baby corn, Farm Fresh provides only one input to its baby corn growers: seed. Because baby corn is considered resistant to pests, Farm Fresh does not provide baby corn farmers with chemical pesticides, as they do for other crops such as tomatoes and chillies. If a baby corn farmer chooses to apply fertilizers or pesticides, he purchases them himself from “the association”—the community-level government agricultural center where many chemical inputs are offered at subsidized prices.²⁰

¹⁹ In addition to these “direct” benefits to farmers, Farm Fresh employs many women from nearby villages in their packing facilities, with the goal of giving women regular wage work and services like free lunches in the canteen and basic health services for their female employees. Again, Prasad linked this with the company’s moral anchoring and commitment to “upliftment” for rural India.

²⁰ The resistance of baby corn to pests makes it a preferred crop for farmers who also grow mulberry, fed to silkworms, that must remain pesticide free if the sericulturist wants to nourish, rather than kill, his silkworms. Another important benefit to growing baby corn is the use of the harvested cornhusks as fodder for farmers’ cows. Many of Farm Fresh’s farmers started small dairying operations, owning on average between one and four cows, and sell whatever milk they do not consume in their homes to the village-level dairy facility. Many baby corn farmers told me that the fodder they get from the plants is more lucrative for them than the baby corn itself, and this is one of the reasons they continue to produce for Farm Fresh. Their reasons for entering into contracts, and the benefits and disadvantages in doing so, are multilayered and incorporate economic, social, and political motivations and hesitations. I will discuss this more thoroughly in chapter 3.

Farm Fresh representatives discuss this provision of inputs as beneficial for both farmers and the company.²¹ For one, controlling inputs is necessary in order for Farm Fresh to remain compliant with European safety standards. The company's commitment to global safety and quality regulations is one of the primary ways in which Farm Fresh sets itself apart from other producers in India. All of their produce is certified under GLOBALG.A.P, a third-party certification program that establishes very strict requirements for the production and processing of agricultural goods (see chapter 4). In order to maintain compliance, Farm Fresh provides inputs specific to the crop so that, as one company representative explained it, "we have control, we won't leave it on [the] farmer." The representative continued that providing inputs also helps the farmer, since a "lot of farmers are not in position to spend money upfront" (a challenge with agriculture around the world). Farmers rarely have the money to make an initial investment in seeds and other requirements for production. In addition, since farmers do not pay for inputs at the beginning of the growing season, in the case of crop failure, "what input loss is there, [the farmer] won't get suffered for it." At the time of harvest, Farm Fresh sends a truck to collect the harvested produce. This is called a "farm gate sale," which is considered beneficial for farmers because they are free from paying high transportation costs.²²

These benefits serve as easy talking points for Farm Fresh employees. However, the company is careful to resist characterization of its efforts as a social enterprise. During our meeting, Prasad assured me that the benefits afforded rural communities are not "charity."

²¹ In addition to crop-specific inputs, farmers receive production advice and assistance throughout their tenure as contract farmers. Farm Fresh hires community-level supervisors, men from the village or a village nearby, to serve as the go-between for the company and its producers. As members of the local community, these managers are familiar with the farmers and villages. They serve as an alternate source of information aside from agrichemical merchants who have become the default extension officers in many rural communities (Aga 2018).

²² Although Farm Fresh covers some input and transportation costs, it is the farmer's responsibility to ensure he has enough water and labor to grow and harvest the crop in layered cycles throughout the year. This is often where farmers' difficulties lie, as discussed in chapter 3.

Rather, they are part of the for-profit company's success. Farm Fresh's "first aim is [to] help [the] farming community, and achieve our business goals through that. This is not totally charitable work. But it has a very, very strong humanitarian side." For him, companies that operate successfully with the partnership of farming communities are a better solution to rural poverty than those initiated by the government. He argued that the Karnataka state government is now "very proactive" with schemes for "farmer upliftment," but explained, "it is my individual opinion that those who are complaining about the lack of support...are the lazy people who won't put [in] effort and [are] complaining that on the table itself you're not feeding them." Giving handouts is not enough, the farmer should "have to put [in] effort." The company and the farmer must work together toward the betterment of India's agricultural sector.

In Prasad's view, the corporate model is not contrary to rural wellbeing, but key to it: "There has to be, apart from [the] social, [a] commercial sense to everything that we do. Otherwise this will collapse. It will not work. Unless we stand, we will not be able to support others to stand." He laughed, explaining that this is like the safety video shown by airlines that tells flyers to put on their own oxygen masks before assisting others. Prasad admitted that not all contract farming companies follow this line of thought. But, for Farm Fresh, "the humanitarian or pro-farmer approach is the soul of our contract farming system and it is the secret of our success." They believe that what is good for the farmer is good for the company—their model is a "win-win."

Delivering "quality" to Indian consumers

Alongside Farm Fresh's talking points related to "farmer upliftment," the company also represents its attention to quality and safety as beneficial to urban consumers. Although Farm Fresh exports a few products abroad, including baby corn and chillies, it sells its widest variety

of fruits and vegetables to the domestic market through its retail locations in Bengaluru. Prasad described their participation in the domestic market as motivated by both social and economic commitments. For one, he explained, the entire world is looking to India as an emerging market, so Indian companies also need to “look internally.” Wider economic changes in the country have created new demands for “high-quality” food products. Farm Fresh has targeted its efforts toward serving the “sec A” consumer, meaning the most elite level of consumer who cares more about what Prasad called “quality” than price (see chapter 4). His definition of “quality” became apparent through his descriptions of what sets Farm Fresh apart from other supermarket retailers in Bengaluru: “our vegetables are neatly sorted, graded, packed, [and] put on the temperature-controlled shelves.” This is “much ahead of the routine vegetable handling.” It’s true that the produce sections of Farm Fresh’s stores look very different from the majority of food retail in India. For one, fresh fruits and vegetables make up a much larger percentage of overall retail space—something that CEO of the retail division told me is what distinguishes the company from its competitors, as discussed further in chapter 4—and many items are packaged in some way and carefully stacked along refrigerated shelves. In addition, Farm Fresh stores stock a large number of rare and specialty items such as parsley, leeks, butternut squash, and brussels sprouts.

Farm Fresh stores and products appear to be very “hygienic,” as discussed in chapter 4. This extends Prasad’s meaning of “quality” beyond food infrastructure and packaging to include the overall safety and health qualities of the products sold. Prasad explained that in India “people have become very health conscious now. As you know, in Indian society consumption of fruits has increased because of the retail chains’ arrival. We [India] have emerged as one of the world’s biggest importers of apples.” Prasad used this example to demonstrate that Indian consumers are looking for new products that meet global understandings of quality and health. Farm Fresh is

uniquely situated to meet those demands, as a company that began its fruit and vegetable operation with the goal of meeting GLOBALG.A.P. specifications for safe production and handling of food products (see chapter 4).

To meet this domestic demand for “quality,” Farm Fresh has developed its own growing operations. In addition to contracting with local farmers, Farm Fresh produces particular crops on its company-owned and managed land. Farm Fresh hires laborers to grow fruits and vegetables in allotted plots on its campus, alongside its seed production facilities. These efforts are focused on the production of commodities that are especially difficult to monitor for quality, including fresh greens, herbs, fruits, and some unfamiliar and low-quantity vegetables like leeks and tomatillos.

Farm Fresh’s growing facilities look drastically different from the surrounding farmers’ fields. Tomatoes are grown in polyhouses—giant structures named after the plastic (polyethylene) that covers them—which are intended to create a well-controlled and monitored growing environment. The climate in these structures is adjusted via a computer system that operates irrigation and monitors humidity and temperature. To further control the growing process, tomatoes are planted in cocopeat—the shredded coconut husk fiber that is an important component of most potting media in India—and are fed nutrients in the water distributed by drip irrigation.



Figure 11: Tomatoes growing in a climate-controlled polyhouse on the Farm Fresh campus



Figure 12: Greens growing in a polyhouse on the Farm Fresh campus

This close monitoring of the commodity continues into processing. With harvest, vegetables and fruits are brought to Farm Fresh's packing facility. This is true both for items grown on Farm Fresh's campus and by contract farmers. The packing facility is (and is meant to be) an impressive operation, one that conveys to visitors a sense of control and "hygiene." On my first tour of the facility, I was instructed to write my name and contact details in a registration book in the small lobby. Once I had completed my visit I was asked to write comments about the experience. The tour began in a large room with an open loading dock, where I was given a

white coat and hairnet. The young man who was managing operations that day explained that produce comes from contract farmers and company-owned land to this facility, where it is first checked for insects and any other major damage before passing into the packing area.



Figure 13: Farm Fresh employees performing an initial inspection

On entering the packing room, my tour guide and I washed our hands in a large basin with a self-dispensing soap and a foot pump. The packing area was split into two sections: one for the domestic market and one for export (see chapter 4). Both rooms were full of stainless steel surfaces and workers wearing long coats and hairnets. All the employees sorting and packing were women, while many of the employees walking around and inspecting at the end of the line were men. The rooms felt packed with busy energy, with employees prepping vegetables, packing them in plastic bags or Styrofoam trays, and weighing and stacking them. The hum of the air conditioning unit, combined with the activity of the workers, made the space feel loud and slightly chaotic, if also very controlled.

Once sorted and packed according to the commodity, the produce was put into boxes or crates and loaded into refrigerated storage areas. From there, products for export are checked in a small room to ensure that export regulations are met before they are shipped out by truck to the Bengaluru airport. For the domestic market, the products are put into temperature-retaining boxes in large trucks and shipped to Farm Fresh's retail locations across Bengaluru.

This is all a very complicated affair, and looks radically different from the wholesale food networks discussed in chapter 1. Most critically, the entire process, from production to retail, is closely monitored and controlled by a singular company. Connecting farmers and consumers through a singular corporate intermediary is presented as a solution to many of the challenges of the F&V sector, especially those related to infrastructure, perishability, and quality. As discussed above, Farm Fresh emphasizes its unique contribution to India by proclaiming that its model benefits both producers and consumers: farmers are given more secure employment and lowered production risks, while the emerging segment of elite, health-conscious consumers receives fruits and vegetables that can meet their stringent demands for quality, safe foods. Through corporate discourse and the material practices of production, processing, and retail, Farm Fresh conveys a commitment to highly controlled and monitored food supply chains. The following two chapters consider how producers and consumers both accept and challenge these corporate discourses, for example by following prescribed production practices or complaining about quality. The key point here is that Farm Fresh positions itself as a business that is both market-smart *and* ethical, a combination that also figures as in the discourse of a different corporate form: farmer-producer organizations.

Farmer-Producer Organizations (FPOs)

Shortly after my arrival in Bengaluru I scheduled meetings with officials from the Karnataka Department of Horticulture (DOH) in order to learn about the state's plans for horticultural production. Through these meetings I learned that a new language had entered governmental discourse: rather than speaking about cooperatives, DOH officials were talking about "Farmer-Producer Organizations" (FPOs) and "Producer Companies." Prabhu, an official charged with promoting FPOs in Karnataka, explained that these models provide a "cluster approach" to organizing small and marginal farmers into larger collectives so that farmers can have better bargaining power and invest in shared infrastructures like cold storage facilities. He explained the structure of the FPO model, which is made up of a series of nested interest groups that are based on idealized geographic and population categories. Farmer Interest Groups (FIGs) are village-level collectives that are grouped together into a regional FPO. One FPO represents a radius of ten to twelve kilometers, an area covering ten to twelve villages with a distance of about five to six kilometers between villages. Each village will have two or three FIGs. There are twenty farmers in one FIG and fifty FIGs in one FPO, meaning that there are around 1,000 farmers in one FPO. Each FPO has a board of fifteen member-farmers from ten different FIGs.²³ I dutifully wrote down these numbers as Prabhu rattled them off, feeling that his description seemed more like a series of calculated generalities rather than concrete plans for next steps.

While the FPO cluster program is an initiative of the Karnataka DOH, Prabhu was careful to note that the government is acting as a "facilitator" and taking only a small role in the process. Its main priority is to provide support to initiate FIGs and FPOs, but maintenance and

²³ Perhaps because of the very generalized plans for FPOs at the time of my research, there was some conflict within the Karnataka DOH about whether the FPO initiatives would be successful. During my first visit, I was present for an argument between Prabhu and a younger DOH official about whether it would be possible to create an FPO built around organic agriculture, versus a specific commodity. The younger employee contended that the effort would fail, while Prabhu was adamant that they could make it work if they chose the right farmers.

recruitment will be the responsibility of the farmer-members.²⁴ FPOs will procure from farmer members and ensure that produce goes straight to the market, thereby removing the middlemen from the supply chain. The FPO will also provide farmers with inputs like seeds, pesticides, and loans. FPO headquarters will have collection and processing centers for farmer-members, which will be linked directly with buyers. The DOH was also considering programs to provide opportunities for direct marketing, such as refrigerated vendor carts, to the FPO so that members can sell to consumers directly.

These goals for the program sound similar to those of cooperatives that have long been active in India's agricultural sector, but the FPO program is anchored in a different organizational form: the company. I consider this change in the following section.

From cooperatives to companies

In 2003, the central government amended the Companies Act of 1956 to permit the formation of producer companies (also called farmer-producer companies, or FPCs) (Singh 2008: 23). Producer companies are legally permitted to engage in every stage of agricultural production, trade, and retail: "The objective of the said company can be production, harvesting, procurement, grading, pooling, handling, marketing, selling, export of primary produce of the members or import of goods or services for their benefit" (Singh 2008, 23).²⁵ Unlike cooperatives registered under the Cooperative Act, producer companies are limited liability private companies. This means that they are subject to the same tax structures as private

²⁴ As part of the effort to extend participation in FPOs, the groups will do horticultural demonstrations, called Integrated Crop Demonstrations, with twenty to thirty farmers in three to four villages within an eighty to 100 hectare block. At the time of my research they had begun these demonstrations and early impact assessments indicated that output among farmer participants has been three to four percent higher.

²⁵ For groups that are not interested in providing this wider range of services to members, the FPO model is unnecessary. For example, a woman who created and manages a small organic farmer's association that has been active for several years explained that they weren't interested in enrolling as an FPO because they handle only fresh fruits and vegetables. Since these items cannot be stored, they don't need to invest in any storage or other high-cost facilities that require the kinds of capital that an FPO can offer.

companies, despite policy suggestions by agricultural economists that they be exempt (Singh 2008, 24).²⁶ They are also required to maintain other business requirements, such as having a bank account, keeping careful records, and obtaining licenses as required by their business activities (for example, a fertilizer FPC must have a license to produce and sell fertilizer).

Although FPOs can be registered as companies *or* cooperatives, the government has focused its efforts on promoting the creation of producer companies rather than cooperatives. This is largely due to the commonly held belief that the cooperative model has failed to empower small and marginal farmers. Karnataka's Horticultural Producers Cooperative Marketing and Processing Society (HOPCOMS) has long been considered a successful example of how a government-managed cooperative organization can assist farmers with marketing (see Krishna and Mokshapathy 2013). HOPCOMS buys from farmers at collection centers in different districts and sells farmers' goods at small HOPCOMS retail outlets in Bengaluru and a few additional cities. Despite its successes in creating a more "direct" supply chain, HOPCOMS has increasingly come under fire for serving certain interests above others.²⁷ For example, a woman with a long and very successful political career in the state government told me that HOPCOMS "isn't good" because the board is made up of government employees, who represent only elite farmers' interests.

This is part of a larger critique of the efficacy of cooperatives established under the Cooperative Societies Act of 1956: "Due to political interference, corruption, elite capture, and similar issues, the cooperatives soon lost their vibrancy and became known for their poor efficiency and loss-making ways" (Singh 2008, 22). These problems are often directly linked to

²⁶ The reporting and tax requirements of producer companies often caused tension within the organization and between the farmer-shareholders and their NGO partner.

²⁷ Similarly, dairy unions that have for decades served as an exemplar of the cooperative model are showing signs of transition, away from small and marginal farmers to large and intensive dairies modeled on industrial dairying (Das 2015; Ramdas 2015).

cooperatives' close ties with the government, a relationship that is central to the working of HOPCOMS:

HOPCOMS experiences several advantages and disadvantages because of its origins as a government organisation. The main advantage to being government sponsored is the equity contribution made, which helped to create a vast organisational infrastructure, including several procurement centres, storage centres, processing centres and retail outlets. Linkages with cooperative banks have also enabled it to smooth out cash transactions with members. The main disadvantage has been the lack of active involvement from its farmer members, who constitute the organisation's main clients. In spite of their large numbers, they do not even own 10% of the total shares of HOPCOMS. (Chandrashekar 2011, 129)

The key problem with cooperatives, in this line of reasoning, is not that they operate like companies, but that the shareholders of these corporate-like entities are not the producers. As a solution to this problem—one that does not resist the trend toward the company framework but embraces and shifts its meaning—producer-owned companies have become the newest solution to connecting farmers with markets.²⁸

An organic agriculture NGO that has long been active in rural communities near Bengaluru provides an example of the challenges related to cooperatives and the potential of the producer company model. The founder explained to me that the NGO had wanted to initiate a producer cooperative years ago, but once they got started they quickly cancelled the initiative. The problem was that non-organic farmers started investing in the cooperative in an effort to make money from the efforts of the few committed organic farmers. For this reason, the NGO

²⁸ Even the most successful and celebrated cooperative federation, Amul, has recently come under fire for corruption in one of its oldest cooperatives (Rajshekar 2018).

founder was excited about the FPC model, since only producers can become members and can benefit from the profits of the company. Under the producer company model, profit must be distributed among producer-shareholders depending on the percentage of shares held.²⁹ The members vote on what to do with this profit. It can be invested back into the company through infrastructure projects, for example, or can be given back to shareholders as a year-end bonus calculated according to the amount of produce contributed by a particular farmer or group.

FPCs retain a few very important elements of the cooperative model: “(i) voluntary and open membership; (ii) equal voting right independent of shareholding; (iii) elected board from amongst members; (iv) limited return on share capital; and (v) distribution of surplus on patronage basis” (Shah 2016, 17). Foremost among these is the one member-one vote policy, which means that irrespective of share ownership, members have equal voting power. However, unlike cooperatives, share ownership is limited to member-producers. While the producer-owners can elect non-producers to the board—this is often encouraged, since producer companies often need the assistance of business professionals—non-producers cannot be shareholders. In addition, producer companies have more stringent reporting requirements than cooperatives, meaning that members can better monitor company records and proceedings (Singh 2008, 24).

This combination of company and cooperative organizing structures is believed to add up to several benefits of the producer company model:

First, the producer company format provides more legitimacy and credibility in the immediate business environment. It breaks the producer organisation free of the welfare-

²⁹ Shares are not traded in the market, so there is no set cost per share and shares are only transferrable within the group. Generally, one share is considered to be Rs. 10. There is no cap on the percentage of shares that can be held by a particular organization or individual, but governmental policy documents suggest equal shareholding among members (Department of Agriculture and Cooperation 2013: 61).

oriented; inefficient, and corruption-ridden image of cooperatives. Second, it allows registered and non-registered groups, such as self-help groups or user groups to become equity holders in a producer company. This enables provision and is a distinct improvement over the existing legislation on cooperatives, which allows only individual producers to be members. Third, the Act permits only certain categories of persons to participate in the ownership of producer companies, i.e., the members necessarily have to be 'primary producers' - persons engaged in an activity connected with or related to primary produce. Fourth; new marketing models such as retail chains are leading to new ways of sourcing produce and organising the supply chain. (Singh 2008, 23)

For these reasons, the producer company model has received praise from a range of actors, including researchers, government agencies, companies, and NGOs. As reported in an October 2015 article in *Bengaluru Mirror* (Kaggere 2015), government officials state that cooperatives have failed farmers and that FPOs are the way forward because they let farmers work directly with large food retail and processing companies. The article quotes the Karnataka Minister for Horticulture as saying, "except for funding the FPOs, the government will not interfere in their affairs. These FPOs will be put in touch with corporates such as Pepsi, Metro, Hindustan UniLever, Reliance and Big Bazaar among others, so that they can market their produce" (Kaggere 2015).

Despite this language of direct connection, these initiatives often work to establish new intermediary forms. These intermediary positions are generally occupied by NGOs, a trend seen in India overall (see, for example, Sharma 2006). Many of these NGOs have already been involved in agricultural communities through their work promoting other government schemes, such as self help groups (SHGs). Often, producer companies are built from these previously

established relationships. While explaining how her company works with existing farmers' groups to source items, a young woman employee told me that the most successful model is one where the FPO is layered with an existing self help group, which can function "like a bank" by giving loans to FPOs that would otherwise be difficult to finance. As this example demonstrates, NGOs serve as a way to link up the existing resources of programs such as SHGs with new government initiatives like FPOs.

In addition to connecting producer companies with existing associations, NGOs also work to create a "tie up" with companies. This was the phrase used by a representative of an NGO that represents organic "stakeholders" across India. I asked what he meant by the term "tie up," and he clarified that his organization works to connect producers with retailers and act as "mediators," communicating retailer demands and orders to producers. This was a common way of expressing the role of NGOs in assisting farmers. A representative of another NGO explained that their primary goal is to "help [farmers] in reaching to the market." He continued that this approach has been lacking in the NGO sector, since too many NGOs think of the market as "exploitative." He argued that this is the wrong way to think about farmers' needs, however, and his NGO works closely with other market agents like brokers and retailers to ensure that farmers receive a good rate for their produce.

The CEO of a company that works with farmers' groups explained his work in a similar way. He described the company as "provid[ing] a market connect." A decade ago, NGOs weren't "comfortable with markets," he said, and dealt only with the "backend" of the supply chain, meaning that they worked only in production-related issues. But they have since realized that the communities with which they work all struggle with market access, so this is a key need that NGOs must fill. He described his company as the "logical extension" of this change in

perspective, because it works with farmers' associations to ensure that farmers receive good rates and consumers receive safe food.³⁰

These claims capture the current energy around providing “a market connect” as a solution to the continued insecurity of agricultural livelihoods. Access to reliable markets was indeed a commonly expressed desire in farming communities near Bengaluru, as I explore in the following chapter. However, despite the excitement surrounding producer companies and the FPC model as a new way forward, existing reports suggest that the outcome has not been promising so far:

Of the more than 2,000 registered [producer companies], there are not even a dozen FPCs that have enrolled over 100,000 members and/or reached an annual business turnover of over Rs 100 crore [Rs 1 billion], the scale of a small-sized dairy cooperative union. Size may not be the only or even a major indicator of success, however, survival as a viable, self-sustained, member-controlled producer organisation is. But even on that count, most FPCs remain fragile. (Shah 2016, 17)

Actors involved in promoting producer companies are aware of the challenges of creating self-sustaining companies. Part of this is financial: although registering as a company means that there are new sources of capital available, producer companies have to first show commitment from shareholders—meaning that the company has to ask for an initial investment from each farmer—before a bank or institution like NABARD will offer a loan. The tax requirements of producer companies are another challenge. At an organic retailer workshop in Chennai, a manager of a cotton growers' producer company told the group that banks demand proof of profit before offering loans. However, because FPCs are taxed on the profit that remains in the

³⁰ Interestingly, I did not hear comparisons made about creating markets for food and other, non-food commodities, despite potential models such as Fabindia (a clothing and housewares retailer). Rather, dairy cooperatives such as Amul were most often offered as comparative models.

company's control or is distributed to farmers as profit shared, many FPCs prefer to distribute profit back to farmer-members as higher payment for their goods rather than retain this money as company profit or for year-end distributions. This means, however, that it can be difficult to demonstrate profit and, therefore, get loans. Because of this, he said, and because of the many qualifications that banks use to determine whether to provide loans—producer companies must provide proof of collateral, a personal guarantee, records of performance over the past three years, proof of existing credit, and information on marketing arrangements within the company—it can take at least three years to successfully acquire a loan.

Aside from such financial constraints, questions about the efficacy of producer companies often rest on assumptions about farmers' unwillingness to "take ownership" and invest in the company, a point I address further in chapter 3. Because of this, the current push has been to involve NGOs that will link farmers with business professionals. I asked a representative from the Indian Society of Agribusiness Professionals (ISAP), an organization working with the central and state governments to promote FPOs, about the main challenges facing the FPO program. He responded that after the benefits of government schemes end, farmers don't keep up with the program. They ignore "technical things" like balancing their finances and keeping up with taxes. This means that when the government scheme implemented by NGOs comes to a close, farmers often struggle to get loans and keep their accounts in good shape. As a solution to this problem, ISAP offers its services for a fee: the organization promotes FPOs on a voluntary basis under the government scheme, but once the scheme concludes, the FPO can also hire ISAP to keep helping them after the project is "complete." I encountered a few NGOs that had taken on similar roles.

NGOs are thus instrumental to the implementation and continued functioning of FPOs in

their current form. In the following section, I introduce Prakriti, the producer company and its NGO partner that I followed most closely in my research.

Prakriti: A producer company supported by NGO networks

As we sat around a desk in Prakriti's NGO headquarters, Tanya and Lakshmi laughed over the price of fresh coriander (cilantro). Because the price had gone up drastically, farmers were bunching their pungent leaves into smaller and smaller bundles, sold per piece. Lakshmi said that she explains to farmers that they can make the bundles a little smaller when the price is lower—that's no problem, because everyone understands that they have to make an income—but they shouldn't be making the bundles smaller because the price is higher! Tanya laughed and nodded, saying that farmers have to be “a little clever” to figure out how to manage the market. She added that the market is the most important concern for farmers—“if there isn't any market, farmers won't sell.” She turned to me, explaining that farmers have become accustomed to growing with conventional methods and now they expect a certain level of output, so it is hard for them to adjust to the lower initial yields of organic agriculture. But, she continued, many farmers are willing to try organic methods, as long as Prakriti guarantees that “someone will be there to buy it [their produce].” Providing farmers with market connections has become one of Prakriti's most important services (see chapter 3).

Prakriti was one of the first organizations that I encountered while preparing for fieldwork. Its founder had worked with other NGOs in Bengaluru before starting Prakriti in the early 2000s. By 2015, Prakriti was a large and well-known NGO that at the time of my research was involved in organic farming programs around Karnataka and was expanding its seed-saving efforts into other parts of India. The NGO began as an effort to preserve *naati* (native) seeds and local agro-ecological knowledge, and over time Prakriti had become a key partner of the

Karnataka government in instituting the *Saveyava Bhagya Yojane*, or the Organic Village Project. Through this program, Prakriti assists villages around Bengaluru and Mysuru with enrolling and completing three years of extensive paperwork and “diaries” detailing how participating farmers are transitioning to organic methods. After three years of documentation and testing by a third-party organic certifier (there are several approved by the Indian government, and Prakriti used ICO, an international certifier), the farmers involved in the project can receive organic certification. As part of this three-year program, the government provides record-keeping materials and pays farmers’ testing and certification fees. Its NGO partners—in this case, Prakriti—provide training and regular meetings to discuss farmers’ questions and problems. At the end of three years, it is up to the farmer group established through the program to pay its own certification fees and continue organic production.

Over time, Prakriti’s efforts evolved and its leaders realized that organic farmers were requesting one thing in particular: access to a market for higher-priced organic foods. According to Lakshmi, a long-time employee and administrator of Prakriti, they quickly realized that farmers wouldn’t stick with organic agriculture unless they could receive a higher rate for their organic products (this is something that farmers told me explicitly, and I’ll consider this point further in the following chapter). As an effort to retain as many organic farmers as possible, in 2011 the NGO gathered its associated farmers into a producer company. Prakriti is now both the name of the producer company and the NGO that was instrumental to its founding. The company produces items under its brand name and also as “white label” products, which can be branded by the buyer. The company’s offerings include grains, pulses, and fresh fruits and vegetables, all of which are sent to a single packing facility at the edge of Bengaluru. At the time of my research, about ninety percent of Prakriti’s commodities were grown in Karnataka, with only ten

percent from other states. The out-of-state items were those that could not be grown in Karnataka, such as “diabetic rice” from Tamil Nadu and wheat from Indore. During my last visit to their packing facility in December 2015, Prakriti had just expanded its operations into a second warehouse where they were processing grains and packaging items with nitrogen, an alternative to chemical fumigation that is permitted under organic guidelines and that increases the shelf life of grains and legumes. Fruits and vegetables arrive at the warehouse late in the evening, where they are inspected and graded overnight and then shipped to local retail stores early in the morning.

Since I was most interested in the fruit and vegetable supply chain, I worked closely with Lakshmi, who managed Prakriti’s F&V sector. Lakshmi was very generous with her time and was instrumental in helping me understand Prakriti and its workings. She introduced me to farmers in Thotahalli,³¹ a village about 35 kilometers from the center of Bengaluru. Organic farmers in this village have been an active part of Prakriti, and were the first to produce fruits and vegetables for the company. They are one of its biggest success stories, explained Suresh, the CEO of the Prakriti company, over tea in his office. As of October 2015, the Thotahalli farmers’ association had 60 member farmers and another 25 were “in the pipeline.” The majority of Thotahalli farmers are small landowners, with an average landholding size of around 1.5 acres. The group began as part of the Organic Village Project in 2010. They became certified organic after the three-year transition period, and in 2013 a group of around 30 farmers founded a self help group (in this context, generally referred to as an “association”) and joined the Prakriti producer company. At the end of their first year selling to Prakriti, the farmers’ group received around Rs. 5 lakh (500,000) in year-end bonuses from Prakriti. This was broken into individual payments of Rs 8,000 to each individual farmer in the Thotahalli association. The rest of the Rs.

³¹ A pseudonym.

5 lakh was reinvested in Prakriti and the association, through buying additional shares for association members, furnishing the small office at the Thotahalli collection center, and buying seeds to be shared among Thotahalli association members. In their second year of selling to Prakriti (2014), the association's year-end bonus rose considerably, from Rs. 5 lakh to Rs. 8 lakh.³²

Prakriti as a whole had a bumpier start than the Thotahalli farmers' association. According to Suresh, Prakriti's initial three years of operation saw a total loss of almost 10 lakh (Rs. 1 million), but in 2013-14 the company broke even and in 2014-15 they increased their turnover and made enough profit to recover their previous losses. Suresh explained that what changed was "volume"—their margins stayed the same, so it was only the increase in the volume of sales that gave them a profit of about Rs. 3.6 crore (36 million). This increase was achieved by working closely with networks established by the Prakriti NGO that provide access to organic farmers' associations that can sell directly to Prakriti. Prakriti then sells these items to retailers in Karnataka, Kerala, and Tamil Nadu (see chapter 4 for a discussion of Prakriti's relationships with retailers).

Prakriti's supply chain is a highly coordinated operation involving NGO and company employees—based both in the city and different villages—and farmer-shareholders and their families.³³ In Thotahalli, Prakriti pays a young farmer a Rs. 6,000 salary to assist with operations, including harvesting farmers' crops if they are unable bring them to market and

³² Bonuses are calculated according to the total annual financial contribution of a particular individual or farmers' group. In 2014, the Thotahalli association contributed Rs. 2.8 lakh worth of produce to Prakriti. They received a year-end premium of 6% based on this contribution. The group chose to reinvest 50% of their premium back into Prakriti, and the remaining (around 8.4 lakh) was distributed to the Thotahalli farmers' association.

³³ Prakriti also buys from farmers who are non-shareholders. Often, this is the case with larger farmers whose large landholdings disqualify them from becoming members of the producer company, but who supply an important commodity, such as mangoes.

locating other organic farmers in Thotahalli and surrounding villages who are interested in selling to Prakriti. In addition, the company employs a young woman who organizes collection schedules at the village-level collection center. Together, these employees work as a key go-between that connects the company with the Thotahalli farmers. They coordinate with the company to establish growing schedules for the individual farmers based on farmers' particular strengths. Farmers who have easy access to water and labor, for example, will grow fresh greens, while those for whom these inputs are more difficult will grow root vegetables like carrots and beets. They establish particular cycles of growing and will communicate daily how much a farmer should harvest and bring to the local collection facility just off the highway in Thotahalli.

Farmers bring their goods to the collection facility, called the "market," in the evening. The market is a covered, tiled area off a newly constructed two-story house near the highway. The Thotahalli farmers' association leases the bottom story of the house as an office and storage facility. At the collection facility, farmers' items are graded (although farmers do preliminary grading at their farms, and from my experience there was very little that was rejected at the collection facility), weighed, separated, and packed into plastic crates according to individual retailers' orders. At the end of the collection period, these crates are loaded into a small truck and send to the Bengaluru distribution center.

Generally, farmers transport their goods to the collection center packed in old plastic gunnysacks that are strapped carefully to their motorbikes. While at the collection facility, farmers are expected to assist with weighing and separating out retailers' orders. They receive a receipt of the amount purchased and total payment due, which is transferred by Prakriti directly into farmers' individual bank accounts, generally within a few days of purchase.



Figure 14: Farmers weighing and sorting produce at the Prakriti collection center in Thotahalli



Figure 15: Produce is separated into crates based on individual retailers' orders

It is difficult to trace out the many layers among Thotahalli association members, company employees, and NGO staff that make these coordinated schedules possible. But Prakriti has been especially careful in setting up a relationship between the NGO and the company that is as distinct as possible. Suresh credits Prakriti's success to the leaders' insistence that the company function separately from the NGO, with the NGO's assistance but not its control. He

explained that FPOs are “facing challenges” because they are not being run by people familiar with "business" (which, for Suresh, meant having training and experience in business management). Before joining Prakriti as its CEO, Suresh was in charge of finance at a large food retailer. He said that this background means that he has the expertise to run the producer company segment of Prakriti as a self-sustaining business. Other FPOs are struggling because they’re “doing a little marketing, a little NGO work.” Suresh contends that this confusion in roles has led to the failure of many FPOs.

Even though Prakriti faced “lots of struggling,” in Suresh’s words, to make their first profit, NABARD did a survey that credited them with being an exemplary producer company because: 1) the NGO and company components of Prakriti were separate, and 2) the company had business people employed, not just NGO people working on many fronts. Both NABARD and Suresh credit Prakriti’s success to these two factors. Even though accepting the job with Prakriti meant that Suresh took a major pay cut from his previous positions—saying that in the beginning, he said, he received a lot of questions about this from his wife—he’s very glad he made the change because he feels passionate about the work he’s doing. He enjoys being part of a company that does right by both farmers and consumers.

Profit that “goes back to the farmer”

“Whatever [profit] we are making goes back to the farmer,” Suresh said proudly during our first meeting. This is the first and final goal of the company and, for Suresh, the main difference between other companies and Prakriti. He contended that other non-producer-owned companies, such as Reliance Fresh never pay farmers a fair price and also never share the profit with the farmer. Instead, profit is made at the expense of the farmer and flows only to the company owners. Prakriti, on the other hand, “has to work for the farmer.” He lamented that

Reliance Fresh is purportedly getting into the production game by producing mangoes on around 5,000 acres. The problem with this is that “in the future they [large retailers] won’t even need farmers,” because retailers can grow their own products for themselves using leased land and hired laborers. When this happens, he asked, “where will food come from?” What will happen to farmers? India needs to have farmers, and in order to have farmers it needs to give good prices to farmers for their commodities, he suggested. That is where companies like Prakriti come in.

Over my time with Prakriti, I heard a few key talking points from employees about the benefits of their model for farmers. First, the company offers a 10-20% (some employees said 10%, others said 20%) premium on the non-organic market rate.³⁴ Second, farmers are paid in full “immediately” (within a few days) of purchase. And finally, Prakriti weighs produce carefully and pays farmers for their entire lot. Lakshmi explained that many brokers take a cut of the farmer’s produce—called a “dump”—by excluding a certain amount from the total when weighing and paying the farmer. In other words, they pay for less than they receive. Prakriti, on the other hand, weighs farmers’ goods in front of the farmer and pays for the entire weight, which makes a difference in the farmer’s final income. This, in addition to offering a “market connect,” means that Prakriti’s farmer-owners receive higher incomes.

“Giving good food” to consumers

Just as Farm Fresh argues that its supply chain benefits both producers and consumers, so Prakriti emphasizes the services it provides to consumers. Alongside their goal to provide organic farmers with fair and consistent income, Prakriti aims to provide organic, unadulterated food to a wide base of consumers. As one of the co-founders of the Prakriti producer company

³⁴ Prakriti uses the daily HOPCOMS rates that are posted online as its measure for the market rates for particular horticultural commodities. Most of Prakriti’s rates are set at the time of purchase, but for a few items that only Prakriti produces—such as rare varieties of rice—the rates are set in advance of production.

said to me several times, the company has two responsibilities: first, “premiums should go to the farmer,” and second, “we should provide the lowest possible price to the consumer.” These two goals mean that Prakriti’s margins will be very low, but the primary goal of the producer company is to give a “marketing premium” to farmers while also making organic foods affordable “even to middle class consumers.”

Like Farm Fresh, Prakriti emphasizes the safety of its products (and thus caters to the concerns and desires of middle and upper class consumers). As Suresh explained, the benefit of Prakriti is that they offer “not only organic, [they] are giving good food.” They avoid the forms of adulteration that he claimed are common among other companies—even companies that are certified organic—such as adding corn flour (corn starch) to turmeric powder, or using artificial flavors in pickles. While for Farm Fresh, “quality” means conventional produce grown according to “hygienic” international safety guidelines, for Prakriti, “quality” means unadulterated and “traditional” food that is produced according to international organic standards. I consider this distinction further in chapter 4.

Conclusion

Both Farm Fresh and Prakriti emphasize “direct” connections between producers and consumers. The proclaimed benefits of this are twofold: one, higher, more consistent incomes for farmers, and two, safer, better quality food for urban consumers. The intended beneficiaries of these corporate interventions, however, are those in relatively privileged positions in both agrarian and urban communities: landholding farmers and middle and upper class consumers. Despite these similarities in Farm Fresh’s and Prakriti’s audiences and talking points, advocates for one form or the other emphasize their distinctive approaches. For example, advocates of producer companies emphasize that under the normal company model (of which contract

farming is a part), all profit goes back to the company owners. With producer companies, they argue, the farmers are themselves the owners and therefore the beneficiaries of the profit generated by their efforts.

This distinction hinges on the ambiguous moralities at the heart of the capitalist pursuit of profit. William Mazzarella (2003) has shown that while consumption has been key to Indian understandings of self and nation since the fight for independence, the post-liberalization period brought a new understanding of consumption as a social service that is key to national development. More recently, Amita Baviskar (2018) has argued that capitalist consumption shapes contemporary ideologies and practices of citizenship and belonging, in ways that both transcend and further delimit hierarchies of difference such as class, caste, and religion. In this moment, capitalism and the pursuit of profit have come to be understood as valuable to both the individual and the nation. As Mazzarella puts it, treating "consumption as a democratizing force" creates an understanding of global capitalism as "ensuring a collective participation in modernity, a joint entitlement to aspiration" (2003, 88). In the food sector, too, the market and its profit-generating potential have come to be understood as key to India's future successes. However, there is a limit to the morality of capitalist accumulation—"profit-hungry" middlemen are blamed for many of the problems facing farmers and urban consumers alike. In this context, it is about configuring new market-based relationships—the ideology of an unmediated, transparent, and efficient market guides both governmental and non-governmental projects to re-envision Bengaluru's food supply chain.

These solutions and their beneficiaries, however, are rooted in an ideological commitment to the rising middle class that privileges middle class concerns and desires over those of more marginal actors. The next two chapters consider how different frameworks for

implementing “direct” supply chains intersect with changing ideologies and practices of producers and consumers. In chapter 3, I discuss the ways in which peri-urban producers engage new formats for growing and selling fresh fruits and vegetables, focusing on the forms of aspiration and insecurity embedded in the horticultural supply chain. In chapter 4, I consider perceived shifts in urban consumption patterns and lifestyles that are believed to open up new markets for “high value” agricultural commodities. In each chapter, I show that the primary beneficiaries of these new distributional forms are members of the middle and upper classes.

PART II

Aspiration and Insecurity Among Producers and Consumers

CHAPTER 3

“Our Fathers Grew Only Ragi”: Changing Production Practices and Market Relationships Among Peri-Urban Producers

On March 3, 2016, an estimated 10,000 farmers marched and drove tractors into the heart of Bengaluru, closing down highways and breaking police barricades. They descended on the state capital to demand that the government provide adequate drinking and irrigation water in the districts that border the northern edges of the city (Gowhar 2016). The protest was the culmination of a growing sense of anger that agricultural districts are left to wither as officials worry over water security in Bengaluru (*Livemint* 2016). Six months later, in the midst of a devastating drought, farmers again took to the streets, this time alongside Kannada activists, in violent clashes along the Bengaluru-Mysuru highway. Cars and busses with license plates from the neighboring state of Tamil Nadu were burned as farmers protested the Supreme Court ruling that would force Karnataka to release 12,000 cusecs of water from the Cauvery river to Tamil Nadu daily for eight days (*The Times of India* 2016).

These disputes over water are not new. Legislation directing the flow of the Cauvery and other rivers, such as the Mahadayi, have long been a source of tension between and within states. Tense and sometimes violent negotiations over water are part of India’s agricultural history, from the pre-colonial and colonial pasts to the post-colonial present (Epstein 1962, 1973; Habib 1999; Mosse 2000). Recent struggles capture the tension I witnessed during my research, and illustrate the feelings of distress and anger that are linked with the continued reemergence of farmer suicides in Karnataka and across India.³⁵

³⁵ For stories of the 2015 upsurge in farmer suicides in Karnataka, see Sheth 2015; Sridhar 2015; *The Hindu* 2015. Around the same time, farmer suicides were on the rise in other parts of India, including Maharashtra (Kakodkari 2015) and Punjab (Varma and Battacharya 2015).

The forms of insecurity that motivate water disputes—and, more drastically, farmer suicides—frame many of the academic and policy-oriented discussions about the state of agrarian India (for a particularly powerful analysis, see Vasavi 2012). Understanding the depths of agrarian distress is key to devising programs and policies that adequately support farmer communities across India. However, there are many layers of insecurity that cut along lines of divergence in the overarching category of “farmers.” Landholding size, access to water and labor, distance from a major market, and crop varieties are just a few of the many factors to consider when analyzing agricultural practice. For this reason, careful ethnographic considerations of the historical particularities and lived experiences of specific agrarian communities are critical in understanding context-specific challenges and possibilities.

While informed by my research with a broader range of agricultural communities in southern Karnataka, this chapter focuses on two groups in particular: farmers on the southern edge of the city working with the two companies that I introduced in the previous chapter, 1) Farm Fresh and 2) Prakriti. My goal is to examine how company-farmer relationships intersect with larger changes in production practices. What are the anxieties and aspirations caught up in these new relationships and practices? What do they tell us about agrarian experiences in the peri-urban fringe? While many farmers see Bengaluru as an antagonistic force, they also understand the city to be a gateway to new markets and higher incomes that allow them to farm differently than their fathers and provide new opportunities for their children. While farmers are very candid about the hardships that they face—especially in relation to debt and the declining availability of land, water, and labor—and are often quite critical of the companies to which they sell their produce, they are also generally proud of their work and positive about their children’s futures. However, this perspective is likely linked with the relative security of the farmers who

work with Farm Fresh and Prakriti. I conclude by suggesting that Farm Fresh and Prakriti's efforts intersect with existing inequalities in ways that might deepen disparities in agricultural communities.

Farming on the urban fringe

The few highways that lead out from the southern edge of the city are clogged with motorbikes, auto rickshaws, cars, busses, pedestrians, and the occasional bullock cart. Roads weave through densely packed cement buildings with metal warehouse doors opening to single-room businesses, interspersed with gleaming glass office parks. The highway through Electronic City is an especially complex mix of built landscapes and life, with an elevated overpass that directs traffic up and above the local traffic and slow-moving transport below. From the elevated platform, Bengaluru's rolling hilltops stretch out in all directions, a densely packed urban entity for which the term "sprawl" truly captures the feeling of the space.

As the elevated highway ends and cars again meet with busses and bullock carts, the landscape changes, becoming a patchwork of buildings and open fields. Pulling off the highway in either direction, the tightly clustered market area opens into green fields interspersed with vacant housing plots. With their already-decaying archways and paved streets leading to empty, barren parcels, these residential developments look like ghost towns. Even more ominous are the incomplete apartment complexes that rise up from an otherwise low-lying landscape, their grey cement discolored from the sun and rain.



Figure 16: An unfinished apartment complex near a Prakriti farmer's field

It is amongst these unfinished ruins that many of Prakriti's and Farm Fresh's farmers find themselves. Their fields and those of their fellow farmers stand in direct contrast with the harsh emptiness of incomplete residential projects. Their fields are full of life, and their cement houses (many of them constructed in the last two decades) are painted in bright pinks, greens, and yellows. I found it unsettling to travel past the unfulfilled aspirations of real estate developers to arrive at the doors of farmers who would tell me about declining groundwater and the challenges of making a living off of one or two acres. But many in these farming communities have managed to make the real estate boom work for them—having sold their land to developers, they become moneylenders in their village, providing high-interest loans to their peers who stay in agriculture.

The situation in peri-urban Bengaluru reflects many of the flows and failures of global finance and real estate development affecting cities around the world (Azcarate et al. 2014; Bou Akar 2012; Erie 2007; Harms 2013; Sampat 2010; Smart and Lee 2003). Michael Goldman (2011) argues that in Bengaluru, the government is actively involved in the dispossession of farmers in the name of urban development projects. He suggests that the “world-city making”

projects have created a “speculative government” that generates insecurity and instability in rural communities on the city’s edge by “transforming rural economies into urban real estate” (Goldman 2011, 556). This real estate speculation has made Bengaluru’s surrounding communities feel equally like ghost towns and boomtowns. In this context, the categories of urban and rural become all the more indeterminable.

Scholars are increasingly interested in the geographical spaces between rural and urban, where the binary collapses (for a foundational approach to the “urban-fringe,” see Andrews 1942). The literature on peri-urban agriculture has considered—for example—changing land ownership patterns and uncontrolled urban development in Ghana, (Maxwell et al. 1998), the overall contribution of peri-urban agriculture to national agricultural output in Australia (Houston 2013), and the need to reconsider how we measure and understand food production in relation to the categories of urban and rural (Lerner and Eakin 2011).³⁶ These analyses highlight the complex interplay between urban and agrarian livelihoods in peri-urban spaces.

While “urban” and “rural” are operational categories of the state that are often reproduced in existing scholarship, the category of “peri-urban” has no such codified meaning and therefore requires a descriptive view from the ground.³⁷ While I see possibility in the peri-urban as a descriptive form, the term is fraught with challenges. Why the emphasis on urban

³⁶ These spaces at the edge of the expanding city are not the only sites to understand the breakdown of the rural-urban binary—as others have argued, Bengaluru has long been a patchwork of communities that challenge any clear divide between what it means to be rural and what it means to be urban (Nagendra et al. 2013). I consider this in greater detail in chapters 5 and 6.

³⁷ The Indian census, last completed in 2011, has only two geographic categories: urban and rural. The rural is defined by what it is not: the urban. The category of urban includes the sub-categories of “towns,” “urban agglomerations,” and “out growths.” Agriculture (or, more accurately, the lack thereof) is central to the definition of a town, which includes: 1) a population of at least 5,000; 2) a population density of at least 400 people per square kilometer, and 3) at least 75% of the adult male population working in non-agricultural sectors (Government of India 2011). This relatively low cut-off for the percentage of adult males employed in agriculture (25%) makes it difficult to compare processes of urbanization in India with other nations (Mishra 2013).

rather than rural? Is “peri” the most accurate spatial qualifier? What nuances are effaced with yet another category that turns a dualism into a triad? These questions have led many scholars to reject the term as unproductive. For example, an agricultural economist in Bengaluru argued with me that there’s no such thing as “peri-urban” in India, since the spaces at the edges of cities like Bengaluru are best characterized as urban. Asserting an entity in-between misses how urban these communities have become, he suggested.

Despite these challenges, I find the term peri-urban useful to describe spaces that are considered outside of the metropolis, but where the pressures and opportunities of expanding cityscapes are visible and visceral. By emphasizing the urban, the term peri-urban describes the power dynamic that makes the growth of urban spaces ominous, and captures the sentiment that the urban is what matters most in development ideologies (e.g. Rostow 1960). But qualifying these spaces as at-the-edge captures the feelings expressed by many farmers in these communities. Peri-urban farmers are separate from, but constantly threatened and benefited by, the spaces that are experienced as “the city.” In my conversations with peri-urban farmers, Bengaluru became an entity capable of both ruining and sustaining their and their families’ lives. The city takes away land, water, and labor, but offers consumers with higher spending power. It is this tense relationship between the threats and opportunities of urbanization that characterizes many of the issues I discuss in this chapter.

Views from the edge

Ramappa’s 1.5 acres of land extends in a narrow parcel from the paved road leading between his village and the highway. When I visited his farm in August 2015, the field closest to the road contained newly planted *ragi*, or finger millet, which had planted later in the season than usual because the rains had only just arrived. Behind the newly tilled soil sat large bean stocks

climbing on wooden stakes. Ramappa explained that this is his current crop of long bean, which will produce for at least another month. When this crop finishes he will till the plants into the ground for “green manure,” and again plant a new crop such as eggplant or bitter gourd. He plants “step by step” so that he has a consistent supply to sell to Prakriti. The company tells him at the end of the growing season which crop to plant next, based on demand from urban retailers.

Ramappa began growing organic vegetables six years previously, when the government initiated a training program and the Prakriti NGO came to help with the transition. He reported that things were going well with Prakriti. He had a guaranteed market and received a higher rate (set according to the daily HOPCOMS prices) for his organic produce. The main challenge, he said, was that Prakriti will buy only a limited amount of each item, so whatever is extra he will eat or sell in the local market. But if he has to sell in the regular market, his carefully tended organic produce will be mixed in with conventional and he will receive around Rs. 5 less per kilogram.

He was strongly committed to organic agriculture, and admitted that although yield decreased for the first year, afterward the soil became healthy and production began to increase. He was satisfied with organic methods, he said, because his first priority was to provide healthy food for his family. He produced a wide variety of vegetables and *ragi* for home consumption alongside his produce for Prakriti. He was happy because his family had avoided the health problems that he associated with chemical agriculture, such as cancer, and he proudly reported that he was 45 years old and very healthy.



Figure 17: Bean crop

Noting the drip irrigation as we walked through his fields, I asked Ramappa if he used the government subsidy to help offset the cost. With frustration in his voice, he explained that he had to pay for the drip irrigation himself because the government requires paperwork showing that the land is in his name. He was unable to provide this paperwork because his father gave his ancestral nine acres of land to his eldest son alone, even though legally the land must be split equally between all siblings. Ramappa has three brothers, so that means each brother should have around three acres. However, this is further complicated by the 2005 change in the inheritance law that requires that daughters also receive an equal part of inherited land.³⁸ Ramappa also had sisters who planned to make a claim to his father's land, so he could not count on anything more than one or two acres. For this reason, he had purchased small parcels of land from nearby farmers, so that he could have enough to support his family. He purchased 1 acre for Rs. 30 lakh (3 million), which he described as very costly but still affordable, considering that land just off the highway was selling for Rs. 1 crore (10 million).

³⁸ Despite this change, it is still rare that women receive an equal share of a family's inheritance (see Mittal 2015), and women still face many structural challenges in access to agricultural land ownership (see Agarwal 2008).

At the back of his parcel lay a small government-managed lake. Ramappa could not draw water from the lake for his crops because it was meant as a recharge facility, but it had been helpful in ensuring that his bore wells had water. Even then, the water table had been on the decline, he explained. When he first dug his bore well he had four inches of water, but by that time there was one inch, at most. Near the lake was a large grove of eucalyptus. Ramappa lamented that the government promoted eucalyptus for farmers who can't tend to their fields every day, since it requires very little work and is harvested in just three years. Crops like eucalyptus were becoming very prevalent in the area because many people had gone to work in factories, making it much harder to find labor. But, Ramappa said, eucalyptus had caused trouble for him and other farmers—the trees have extremely long taproots that drain away the water from the lake and nearby wells.

On the other side of the eucalyptus grove sat empty, “barren” land. Ramappa explained that the government had reserved this land for a new ring road that will one day surround the rapidly expanding nearby town. He said that he hadn't received any notice about the government's intentions, and although it will take a long time for anything to come of it, there was no telling what will happen next. He explained that this is just another way that the town had begun to take over his village. Did I see the new shoe factory just off the highway, he asked? It is owned by a local politician who is developing much of the land along the road.

Ramappa's wife joined him in the fields every day, and his son and daughter helped out on the weekends. During the week his children attended classes in a nearby private school. The fees were very expensive, but “*manage aaguthe*” (they manage). I asked him, what work will his son do in the future? It's hard to say, he answered; maybe he will become an engineer. I asked, not a farmer? No, it's too uncertain what will happen. Most likely this land will be gone and

“ella kade apartemntsu, layouts” (every side will be apartments, layouts) so *“problem aguthe”* (there will be a problem).

“Madam, raitharige, ella kashta” (Madam, for farmers, everything is difficult).

Our car pulled off the road alongside a field interspersed with coconut trees, mulberry bushes, and a few plots of baby corn at different stages in the growing process. Anil, the young Farm Fresh area manager who was there to accompany me and my research assistant, Deepa, on our visits with Farm Fresh’s farmers explained that the landowner would be there at any moment to meet us. Before long, two men on motorbikes appeared, one the local field agent who works with farmers in this area, and the other the farmer-landowner. We began talking on the side of the road, and over the course of our conversation farmers and laborers passing by stopped to join in.



Figure 18: Field planted with young baby corn

The farmer, Shivaraju, explained that he owns four acres of land and grew baby corn for Farm Fresh on one of them. Split between his other three acres he grew *ragi*, vegetables, and coconuts for home consumption, and mulberry to sell as fodder for silkworms in the local sericulture (silkworm rearing) industry. He explained, “our fathers grew only *ragi*,” but today farmers in the area grow many different crops, all “*Bengalurige*” (for Bengaluru). He attributed this change to the use of bore wells for irrigation. Thankfully, Shivaraju’s well had water, but it had been dug to 1,000 feet and he was worried about what would happen next. Many bore wells in the area had failed, and he was already in debt from digging such a deep well. Putting in a new bore wells cost at least Rs. 5 lakh (500,000). He had to put up Rs. 1 lakh to receive a loan of Rs. 4 lakh, and was accruing interest. He had taken a “*kai saala*,” literally “hand loan,” from a moneylender rather than a bank. One of the farmers who had joined us chimed in that *kai saala* are good because you can get the money quickly, but often the interest rate is “*jaasti*” (too high).

At the time of our conversation, Shivaraju had been growing on a contract basis for Farm Fresh for ten years. Earlier, he was able to grow different varieties of vegetable seeds, but, due to his current water troubles, he was only able to grow baby corn. Anil explained that baby corn is an easier crop, because you can water it every few days rather than every day—in fact, he said, too much water can drown the plants. Shivaraju reported that for one acre of baby corn he received five kilograms of seed from Farm Fresh. He said that he didn’t use any pesticides because they needed to keep their mulberry plants safe from anything that could kill silkworms, but if they wanted, they could purchase fertilizer from the “society” (the village-level extension office). Shivaraju and the growing cluster of farmers who had joined our conversation reported that they generally harvested two to three tons of baby corn from one acre. Anil added that Farm Fresh’s expected yield is four tons, but it depends on soil and water.

In addition to water, labor was a major challenge for Shivaraju. He had three people in his family, but they had to hire extra laborers for weeding and harvesting baby corn. He and the other farmers complained that Farm Fresh had taken away all of the local laborers, who began working in Farm Fresh's nearby facilities, making it hard to find willing and cheap laborers in the area. This was one source of frustration between farmers and Farm Fresh. Another was that the company's rates for baby corn had gone down from Rs. 7 per cob to Rs. 6. However, the farmers said that they would continue to grow for Farm Fresh because the company offered a "guarantee." Also, because baby corn has a short growing cycle, the farmers could grow three or four cycles in one year, providing more consistent income. It had another financial advantage, Shivaraju explained: baby corn allowed him to keep dairy cows and sell milk to the local cooperative dairy. He used the leftover baby corn stalks as fodder for his cows, and daily sells 10-20 litres of milk to the dairy.³⁹

With this last point, the group lamented that even dairying had become a less secure source of income. One complained that the price of milk for consumers had gone up, but the rate paid to farmers had remained the same. He expressed this as a "loss", saying that farmers receive Rs. 100-150 less than the price paid by consumers. Why isn't this increased price benefitting farmers, he asked? Another farmer chimed in that sericulture had also become more difficult, since the prices had crashed after the government lifted restrictions on silk imports from China.⁴⁰ These examples were offered as proof that the government was refusing to help farmers.

Shivaraju explained that farming is all he knew how to do, and whether he had profit or loss, with Farm Fresh at least he will receive an assured amount and he will not have to search for a buyer. Another farmer added that many people in their village ask them, why would you

³⁹ Dairying is often an important component of rural farmers' income (see Talavar 2015; Rao 2015).

⁴⁰ See Khan 2016.

invest 5 lakh in farming? Put it into the bank and get three percent interest instead! He tells them, no, I am a farmer, I want to invest in my land.

“If you consume everything that you’ve sold, it will run out. Barren land will spoil and become a waste. This is why we farm.” (*Mare bit thindare bitre, kaali aag bidutte. Paalu bitre haalag hogute. Aduke vyavasaya maadtidivi*).

These farmers’ stories capture many of the struggles and desires of farmers in peri-urban communities. Their proximity to the city allows for access to better markets and other opportunities such as private schooling for their children. But it also has a host of challenges, from urban and industrial encroachment to changing labor patterns linked with production practices that result in challenges such as deepening debt and declining water tables. Ramappa’s and Shivaraju’s perspectives also reflect the attitude of many of the farmers working with Prakriti and Farm Fresh, who are focused on juggling the benefits and losses provided by their association with these new corporate forms.

These farmers’ motivations for continuing agriculture in peri-urban Bengaluru reflect global patterns in peri-urban communities. Based on a review of the literature about peri-urban spaces, Lerner and Eakin argue that

there are three principle reasons why a household might continue to produce food despite increasing opportunity costs of land and labour in peri-urban areas: first, as a way to mediate risk in livelihood strategies – including the risk of food insecurity and hunger; second, as a response to emergent consumer demand from urban non-producing households; and third, as a way of meeting cultural needs, identity and traditions

associated with food production within producing households. (Lerner and Eakin 2011, 313)

These three reasons are present in Ramappa's and Shivaraju's explanations for why they farm: one, it offers them security in ways that selling land does not; two, they value farming as an ethical and culturally meaningful pursuit; and three, they feel that their relationships with corporate intermediaries have better connected them with emerging urban markets.

In the following, I will first consider farmers' descriptions of the benefits they receive from working with Prakriti and Farm Fresh, before moving to the continued challenges faced by peri-urban agricultural communities. I conclude by placing Farm Fresh's and Prakriti's farmers alongside other farming communities in the area in order to argue that while these new market forms create new opportunities for partner farmers, they have not yet been successful in breaking down many of the inequalities in agricultural communities that make some lives more precarious than others.

Accessing the (urban) market

Over the course of my visits to peri-urban farms, I heard time and again that accessing the "market" (the English word) was a primary concern for farmers. The term is the same used to describe marketplaces in local towns and the city (along with *santhe* and *maarukatte*), but in the usage I describe here, "market" means a ready buyer, preferably one who has money to spend and is generally assumed to reside in the city. Farmers in peri-urban areas told me that they needed access to the market—often understood to mean the urban market—so that they could sell their goods for better prices. Without this "market connect," they received lower prices for their products, either by selling their goods themselves at the local market (which can also be

hard to access; see Mahapatra 2018), or to local agents, who, they reported, often cheat them with weight and payment.

At least in part, this desire for access to the market is related to the difficulties associated with being both producers and sellers. As Koray Çalışkan argues in his analysis of the global cotton market, "farmers do not have the time and energy to produce two things simultaneously: they cannot maintain market platforms and grow cotton at the same time, for both the market exchange and cotton-growing draw on concrete forms of production, performance, and maintenance" (Çalışkan 2010, 21). Key to Çalışkan's argument is that cotton markets, like cotton itself, are produced. Although the language of production and performance were not used to describe markets in India, I found that a range of actors in the supply chain—including farmers and the corporate and NGO intermediaries with whom they worked—made a similar argument to that of Çalışkan: because farmers have neither the time nor energy (nor, as I discuss later in this chapter, the market know-how) to market their goods, they must rely on other actors as intermediaries between production and retail.

By providing an assured buyer, Farm Fresh and Prakriti offer a key benefit to farmers. Even when farmers expressed frustration about some aspects of doing business with the companies—for example, Shivaraju was frustrated that Farm Fresh's rate for baby corn had declined, and Ramappa said that Prakriti buys only a small amount so he has to take his excess goods to the regular market—farmers generally reported that they would continue to produce for the two companies because this relationship provided access to the market and a regular source of income. One of these companies' most important services, therefore, is that they serve as a consistent buyer for farmers' products. As part of this, the companies also provide secondary

benefits, such as transportation to the city (in the case of Prakriti, from the village collection center, and for Farm Fresh, from the farm itself).

However, it is not only that these companies consistently buy from farmers that explains why they offer a different market than buyers at wholesale markets. Farmers who sell at local or regional wholesale yards often have longstanding relationships with particular brokers and commission agents, as discussed in chapter 1. These relationships are just as consistent, and in some ways more so, since they can often lock farmers into particular arrangements through moneylending. What, then, is the difference? What makes Prakriti's and Farm Fresh's partner producers feel that their relationship with these corporate intermediaries is more secure? I argue that Prakriti and Farm Fresh offer a different kind of relationship to the market, one that is more closely linked with the ebbs and flows of urban desires. By instructing farmers what to grow, when, and how much, these companies link farmers' fields with the corporate knowledge and "business" acumen that both farmers and company representatives expect will increase farmers' incomes. These forms of knowledge and practice are considered critical to effectively capturing the market, a primary concern for farmers. Meeting these market demands has led to changing production practices in peri-urban communities.

Not their fathers' agriculture

Accessing the market means expanding one's horizons to better fit the demands of urban consumers. Transitioning from rain fed to irrigated crops is one of the primary ways to achieve this.⁴¹ As I discuss in the introduction and chapter 4, demand for fresh fruits and vegetables has increased in cities. These commodities are labeled "high value" because they generally cost more

⁴¹ There is the possibility that this will change, however, as millets are rebranded as a health food among the urban middle and upper classes.

than staple grains and legumes.⁴² To capture these higher prices, many farmers nearby to the city have transitioned from growing primarily *ragi*—a rain fed crop—to growing fresh fruits and vegetables. In so doing, farmers adjust to meet the changing needs of the city in ways that simultaneously sustain—for the time being—their families, and create a new set of challenges, as discussed in the following section.

The key point is that the farmers working with Prakriti and Farm Fresh are doing what they can to make a living from agriculture. As both Ramappa and Shivaraju explained, they are choosing to purchase agricultural land and invest in their property, and will remain farmers as long as possible.⁴³ This choice is often cast as one of both circumstance and moral commitment—they are farmers because it is what they know, but also because they do not want to see their land “wasted” or feed their families harmful food.

These claims are reminiscent of the ethical codes described by Anand Pandian (2009), who suggests that agriculture in rural Tamil Nadu is seen as a virtuous path through which “cultivation of the soil may be taken to sustain a cultivated life” (4). In complaints about lazy factory workers and critiques of community members who sold their land to developers, farmers in the peri-urban fringe were claiming a different ethic, one anchored in agriculture as a more virtuous livelihood. They were willing to change how they farmed—by using organic methods, digging deeper wells, linking up with corporate intermediaries, and growing different crops—in order to keep farming.

⁴² This depends heavily on the commodity, however; for example, the price of tomatoes and onions often fall lower than that of lentils, while mangoes remain consistently expensive. And this relationship was reversed in fall 2015 when a shortage of pulses led to drastic price increases that made them prohibitively expensive for many consumers (see *The Times of India* 2015).

⁴³ However, their motivations to remain in agriculture were often different. I found that among several of the Prakriti farmers, a belief in organic production methods and a commitment to providing healthy food for their families were key motivations for their continued effort in agriculture. However, this was in no way true for all of Prakriti’s farmers. As with Farm Fresh’s farmers, some chose to work with the company because it offered access to a better market.

The Farm Fresh farmers who stated that their fathers “grew only *ragi*” were capturing a bigger change in production practices and outcomes on Bengaluru’s peri-urban fringe. These changes have permitted new livelihood strategies at the family level. Farmers’ children were in school and came to help out in the fields on weekends. Some farmers paid fees for their children to go to nearby private schools and higher education institutions, and many said that they would be happy with whatever career their children chose. Very few said that they preferred their children to become farmers, although many of the older farmers had at least one adult son who joined them in their profession. For many farmers, it seems, the primary aspiration is to sustain themselves long enough to provide lives for their children outside of farming. With the looming crises of labor shortages, water insecurity, and urban encroachment, this seems to be the most realistic evaluation of what lies ahead.⁴⁴

Continued challenges

My visits with peri-urban farmers conveyed a sense of both cautious optimism and dread. The tension between the promise and threat of Bengaluru’s changing markets and encroaching cityscape left me feeling both hopeful for these farmers’ abilities to make ends meet, and frustrated that the only solutions available to them seemed short-lived. The farmers expressed similarly ambivalent feelings about their present and future—our conversations swayed between the opportunities afforded by horticultural production and their collaborations with new corporate forms that gave them better connections to the market, and intense frustration about seemingly insurmountable problems such as dropping water tables and mounting debt.

⁴⁴ I do not want to suggest, however, that there are no young people engaged in farming. For example, I met several young men (in their late twenties and early thirties) who are contract farmers for Farm Fresh. I also do not want to suggest that it is Prakriti’s and Farm Fresh’s intention to assist farmers in moving out of agriculture. The reverse is true—representatives of both companies assured me that they hope their partnerships with farmers will provide enough income so that the next generation can continue agriculture as a sustainable livelihood.

This complicated interplay between opportunity and threat is characteristic of peri-urban spaces in other parts of the world. In her analysis of peri-urban communities in Africa, Susanne Freidberg (2001) argues that farmers' livelihoods are inextricably linked with the urban economy in ways that irrevocably damage the ecologies on which farmers depend:

Their [market gardeners'] livelihoods are simultaneously depend on and threatened by a dynamic urban economy. The threats themselves derive from a paradoxical mix of exclusion and opportunity. Often *excluded* from the services of both the nearby municipality and the rural development bureaucracy, these residents face serious, but also easily overlooked environmental problems. State and foreign agencies overlook them not because they are new or obscure but rather, I would argue, because they are simply no one's top priority. At the same time, the *opportunities* afforded by the city may mean that environmental conservation is not a top priority for many people who live on the urban periphery either. (Freidberg 2001, 364-5)

Freidberg argues that while the city originally presented an opportunity for increased income, depressed urban markets had a negative effect on producers who provide perishable goods to the city. She concludes that the structural readjustment made commercial agriculture in peri-urban Africa more precarious by individualizing risk and rewarding agricultural practices that are ecologically destructive, resulting in increased insecurity among peri-urban agricultural communities in the long term.

The threat of fluctuating urban markets and environmental decay is also present in peri-urban Bengaluru, and affects farmers' relationships with corporate intermediaries. From the cautious sense of optimism I put forward in the previous sections, I now turn to the challenges of peri-urban production that make this sense of optimism fleeting.

Company-farmer tensions and misunderstandings

Although both Farm Fresh and Prakriti represented themselves as trustworthy alternatives to brokers and traders (as discussed in chapter 2), farmers and company representatives did not always understand their relationship in this way. Two middle-aged brothers who had been growing for Farm Fresh for decades (first, they grew seeds, and later, baby corn) told me that a few years ago, the company had given them “bad” baby corn seeds, and that they still had reduced yields because of this. Anil, the Farm Fresh representative who was there for our conversation, jumped in that he had already given them an explanation: a few years ago, for only one season, the seeds that Farm Fresh provided weren’t as high quality, but they had since stopped buying seeds from that provider and the seeds were all very good. The farmers listened, but did not respond. Later, on our drive back to the Farm Fresh campus, I pressed Anil for details about this difference in opinion. Anil explained that Farm Fresh was still in the trial period for their own baby corn seed, so they still had to buy seed stock from other suppliers. One year, they bought seeds that had been grown in Thailand that had some sort of disease (he thought—he hadn’t been with the company at the time), and the farmers saw reduced yields. Since then, some of the farmers continued to complain that the seeds they received were not high quality, but Anil contended that there was no way this was true. With a shrug, he said that sometimes farmers do not understand, and blame reduced yields on problems other than the true causes. Recently, yields had been somewhat lower due to an overabundance of rain, which drowned out young plants, he explained.

The divergent knowledges and experiences of farmers and company representatives sometimes put them at odds. It was clear from our interaction that Anil had not convinced the brothers, and all parties were aware of this continued disagreement. In this particular case, this

disagreement did not lead the farmers to break their longstanding relationship with the company. However, it was clear that it affected how they approached their relationships with company representatives, as well as their understandings of their agricultural practice and output.

Although the FPC model affords greater power and responsibility to farmer-shareholders than at contract farming companies like Farm Fresh, FPCs experience similar kinds of disagreements and misunderstandings between company executives and producers. Often, farmer-members expressed frustration with the purchasing practices of the FPC. As in Ramappa's case, many of Prakriti's farmers felt disappointed by the small quantities that the company would purchase. One particularly angry farmer said that he was considering breaking off his relationship with Prakriti because he had to drive twenty kilometers to deliver his produce to the village collection center, and often they would refuse to pay him for everything he brought. I heard a different side of the story from the Prakriti employee charged with coordinating orders. She explained that she always tells farmers exactly how much to bring, but they often bring more and she has to refuse buying the additional amount. I witnessed similar disagreements about quantity and payment in several of the FPCs that I visited.

I also heard different stories from farmers and executives about the benefits of participating in FPCs. When speaking with members of a women's FPC, they told me that they had not yet received *laabha* (benefit, profit) because the money they made went to the bank, not to them. Overhearing this, the NGO representative shouted with frustration that the farmers will receive the money soon, but it cannot be accessed until after the first three years of business have passed (the company had been in operation for one year). Later, I asked the NGO representative whether the farmers are sometimes frustrated with the FPC model. He answered that it is difficult for him to convince farmers to become shareholders, because they have to wait three years to see

any returns, as per governmental regulations. He had to convince them to pay money upfront, although they will not see returns for years. He used the language of “investments” to communicate his message, telling farmers that if they “invest” and buy a share for Rs 1,000, they would double that amount within three years.

While sitting in on meetings between NGO and company representatives and farmers, the details about governmental regulation and company policy were always unclear. It came as no surprise, then, that I heard different versions of the same story from farmers and administrators. These divergent understandings and experiences create spaces of misunderstanding and tension that limit the transformative potential of these company-farmer collaborations.⁴⁵

Problems in production

At the same time that horticulture opens up new markets for peri-urban farmers, allowing them to capture rising prices and the city through collaborations with new corporate intermediaries, the transition from rain-fed to irrigated crops has led to series of challenges in peri-urban communities.⁴⁶ Every farmer with whom I spoke (who did not already have access to canal irrigation), whether they were farming for Farm Fresh or Prakriti, had put in a bore well once they began working with the company. While their fathers did not have wells, water proved to be a crucial input for this generation of farmers in order for them to transition from *ragi* to more lucrative fruits and vegetables. In some areas farmers had access to canal irrigation, rights that had been passed down for generations, and happily reported that they had few problems. But for most, bore wells signaled a new boon, and, simultaneously, a curse.

⁴⁵ “Quality” was another source of tension between companies and farmers. I consider this point in detail in chapter 4, in my discussion of urban consumers’ desires for “quality.”

⁴⁶ It is not only horticulture that has led to lowering water tables; as Ramappa and other farmers suggested, crops such as eucalyptus that require little management but are able to access deeper water reserves have altered the way that groundwater is charged and stored.

The curse of bore wells came primarily in the high levels of debt many farmers accrued in order to invest in the infrastructure.⁴⁷ Sivaraju offered one example of this, although almost every farmer with whom I spoke had taken a loan from village moneylenders, community groups, or, very infrequently, the bank. These loans were not always taken to access water—building a cement house was another reason many farmers had taken loans—but when farmers told me about their bore wells, they also often mentioned the debt they had taken on for their installation and maintenance. Given the role of debt in agrarian distress (see Vassavi 2014), the transition from rain fed to more water intensive crops might have disastrous consequences, especially if the water table continues to drop, requiring continual re-digging of bore wells. This re-digging exacerbates an already dire situation: according to a Karnataka state government report, groundwater levels have dropped in 140 out of 176 districts in the state due to overexploitation (Goswami 2017).

Critically, it is not only changing production practices, but also overall shifts in the climate and larger landscape of resource use that have made water a problem in many communities surrounding Bengaluru. As the farmer protests with which I opened this chapter demonstrate, there is intense frustration in the communities surrounding Bengaluru that urban water use has been privileged over ensuring water supply for agricultural communities. This is in part due to government investments in infrastructures, but also to a black market for groundwater that encourages peri-urban farmers to sell the water they pump to companies that transport the water to the city to be sold as clean drinking water for urban residents (see Subramanian 2017; for parallels in Chennai, see Lakshmi 2015).

⁴⁷ In order for bore wells to function, they must rely on another crucial infrastructure that continues to cause challenges for agrarian communities: electricity.

Climactic shifts have also affected groundwater availability and growing cycles (Asoka et al. 2017). When I visited peri-urban communities in August 2015, farmers were upset that they had to sow their *ragi* crop much later in the year than usual because the first rainfall of the season was “late.” They also reported having to purchase many of their vegetables from the market, because without rain they were unable to keep a *kaitkota* (kitchen garden; see chapter 5). With changing rainfall patterns, water infrastructures like canals and lakes become all the more critical. However, even when there are water bodies nearby, farmers cannot always access them for growing (as in Ramappa’s case), nor it is not safe to do so. Water bodies in peri-urban communities are often as polluted as those in the city. Farmers nearby Kanakapura, for example, said that although their village was located near a large lake, they were unable to use the water for drinking because it was *arogya illa* (not healthy) and had been making them sick.

Alongside water, farmers complained that labor was increasingly scarce. They attributed this to different causes, but most referenced the draw of nearby factories and industries. Farm Fresh was one such draw, and the company’s employment of nearby villagers was a source of tension between contract farmers and the company. Embedded in farmer-landowners’ complaints about labor was a disdain for landless laborers as both lazy and demanding—I heard from many farmers that laborers wanted more money for less work. Unfortunately, I cannot provide data to support or refute this claim, nor comment from the perspective of the landless laborers. Paul Robbins’ forthcoming work on coffee plantations in Karnataka will offer helpful insight into how the class politics of the landowner-laborer relationships limit the possibility of collective organizing for the benefit of agricultural communities more broadly. Regardless of the veracity of farmers’ claims about hiring laborers, farmers’ declining access to cheap labor was often

listed as a source of insecurity, and farmers who had larger families were more likely to grow labor-intensive fruits and vegetables.

In addition to labor, land in peri-urban communities is rapidly increasing in price, so that farmers who want to continue farming have a difficult time purchasing additional land near their existing fields. Often, they look for land further away from the highway, and I heard stories of farmers who sold their land nearby the highway and reinvested the profit into agricultural land further away from the city. Despite complaints about the cost of land and the encroaching cityscape, farmers were also clear that these changes made their land highly desirable, and that they could expect a high price for their land if it became necessary to sell.

Strengthened inequalities

All three of the inputs described above—water, labor, and land—are linked with inequalities in access and livelihood that have long characterized agrarian communities. It was very clear from my visits to different villages that the benefits of growing fresh fruits and vegetables were limited to landowners who had access to resources necessary to produce these intensive crops. For one, farmers in villages that were less well connected to the major highways were unable to produce highly perishable commodities for the urban market. Despite being relatively close to the city, many villages are connected to local hubs by a single bus that traverses the winding, bumpy roads, and it takes hours to travel a relatively short distance.

In these areas, the NGOs working with farmers to produce commodities for the Bengaluru market focus on the production of less perishable agricultural commodities, including bio-inputs like *paanchagaavya*, millets (billed as a health food for urban consumers) and organic seeds and seedlings. In these more remote villages, it was less likely that farmers had access to the water necessary to grow horticultural crops, either because the water table was already very

low (over 1,000 feet below ground level in many of the areas south of the city), or because they were unable to attain a loan to invest in a bore well.

Farmers who could not take on a loan—either because they were already deeply in debt, or did not have the necessary documents to attain a loan from an institution, nor the social capital to access moneylending groups or individuals—were unable to invest in bore wells that made water-intensive crops possible in previously rain fed fields. While visiting a women’s producer group in a small village, I asked the NGO representative why none of the women farmers had loans, since in other areas I found that loans were very common. He said it’s a problem for women farmers that they can’t access loans, due to the fact that they don’t have right papers to prove their eligibility. Some villagers, he explained, take loans from local moneylenders, but this often causes trouble in the long run due to the high interest rates. While they are a form of insecurity, loans are also a critical component of agricultural practice in India today.

Finally, those with smaller families often had a difficult time securing cheap labor to assist in more labor-intensive periods, such as harvest. Most of the farmers who were growing fruits and vegetables had at least one son who was helping them in their fields, or relied on an extended family network. Labor shortages were a sign of proximity to the city—for farmers who were further afield (or less well connected, even if geographic distance from the city was relatively short), the problem was not the absence of labor, but rather the absence of opportunities to be hired as laborers. This was true, for instance, in a small village where an NGO had established a rice and millet processing facility for a women’s producer group. The women were very happy with their work in the producer company, without which they would have little opportunity to make an income—there were few opportunities to be hired as laborers in other farmers’ fields, due to the lack of rain.

What future for farming in the peri-urban fringe?

Throughout this chapter I have oscillated between resisting and embracing the sense of dread that permeates most conversations about the future of agriculture in India. While the transition to horticultural production has allowed many peri-urban farmer-landowners to make a living from agriculture—and even to enroll their children in private schools—this success in the present comes at the cost of the future. Farmers know that they are pushing the boundaries of what is possible, and admit that the work they are doing now is probably unsustainable in the long term. But they also recognize that farming at the edges of the expanding cityscape is already a short-lived profession—Ramappa’s fields will one day disappear for the ring road, and Shivaraju’s bore well will no longer draw water.

Part of the fears about changing production practices are concerns about the health effects of such changes. I heard from several NGO activists that they were concerned that farmers’ nutrition would be adversely affected. The worry was that these farmers would transition from more nutritious coarse grains to only consuming “one rupee rice”—the polished rice available through the public distribution system—either because they would stop growing *ragi* in favor of more expensive crops, or would sell the *ragi* that they produced to meet the growing demand among health-conscious urban consumers. As one activist explained, he was concerned that demand for millet would “turn poor man’s food into rich man’s food.” I did not find, however, that farmers had given up on growing food for their families. On the contrary, almost every farmer with whom I spoke kept a plot of *ragi* for home consumption, or had family members from whom they sourced the grain. Several farmers understood their efforts to have a positive impact on their families’ health, whether through milk production among Farm Fresh farmers, or organic production among Prakriti’s farmers.

On Bengaluru's peri-urban fringe, the production of fresh fruits and vegetables simultaneously sustains farmers for the present and creates new risks for the future. That might be enough, for now. But as Bengaluru grows, the challenge of feeding the city will become both more pressing and harder to solve. In this context, addressing the contemporary aspirations of peri-urban farmers without risking the future of agricultural livelihoods and landscapes becomes all the more critical.

CHAPTER 4

“Cosmopolitan” Consumers: Changing Food Desires and Concerns Among the Urban Middle and Upper Classes

The rumors are true, Suhas explained. Farmers are growing food in polluted water, and you can never be too careful about the quality and safety of food for sale in the market. He had a story to prove it: every morning he takes long walks along the quiet country roads surrounding his large apartment complex on the far edge of Bengaluru. Like many new developments, the complex sits alongside agricultural crops. On his walk, Suhas explained, he passes small canals that transfer the sewage-choked water runoff from the apartment complex into the fields. Whenever he sees farmers, he said, he bothers them with questions about whether they use the wastewater to grow their crops. Don't they have bore wells from which they can draw clean groundwater? One morning, a farmer finally answered Suhas, explaining that yes, the farmers do have wells, but they sell the clean groundwater to the apartment complex for drinking. They use the wastewater runoff to water their crops, which they again sell to the apartment residents. Retelling me about this conversation, Suhas laughed, saying that in some ways this is an ideal, self-contained ecosystem. But, his face again serious, he said that this kind of problem is everywhere. Urban consumers are unknowingly exposed to contaminated food.

Suhas's story highlights many of the concerns about food safety that I encountered during fieldwork. It traces a connection among changing production practices, the expanding cityscape, and the health of urban bodies. Suhas's insistence that apartment dwellers should be extra careful about food quality introduces two interrelated problems that anchor this chapter: first, that changing food ecologies and economies have led to new practices that are understood by the urban middle and upper classes to be contaminating; and second, that city dwellers should be

wary of their food sources, especially since what is considered dangerous is often undetectable to the average consumer—wastewater and pesticide residues, for example. In this context of contamination, trust becomes a key ethic by which middle class residents of Bengaluru navigate the health risks embedded in shifting food systems.

In the previous chapter, I analyzed peri-urban producers' understandings of the changing fruit and vegetable supply chain that connects them with consumers in Bengaluru, paying particular attention to producers' experiences of working with new intermediary forms. In this chapter, I turn to the other end of the supply chain, focusing on urban consumers' food practices and perceptions. I ask, what can the urban middle and upper classes' concerns about food safety, and the practices by which these concerns are mitigated, tell us about class-specific understandings and experiences of urban development? What do they tell us about the shifting moralities and materialities of supply chains? I begin with a discussion of food industry officials' perceptions about changing consumer preferences in Bengaluru. Next, I outline middle and upper class consumers' concerns about health and the dangers lurking in Bengaluru's food supply chain, and highlight trust as a key ethic that guides middle and upper class consumers' food choices. I consider how companies produce trust through a discussion of "quality" as both a material and moral category. I conclude with a discussion of the limits of trust, describing how certification programs serve to both uphold and undermine corporate assurances of quality.

A "mature" market

Billboards around Bengaluru proclaimed the growth of a new player in food retail: Big Basket, an online food retailer selling a wide variety of commodities, delivered straight to customers' front doors. I scheduled a meeting with the manager of Big Basket's F&V segment to find out more about the logistics of this self-described "start-up" that promised to change food

retail in India. He explained, “consumers are the main driver” of their model, as consumers’ “lifestyles are evolving.” It makes sense, he suggested, that Bengaluru is home to their national tech-based venture's headquarters: as India’s IT hub, “Bengaluru is cosmopolitan,” and its consumers are exposed to “global trends.” As a result of this exposure, people in Bengaluru are “health conscious,” and are interested in organic foods.⁴⁸ He continued, saying that consumers’ “quality consciousness is improving,” and today consumers are “accepting less” than they would have twenty years ago. He gave the example of apples—he had worked for an apple company in the past, and saw first hand how international imports changed consumers’ opinions about “quality” apples. After tasting imported apples from Washington state in the U.S., he said, they started demanding "better," crisper apples.⁴⁹

This understanding of the effects of global exposure on Indian consumers’ tastes appeared frequently in my conversations with food industry professionals. While these effects were perceived to be occurring at the national level, they were said to be particularly prevalent in Bengaluru, due to the large segment of IT professionals who had worked and traveled abroad and who were generally linked with global trends.⁵⁰ The CEO of Farm Fresh’s retail division, for example, said that after the success of their first few stores in Bengaluru they had tried to open retail stores in Delhi, but the Delhi stores were unsuccessful. He attributed their success in

⁴⁸ One executive of an organic company had a different perspective on Bengaluru, suggesting that consumers’ interest in organic foods in Bengaluru is lower than that of consumers in Kerala and Chennai. He attributed this to the desire for “cheap prices” in Bengaluru, which means that consumers are not concerned whether organic claims are “genuine.”

⁴⁹ Interestingly, apples from the U.S. are likely much older than those produced in India. An industry representative told me that apple shipments are stored in cold storage for at least one year (including the journey by boat) before they appear on store shelves. In supply chains characterized by cold storage, “fresh” food does not necessarily mean newly harvested (Freidberg 2009).

⁵⁰ Establishing a “global” lifestyle through food is not only a strategy for the wealthy, but is also part of upwardly-mobile young Indians’ attempts at proving belonging. As an insightful BuzzFeed article suggests, this performance of success is producing a new class of urban poor who spend their limited money on luxury items (Jayaram 2016).

Bengaluru to consumer “maturity,” describing the city’s residents as very “cosmopolitan.” Because of this, he said, “everyone now wants to get into the Bengaluru market,” so it is hard to find adequate retail space.

Scholars who study marketing and consumption point to broad changes in Bengaluru consumers’ desires and habits. Yet these patterns are nebulous, and different studies return different results. Based on primary research and governmental data, agricultural economist P. G. Chengappa describes a shift in consumption over the past seven or eight years (private conversation). During this time, cereal consumption began decreasing across all income groups, while consumption of “high value commodities”—dairy, fruits, and meat—has risen. Chengappa has found that this is true in both rural and urban consumer groups, although it is happening at a faster pace in urban communities. However, that these trends appear to vary widely based on the food in question. Results from the 4th National Family Health Survey show that consumption of leafy greens has decreased across income groups: "The pattern of daily food consumption has remained more or less the same since 2005-06 except there has been a decrease in the daily consumption of dark green, leafy vegetables among both women and men, and an increase in the daily consumption of milk or curd" (International Institute for Population Sciences 2017, 301). Data from the National Sample Survey Organization survey on household consumer expenditures suggest a relatively insignificant increase in the share of fruits and vegetables in consumer expenditure since the 1980s: in rural areas, the expenditure rose from 10.7% in 1987-88 to 15.7% in 2007-08, and for urban populations, from 13.9% to 16.6% (Sachdeva et al. 2013). These percentages are low in relation to the more general category of "food and beverages," which according to the World Bank make up 44.6% of total consumption in Indian households. This percentage rises for the lowest consumer segment, for whom food and beverages makes up

53.27% of total consumption. This percentage declines progressively across consumer segments, with the wealthiest segment spending only 11.8% of their total consumption in the food and beverages category (World Bank).

This data reveals a problem with food industry professionals' narratives about "cosmopolitan" consumers, which neglects the continued severity of hunger and malnutrition among a large percentage of India's population. The International Food Policy Research Institute (IFPRI)'s World Hunger Report placed India in the "serious" category in 2017, largely due to malnutrition and wasting among children. As a report summary states, "according to 2015–2016 survey data, more than a fifth (21 percent) of children in India suffer from wasting. Only three other countries in this year's GHI - Djibouti, Sri Lanka, and South Sudan - have data or estimates showing child wasting above 20 percent in the latest period (2012–2016). Further, India's child wasting rate has not substantially improved over the past 25 years" (International Food Policy Research Institute 2017). Despite descriptions of the Indian market as primed for new, convenient, and more expensive food commodities, food insecurity remains a daily concern for many Indians.

This is true despite the "right to food" established with a 2013 court decision that grounds the work of the Public Distribution System (PDS). As scholars have suggested, the PDS both supports and undermines broader economic transitions in India (e.g. Jakobsen 2018). Based on my research, the PDS is widely criticized by a range of actors who have different relationships to its services. Poor urban residents expressed frustration that the allotted rations are not enough to feed their families. To compensate, some purchase "leftover" rations from their local ration shop at higher prices than stipulated by PDS legislation, but at prices lower than in most non-subsidized shops. Farmers rely on the PDS for the commodities it distributes, although farmers in

the areas surrounding Bengaluru were supplementing the PDS's rations of wheat and polished rice with millet (see chapter 3 and conclusion). Those who did not rely on the PDS had a range of opinions about it. It was often used to describe the rise in "laziness" among workers, who could rely on "one rupee rice." This was a critique leveled both by the urban elite and by landowning farmers, who were frustrated by the rising costs of farm labor. Among sustainable food activists, the PDS was considered problematic because it relied on Green Revolution technologies and the distribution of cereals that were less nutritious than local staples, such as millet.

While the PDS shapes food ecologies in critical ways, it was largely absent from my conversations with a wide range of actors in the food supply network. This is largely because I was concerned with fruits and vegetables, which have never been part of the PDS—as discussed in the introduction, the postcolonial state focused on achieving food security through the intensive production of wheat and rice. Now that India has buffer stocks of these two cereals (Food Corporation of India 2017), many economists and industry professionals believe that there is room to expand the consumption of "high value" agricultural goods. This idea drives the projects that I consider in this dissertation, and is anchored in predictions of economic abundance and the emergence of a "cosmopolitan" middle class. Because of this, the consumers whom I describe in this chapter belong to the middle and upper classes. They are the targeted audiences of the "direct" distribution networks described in previous chapters.

Ideas about changing consumer preferences are interlinked with narratives about the growth of the middle class (see also Srinivas 2007). Rajiv, a professor of agricultural marketing quoted earlier in this chapter, suggested that consumers are willing to spend more for their food, especially because consumption habits are changing and consumers are no longer buying and

cooking cereals, but rather are looking for “packing and branding” and otherwise “processed foods.” Today, he said, processing, value addition, and branding are the most important components of agricultural marketing. He attributed this “shift in consumer perceptions” to two changes: one, increasing incomes, and two, changing lifestyles. Due to an increase in income, Rajiv said, consumers now have “disposable income” and no longer want “basic food.” Instead, they are looking for “comfort, luxury, breakfast cereal, fruit juice, meat, high value fruits.” He described a “clear trend from consumption of cereal, low calorie, low value to that of high value food,” a trend that is occurring in both rural and urban consumer bases. These changes have led to shifts in food retail, as well. While India remains a “country of shopkeepers,” now this is “giving way for the modern retailing, like your Walmart in America.” As the “middle class population is growing,” so is corporate desire to enter the Indian market, he suggested.

This last point brought Rajiv to the second change that has transformed consumers’ tastes: “lifestyle.” As he explained, Indians’ “lifestyle is changing owing to more exposure to international visits and media.” Thanks to this exposure, “now we all know what food is being eaten in America,” including “burger, sandwich, cereal.” Desire to eat similar foods has changed Indian consumers’ expectations, reflecting an appetite for what Tulasi Srinivas calls “gastro-adventure” (2007). Rajiv summed up these changes in relation to rising incomes and changing work habits: “people now have money in India. They like to spend more money, so they buy processed food, packed food, ready to eat, or ready to cook. They just boil it and then they eat it—heat it and eat it.” These foods are especially desirable in Bengaluru for two reasons, Rajiv suggested: both husbands and wives are working outside the home, which he attributed to the IT industry; and, also due to the IT industry, Bengaluru has a “cosmopolitan culture” that values global foods.

Bengaluru consumers' desire for "processed and packaged" foods exists alongside rising health concerns. As the marketing professor explained it, consumers "are looking for comfort, luxury, and meanwhile they are aware of their health also. Those who are with sufficient education[al] background and understanding, they don't want to eat junk food. Your Lays chips, no. Or Kurkure, no. They would like to have salad, maybe oats, breakfast cereal, or cornflakes." An official in Karnataka's Department of Horticulture described similar desires for healthy food in justifying an uptick in consumption of fruits and vegetables. He said that "more people are now health conscious," and they want the "benefits" of fresh fruits and vegetables. While the horticulture official agreed with the marketing professor that packaged foods are on the rise, he suggested that they still make up less than 10% of total food consumption. This is in part because "freshness" matters. As he explained it, packaged foods contain "preservatives," which contain "carcinogens." So, in his estimation, Indian consumers are more interested in fresh, high value foods (the horticultural commodities under the purview of his department) than packaged foods.

Despite these differences in opinion about current trends and future directions of food consumption in India, the general increase in diversity of food commodities and retail formats is visible in the landscape (see also Srinivas 2007). Along a single stretch of road in Indiranagar—a posh neighborhood in the city center that is known for its bars and restaurants—there exist a variety of food retail forms that serve diverse class segments. Lower middle class men, many of whom are drivers for upper-middle class and elite residents and office workers in Indiranagar, cluster around makeshift stalls selling local home cooking.



Figure 19: Street food vendor selling millet- and rice-based meals

Across the street sits a new, window-lined restaurant, California Burrito, modeled after Chipotle in the U.S. These juxtapositions are everywhere in Bengaluru, and are especially common in the city's recreational and business hubs.



Figure 20: Diners at California Burrito

As with restaurants, there is a wide variety of fruit and vegetable retail in Bengaluru. These include: street vendors (pushcart, bicycle, and roadside), street markets (permanent and semi-permanent stalls), local shops (one-room *kirana* shops), local organic shops (at the time of my research, there were no national organic stores), local and regional supermarkets, national supermarkets, premium supermarkets, and grocery delivery services.



Figure 21: Local market (semi-permanent)



Figure 22: Local shop



Figure 23: Street vendors



Figure 24: Pushcart vendor



Figure 25: Supermarket



Figure 26: Premium supermarket

Prices varied across these formats, as did the commodities on offer. To capture these differences, I recorded the prices of a range of commodities across the majority of these retail formats in a subsection of the city on a single day (Appendix Table 1). As the data in Table 1 indicates, it is generally difficult to find patterns in price differentials across retail formats. This is true for a few reasons. First, there are a number of different varieties of each commodity, and not every retailer makes it clear which variety is on offer. Second, for many commodities, the size affects the price (as in the case of coconuts and bunches of spinach) and different retailers have different qualitative measures for size. Third, because fruits and vegetables are highly perishable commodities, their prices change day-by-day, and even hour-by-hour, depending on supply. And finally, in part due to the previous point, retailers often source from a wide variety of intermediaries, meaning that prices differ based on the particular supplier.

However, there are a few broad generalizations that can be inferred from this data. First, Reliance Fresh, one of India's largest national supermarket chains (part of Reliance Industries), offered the cheapest prices. The next cheapest prices varied between a group of retailers that had generally comparable prices (some were higher for some commodities and lower for others). This list includes: the Local F&V Shop, the Street Vendor, HOPCOMS (a government-managed cooperative), Big Basket (online retailer and food delivery service) MK Ahmed (a small supermarket chain in Bengaluru) and Nilgiris (a regional supermarket chain with stores in south India). In general, Farm Fresh's prices are slightly higher than those of other local and regional supermarkets, but lower than the premium supermarkets: Nature's Basket and Food Hall. The local organic shop sold Prakriti's fruits and vegetables at a higher cost than most other retail forms, although their prices were comparable with premium supermarkets. Big Basket's organic items were the lowest cost compared with other organic retailers. On average, the most

expensive commodities were those sold by Town Essentials, an online organic retailer and delivery service.

Such variances in price are even more prominent with specialty items, such as baby corn and Brussels sprouts. As the owner of an organic food brand explained, he is able to markup certain products more than others, based on consumers' existing expectations. For most household staples like rice, he said, Indian "housewives" have a "pre-established price expectation" that keeps them from buying more costly organic foods. However, with value-added products, they have no assumptions about cost, so they are willing to "experiment." Similarly, as a Farm Fresh manager told me, their margins depend on the vegetable: onion, potato, tomato, cauliflower, and cabbage are the "basics" that every housewife buys frequently, so for these items their prices "must be competitive." Women (and men, he said—he did not want to generalize about housewives) will complain to them if their price is even 1 rupee higher than another shop for these items. For this reason, they price these items competitively, but they charge more for specialty items like an avocado or "colored capsicum" (yellow or red bell pepper). On such items, he said, he can get as much as a 200% profit margin.

Health conscious consumers

Middle and upper class consumers' desires for "exotic" foods has produced a backlash—according to several of my interlocutors, the excesses of urban life have led to a variety of new diseases, of which obesity, heart disease, and cancer were the most frequently mentioned. Many of my interlocutors explicitly linked these diseases with changing diets. This association is partly attributable to Ayurveda, which establishes humoral categories for different foods and their effects on the body. According to Ayurveda, food is both the cause of and solution for a range of diseases. This approach to diets appeared often in my interactions with interlocutors, especially

among proponents of organic. For example, at an event promoting organic food, the owner of a large organic retailer and restaurant suggested, “at five star hotels they’re eating poisonous and degraded food.” A middle aged man in the audience stood up and proudly announced, “I have not taken a single tablet [pill],” attributing this to his diet—“food is one hundred percent medicine.”

Those who asserted the wisdom and continuing relevance of Ayurvedic principles often narrated a past characterized by what Tulasi Srinivas calls "gastro-nostalgia" (2007). Over tea, Guarav, the owner and founder of a new company that delivered “healthy” and “traditional” lunches to office workers in Bengaluru, explained the company’s origins. It all began, he said, when he attended a ten-day program at the Jindal Naturopathy Institute focused on “healthy living”—no medicine, he said, just good food, yoga, and meditation. After this “life changing” program, he and a few friends decided to start a company that would bring healthy foods to others. Guarav had a very specific understanding of what was meant by “healthy food,” suggesting, “each culture’s body type is different.” For example, he said, KFC chicken might be fine in the West, but it might be bad for Indians. Taste is a “different issue,” he explained, because taste can change. What is healthy for your body type cannot change, however, and you should eat what is appropriate for your culture’s body type.⁵¹

Guarav suggested that India has forgotten what is healthy for the Indian body, and today the country “isn’t healthy.” Diabetes is up 50% from 2010-15 in urban areas, he said, which is not true in villages. He suggested that this is because people in villages are still eating “traditional foods” and still getting “physical exercise.” In the city, however, peoples’ “lifestyle”

⁵¹ I heard a similar argument from a few of my interlocutors. One man made the distinction even more specific, suggesting that north Indian food—wheat, for example—is not as appropriate for south Indians as rice and *saambhar*. See Solomon 2016 for a discussion of perceptions about the Indian body as a specific category, in need of particular diets and medical interventions.

and food are a “lethal combination.” There are few alternatives to fast food that have “good, healthy, Indian ingredients.”

This is the inspiration for their company. Their “vision” is to “make people lead healthy lives” by making food that is “equal in taste to Western products but is healthy for Indians.” There is a “market” for this, he said—mainly, corporate employees who “need healthy food.” There are one million corporate employees in Bengaluru, like those who work at IBM, Guarav explained, and these people need healthy food. But, “food regulations aren’t there in India,” and people “aren’t getting the right food and are getting health problems.” Their company fills this gap by offering “traditional” and “healthy” pre-cooked lunches, delivered hot to the office. In addition, they have an added service in which interested clients can have a one-on-one consultation with a doctor who “gives dietary prescriptions” based on individual needs.

Guarav admitted that the word “healthy” is now so common that it has become a “cliché,” but they have given the word meaning by developing the “WQC index:” “W” for “wholesomeness,” meaning “good, wholesome” food with low calories and balanced meals; “Q” for “quality of ingredients”—they do not use any refined white sugar or white rice, and instead use as much unpolished rice and millets as possible; and “C” for “cooking process,” meaning that they follow guidelines for safe food preparation—for example, they do not cut produce and keep it overnight, nor reheat foods.

Despite the clear health-related goals established through their “WQC” system, Guarav said that their biggest challenge is to balance health and taste. They have a nutritionist on staff who works with the doctor to design each menu and to make sure that it has the right calories and nutritional content. The chef then has to make this menu “tasty” within those requirements. Throughout this process, they are concentrating on making their quality consistent, which they

do by making their own masalas rather than using the pre-made ones that Guarav described as often “adulterated.” This way, they can guarantee both taste and quality.

Guarav reported that things were going well with the company, and that he heard from customers that they “feel like this is homemade food.” With a laugh, he qualified this, saying, “not their moms’ food, because their moms have been using these pre-made powders. But their grandmothers’ food, which they always like more than their moms’!” This last quip about mothers’ versus grandmothers’ food reflects the critical role of gendered cooking practices in accessing an ideal and “authentic” Indian identity, both in India and its diaspora (Srinivas 2006). The perceived intergenerational change in the quality of mothers’ cooking brings up two critical points: first, that changes in cooking and consumption have moral meaning, and second, that these moralities and their accompanying responsibilities are often gender-specific. For many of my interlocutors, changing diets were linked with other, largely negative social changes in the city. Often, these concerns have moral overtones that are specifically tied with gender.

Gendered responsibilities

At an event promoting organic food, the owner of a large organic store expressed disdain for women who do not cook. He told the audience a story about a woman who was looking for a new house but told her husband that she did not care if the house had a kitchen at all! Receiving scoffs and laughter from the audience, he continued that this perspective is very common in the U.S.—he’s heard of a “cooking movement” there. Now, this movement is also needed in India. His store is located in a wealthy neighborhood full of politicians and film stars, he said, but none of them shop at his store because “their wives never cook!” He concluded, “it is a shame on the part of our motherhood not to cook in the house,” one caused by the “bad habits” of contemporary society.

This perspective reflects a longstanding inequality in women's responsibilities for cooking and, more generally, ensuring the health of their families (Allison 2013; Garth 2014; Yates-Doerr and Carney 2016). Arjun Appadurai (1988) has noted how desire for variety places extra responsibility on middle class women, who should be both adept at preparing their families' specialties and adventurous in cooking other cuisines. In part to meet these dual expectations, Tulasi Srinivas (2006) illuminates how Indian housewives have developed a "guilty secret:" using packaged mixes to make "authentic" tasting, "traditional" meals.

Although I found that both women and men shopped for food, it was almost always the case that women were the cooks in the household (either members of the family or as hired help, although men also served as hired cooks). In addition, it was often women who felt responsibility for ensuring their families' health and meeting their husbands' and children's expectations. While shopping with my neighbor, Anya, in a small organic shop in the city, she and another shopper began discussing techniques for how make yogurt with organic sugar (Anya was struggling because her yogurt would not set). Anya expressed thanks and amazement that the other shopper was "so knowledgeable." The woman responded that her family is made up of "health freaks," and her sons are always telling her she is "wrong about something" and correcting her food shopping and cooking to make it healthier. Anya again expressed amazement, saying, "our sons actually couldn't give a rat's ass [about health and organic food]. I'm the only one...I'm the one who keeps at it."

Later, I asked Anya why she was so committed to buying organic and eating healthy foods, if her family was unconcerned. She explained that she first become interested in organic when she was in high school in the 1980s. At that time, "nobody knew about it [organic.] And I heard about a lady who basically had cancer, and cancer also was pretty rare then. So, then they

said that she fought cancer with organic food, and she used to buy organic wheat grass juice, and her hair started coming back. She was some 60 plus lady, and it started coming back black...It left an impression...That was the first time I heard about it, I was interested. I was interested because I was a health freak.” When she went away to college, though, “I didn’t have to think about all that. So I seriously got into it when I had kids...Then you have to get it right, you don’t have a choice, because it’s not for yourself, it’s for someone else.”

Rising concerns about food quality and safety have produced an additional burden for women who are responsible for ensuring the health of their families. In the following section, I explore the broader insecurities represented in middle and upper class consumers’ concerns about dangers lurking in the supply chain. I suggest that these concerns are linked with a sense of distrust resulting from convoluted supply chains and decaying urban ecologies.

Suspect foods

When speaking with a wide range of residents of Bengaluru about the subject of my research, very frequently they would tell me that the quality of fruits and vegetables was declining and that I should be careful about what I ate. Concern about the effects of pesticides and chemical fertilizers on the body was most commonly mentioned cause for caution, and I explore this in greater detail in chapter 5. However, there was also a more general concern that the nutritional quality of India’s foods is declining (*Down to Earth*). Often, these two concerns—chemical residues and declining nutritional quality—were expressed as interlinked. When describing changes in diet, Chennappa, an elected government official and caste community leader (who appears again in chapter 5) drew a connection between changing food production processing practices and unhealthy bodies:

Now, [with] everything they're forc[ed] to use fertilizers, chemicals. So with chemicals, with these fertilizers—and we are spraying the medicine [pesticides]—the quality of the fruit, vegetable, and green leaves [is] gone...My father was 103 years. I am 74 years still. I am young. My son is 45 years, [but] he is not able to carry on eight hours [of] work continuous[ly]. We used to work 12 hours continuously. Because what they're [his son's generation is] eating, it's not a natural food. My mother used to grind the *ragi* with stone. That is how we are strong. Now it goes to [through a] machine. Half our vitamin will burn there itself...And earlier, with *ragi*, *roti* and *chapatti* we used to make. We used to eat directly without putting any masala to eat. Now with masala, with chutney, all that, it is very difficult to eat, because the taste is definitely [worse]...a lot of changes are taking place.

For Chennappa, declining taste, worsening health, and changing production and processing were interlinked. This perspective was common across many of my interactions with consumers in Bengaluru.

These fears are fueled by the media coverage of food safety scares. In the last few years, these scares included, among others: plastic rice (Jenarious 2017); bread laced with carcinogens like potassium-bromate (*The Economic Times* 2016); and excess lead and undisclosed MSG additives in Nestle's Maggi Noodles, an extremely popular instant noodle product (Kulkarni 2015). Fears about adulteration were common, whether in milk, spices, or oils. As one passionate proponent of natural food asked, how can groundnut (peanut) oil cost so little if the cost of the groundnuts needed to manufacture one liter of oil is higher than the selling price of that oil? Adulterated (*kalaberake*) food is very common, he said.



Figure 27: Billboard advertising “chemical-free” sunflower oil “made with love”

While these forms of adulteration occur in both rural and urban spaces, I argue that it is the urban consumer in particular who is unknowingly exposed to hazardous fruits and vegetables through an uneasy relationship with food sources and supply chains. These intersections lead to many of the concerns about food safety, and also are what make trust a key framework by which consumers navigate the dangers embedded in the supply chain. How can an urban consumer, with little knowledge of the supply chain beyond retail, be guaranteed of an item’s safety? Contaminated food is dangerous precisely because urban consumers are unaware of and unable to detect contaminants. In this context, trust entails belief in the veracity of claims about quality that are largely unverifiable by the average consumer.

Increasingly, middle class consumers in Bengaluru are looking for assurances of quality in third party audits and corporate commitments. This means that longstanding forms of food purchasing—street vendors—have been thrown into question. Not because the vendors themselves are seen as untrustworthy, but because they cannot assure the consumer of how the

food products were grown or handled before they reached the street corner. Most vendors purchase from middlemen at the central wholesale market, as discussed in chapter 1. This means that for an increasing number of middle class and elite consumers in Bengaluru, the fruits and vegetables for sale on the street and in small neighborhood stores have been subject to the dangerous practices of middlemen discussed above. Or, if the farmer is selling his or her own produce, consumers worry that these items were grown too nearby the city, meaning that they have been polluted by the changing urban ecology.⁵²

Two commodities in particular—mangoes and fresh spinach—illustrate why these forms of food retail have become suspect, and how this change has affected how the urban middle and upper classes locate and evaluate food safety. Each of these foods tells a story about concerns over changing food supply networks, but in different ways: mangoes illuminate the anxieties around economies of scale and convoluted supply chains, while spinach connects changes in the urban ecology with risk in human bodies.

Mangoes and the convoluted supply chain

In the summer of 2015 I watched as the “Bengaluru Foodies Club” Facebook group (which currently has over 129,000 members) erupted with stories of “chemically” and “artificially ripened” mangoes (*maavina hunnu*) that look ripe and sweet but are hard and tasteless. People complained about the money they had spent on these falsely appealing fruit—mangoes are one of the most expensive food commodities in India—and shared similar stories and suggestions for how to avoid such problems. Alongside these complaints were advertisements for “organic” and “natural” mangoes, delivered straight from the farm. With time

⁵² To mediate these concerns, some elite urban residents who hire cooks have begun doing their own food shopping (rather than having their cooks both purchase and cook the food). This trend has led to new kinds of tensions in employer-employee relationships—as one woman told me, she is always arguing with her cook about whether organic sugar is effective in making curd (yogurt).

I began to understand that “natural” mangoes are considered appealing not only because they are assumed to taste better, but also because they are believed to be free from the chemical ripening agents that have motivated many news reports about the dangerous health consequences of ingesting unwashed mangoes (for example, see Khan 2014).

These dangers are attributed to the increasingly common practice of what’s called “artificial” or “chemical ripening.” While the use of ethylene gas to quicken the ripening process is permitted by the Indian government and common in global supply chains, distributors in India are increasingly relying on calcium carbide (often called “carbide powder”), a known carcinogen that is banned by the Indian government and internationally. Cost is one likely reason why the use of ethylene gas is currently uncommon in India—it is expensive and requires more intensive infrastructures, such as ripening chambers.

Mangoes are relatively difficult to produce, transport, store, and sell on a large scale, because the process of ripening mangoes is long and variable. To get around this challenge, most mangoes are picked unripe and ripened after transportation.⁵³ Ripe mangoes sell for much higher prices than unripe mangoes, but very few middlemen have the time or storage facilities to let mangoes ripen naturally. For this reason, some distributors and wholesalers turn to calcium carbide, which ripens mangoes more quickly and at a more consistent rate. Although this practice is illegal due to the chemical’s harmful effects on human health, it is still very common. As a wholesale fruit trader at the central city market told me, calcium carbide is the best way to control uneven ripening and cut back on wastage.

⁵³ This is also true of other fruits such as bananas and papayas.



Figure 28: Mangoes for sale at the central wholesale market

Bengaluru’s middle and upper class residents talk about mangoes as treasured treats that can also be deceptive and potentially hazardous. I heard many cautionary tales from my friends and neighbors, who warned me to buy mangoes only from trusted sources. They advised me to shop at particular vendors or stores, such as a local supermarket chain that grows mangoes on company-owned land and promises to sell only “natural” mangoes. One woman explained to me that she shops for mangoes only at HOPCOMS, a government-managed horticultural cooperative. She reasoned that since artificial ripening with calcium carbide is illegal, she could be confident that mangoes sold in government stores would be free from these practices. For many others, the relationship between HOPCOMS and the government was a cause of concern, because it was assumed that government-managed markets were more susceptible to corruption (see chapter 1). Many people explained to me their techniques for discovering whether mangoes had been artificially ripened—for example, you can’t look just for outer color and texture, you also have to pay attention to smell. Mangoes require a trained eye (and nose) that can detect the

practices of unscrupulous middlemen looking to make a quick profit at the expense of the urban consumer.

The dangers of chemically-ripened mangoes are understood to be a particularly urban problem. If you have a connection to a village, you have access to mangoes that have been allowed to ripen naturally. The economies of scale that Bengaluru increasingly requires—mangoes transported by the truckload—are what make the developing city a space of unsafe eating. As I heard from many middle class residents of Bengaluru, today there are too many actors between the farmer and the urban consumer. These middlemen are perceived to be untrustworthy agents who profit from the city's increasingly estranged relationship from its food producers.

But mangoes have always come from further away. In addition to local favorites grown in nearby Mysuru and Srirangapatana, there are regional varieties that are shipped from other states. So, the mango supply chain has not gotten longer, in terms of geographic distance. Rather, the difference lies in the changing processes of supply chains. The fear is that there are more middlemen than ever, and that these middlemen are motivated by the pursuit of profit (see also chapter 1). In this formulation, rising incomes in the city lead to increased demand for expensive foods like mangoes, which leads to middlemen who take advantage of this demand by cheating unknowing urban consumers. The size of the city has produced new, and more dangerous, food networks.

According to this formulation, if a convoluted supply chain is the root of Bengaluru's mango troubles, then the solution is more "direct" connections with farmers.⁵⁴ In June 2015 I attended the annual Mango and Jackfruit Festival at Lalbagh, the botanical garden at the heart of

⁵⁴ This is true not only of mangoes, but many food commodities. As I suggest in this dissertation, "direct" supply chains are increasingly seen as a way to provide higher incomes to farmers and better quality food to consumers.

Bengaluru. The event was billed in local news media as a way for consumers to sample the region’s bounty and access safe, “chemical free” fruit. The event ran for several weeks, and the large plaza above the Lalbagh glasshouse was filled with vendors’ stalls. Many were giving out samples to passersby, and most had around 6-10 varieties of mangoes, ranging from the most familiar ones like *alphonso* to tiny mangoes for making pickle. The banners hanging above the stalls were colorful, often with photographs of the farmer standing below, and displayed the village and farmer’s names. Almost all of the banners had claims such as “chemical free,” “organic,” “carbide free,” “natural,” and “naturally ripened”. A few also included language such as “direct from farmer to consumer.” These often had photos of the farmer that matched the person in the stall below. As I toured the stalls and spoke with the vendors, they were quick to assure me that they were themselves the farmers, and that these mangoes were coming direct from their farms, free from the dangerous artificial ripening activities of middlemen.



Figure 29: Sign leading into the 2015 Mango and Jackfruit Festival in Lalbagh



Figure 30: A stall at the 2015 Mango and Jackfruit Festival. The man holding the sign is the same man pictured in the photo on the banner

A different commodity, spinach, suggests that safety concerns aren't always related to the scale of or number of actors in the supply chain. In the case of spinach, it is not distance from farmers that results in contamination, but rather their proximity.

Spinach and the contaminated urban ecology

I was told many times while in Bengaluru that I should avoid eating fresh leafy greens (*soppugalu*), particularly spinach (*paalak*). I would ask why, and people would respond that it was “contaminated” and “unsafe.” They would suggest that if I really wanted to eat spinach, I would have to wash it several times, preferably in salt water, and always cook it very well. Over time I came to understand why so many people were concerned about this particular food commodity: because spinach is one of the most perishable food items, it has to be produced near

where it is consumed. It has a shelf life of one day, perhaps longer if it is refrigerated for the duration of its supply chain, which very rarely happens in India today. Most often, street vendors who sell greens sell *only* greens; the very perishable nature of this commodity means it's better to specialize. Greens vendors say that they have to sell their goods within the day, if not a few hours; as the day goes on, the greens start to wilt, and what they haven't sold they'll have to start selling for "throw-away prices." As one vendor told me, you are either a morning or evening greens vendor—you cannot be both because greens will not last the entire day.



Figure 31: Greens on their way to market



Figure 32: Shopping for greens at a pushcart vendor

This requires that it be produced within or nearby the city, which means that the water used for its production is often extremely contaminated with refuse, industrial pollutants, and heavy metals.⁵⁵ As suggested by Suhas's story at the beginning of this chapter, those who have farmed in and nearby the city for generations continue to draw from what are now extremely polluted streams and lakes to feed their crops, often fresh greens, which they sell to consumers in nearby urban communities.

Middle class consumers who are concerned about these practices were quite adamant that I should avoid greens for this reason. They suggested that I purchase spinach only from known suppliers, or that I shop only at supermarkets, where the quality standards were often believed to be higher. While conducting a qualitative survey at a Farm Fresh retail location (see Table 2 in the Appendix), one young woman explained to me that she only shopped there because “you get really good quality [vegetables], they're clean, not housed in sewage water like outside.” Another woman expressed a similar sentiment, explaining that she shops at Farm Fresh for her

⁵⁵ See Jumbe and Nandini 2009 for an analysis of heavy metals in Vartur Lake.

vegetables, especially fresh greens, because “they grow it in bore well water,” whereas “these outlying areas, you never know what water they’re using.”

In the case of spinach, unsafe eating is not located in the intermediary practices of the supply chain, but rather in its production and relationship to the urban ecology. The urban body must be protected not from the contaminating practices of middlemen and economies of scale, but from the dangers lurking in the urban ecology itself.

At the heart of both of these forms insecurity is the feeling that the qualities that make food unsafe are often undetectable: the freshest-looking spinach might be particularly dangerous because it was grown near the city, and artificially ripened mangoes often look particularly appealing. Where the visual fails, markers of quality must be found outside the commodity’s appearance. In this context, a sense of safety is produced through corporate supply chains and practices that emphasize distinction from longstanding methods and sites of production. Companies have caught on to urban consumers’ desire to know more about their food sources, and today use the language of “direct” connections between producers and consumers as a way to assure the consumer of a product’s quality and safety. However, quality, as an ethical category, is hard to measure. It is made visible through associated materialities, the values of which are not inherent. Not everyone reads quality in the same markers. I turn to this point in the next section.

Quality and cost

For most shoppers, choosing fruits and vegetables depended on two factors: quality and cost. Among both shoppers and food industry professionals, “quality” was one of the most

frequently used terms used in describing consumers' choices.⁵⁶ People used to the term “quality” to describe a range of factors, from the most general (“clean” and “safe”) to the most specific (not “housed in sewage water”). When asked to elaborate, “fresh” was the most common qualifier given.⁵⁷ For many shoppers, freshness was closely tied with taste—even if greens looked a little wilted from the midday sun, if they were “tasty,” customers would return to that retailer. Shoppers had different ways of measuring freshness and taste—for instance, one shopper at an organic store said that she found she could “easily boil” the rice that she purchased from the shop, indicating that it was fresh. Another said that she prefers a particular shop because the fruits and vegetables that she purchased there “don’t spoil so easily.”

This last point illuminates the ambiguity inherent in the idea of freshness. While the shopper above said that she trusts the shop because her items do not spoil quickly, another said that she doubts that the veracity of the store’s organic claims because her produce “doesn't spoil after two days.” For this shopper, longevity was a sign of unwanted interventions that prolonged the life of fruits and vegetables. Susanne Freidberg (2009) illuminates these multiple meanings and material markers of freshness in her discussion of the changing meanings of and intense negotiations over what counts as fresh food. Government regulators, industry representatives, and consumers often clash in their attempts to give certainty to freshness as a subjective and affective quality. Freidberg argues that over time, these debates and the changing technologies that they produce and reflect have changed the meaning of fresh in many parts of the world, from

⁵⁶ While I focus on urban consumers in this chapter, it is critical to note that quality is also a primary concern for rural communities, among whom food, freshness, and taste are critical components of daily conversation.

⁵⁷ The desire for freshness means that online grocery retailers such as Big Basket find it challenging to meet consumers' expectations. As the manager of the F&V division at Big Basket told me, “India is still in a touch and buy mindset”—when food is ordered online and delivered, he said, consumers complain about freshness and quality because they cannot compare what they received with what else is in the market. I heard from several interlocutors that they refused to buy produce online. As one woman explained, “I want to see it and choose it myself.”

one that in which refrigeration is considered “a tool of cheats, speculators, and would-be food monopolies” to “the idea that freshness depends less on time or distance than on the technology that protects it” (2009, 5). In India today, this transformation is occurring but remains incomplete, as suggested by the two women’s different perspectives on how to identify whether produce is fresh. In India’s F&V market, the majority of fruits and vegetables remain unrefrigerated for the duration of their supply chain; however, the government’s focus on increasing India’s cold chain infrastructures—largely implemented as part of the Scheme of Cold Chain, Value Addition and Preservation Infrastructure run by the Ministry of Food Processing Industries—suggests that ideas and practices of freshness are changing.



Figure 33: A promotional display for refrigerated trucks at the 2015 India Food Expo in Bengaluru

Like “fresh,” the more general category of “quality” is difficult to pin down and changes over time and between individuals. The same markers can be read to have different material and moral meanings. Damage from insects is one case in point. For some consumers of organic produce, the absence of bug bites and other imperfections casts doubt on the validity of the organic claim—as one couple shopping at a local organic shop put it, “things should look a little dirty” in order for them to trust that they are buying organic produce. This is not to suggest that

all organic consumers are content with “dirty” and bug-bitten foods—for most of the organic company representatives with whom I spoke, ridding their products of imperfections and damage from pests was of primary concern. The owner of a large organic food brand described consumers as a “bit spoiled” because they have been eating “chemically treated” foods for so long that they do not expect any insects in their food. Older generations, he said, are fine with insects, because they “expect it and they know how to handle it,” but younger generations are “much less tolerant.” When customers complain, he tells them to “visit a chemical farm—you will not see a single insect, bird, anything, but in an organic farm you see so much life.” He admitted that convincing consumers of this perspective is a challenge.

The shape and size of food commodities produce similar multiplicities in meaning. While visiting an expensive and sleek organic shop in an up-and-coming neighborhood of Bengaluru, the young woman with whom I was shopping picked up a Mangalore cucumber (*southekeyi*), asking, “who would buy this? It looks like it had a twin!” I admitted that it was a little oddly shaped—normally, the yellow- and green-striped vegetables are perfectly oval, but this one had a dip at the top. This young woman’s response to the oddly shaped vegetable stands in contrast to that of a middle-aged woman whom I accompanied on a shopping trip to a different organic store, who chose the smaller and more irregular-looking packaged mustard seeds of the two organic brands on offer. With a laugh, she explained that she felt more confident in the smaller mustard seeds because “organic is supposed to be different and small.”

Alongside quality, cost was a major concern for both companies and consumers. Companies go to great lengths to justify their costs, and to insist that they are “fair.” For example, the founder of an organic food brand told me that he has an answer at-the-ready for a question he often receives: why is the cost of organic food higher if there are no costly inputs

(pesticides and chemical fertilizers) required for production? He answers them with three points. One, the “farmer has been doing chemical for years now,” and needs to “re-learn his trade.” This means that the “risk” is higher initially. Second, the farmer will “take [a] hit in yields” in the first few years, so the price of organic needs to be higher in order to compensate for this drop in quantity. And third, organic is “far more labor intensive.” These three factors mean that no farmer will switch to organic unless there is a “premium.”

His customers often ask a follow-up question, he said: why does the price increase so drastically between the price paid to the farmer and the price paid by the end consumer? He again has three points in response. One, economies of scale keep costs lower for conventional foods. Second, organic foods require more expensive storage facilities because under organic regulations intermediaries cannot extend the shelf life of commodities by fumigation. Third, retailers demand that organic products have higher margins because they sell less frequently than non-organic commodities, meaning that volumes are lower and organic commodities are on store shelves for longer. In this equation, he said, the only thing that can be improved is economies of scale—cutting costs by increasing the volume of organic—the rest cannot be changed. For this reason, he argues that organics will never be the same price as conventional, and does his best to convince consumers that organic is worth the additional cost. He drove home his point with a final question for me: why would anyone produce food with chemicals in the first place? “To reduce cost,” he said. “So, the moment you take chemicals out of the equation, food costs will be higher.”

This company owner’s succinct answers for common questions point to the frequency with which food companies receive pushback about prices. This is true across food retail forms; however, the prevalence of bargaining was a point of contrast between shops and supermarkets

and outdoor markets or roadside vendors. While supermarkets and local shops have set prices, customers are expected to haggle in street markets and with street vendors. In general, I found it difficult to shop at these vendors because I rarely knew the acceptable price for each food, meaning that I was inept at bargaining. Women who shop at these vendors are constantly asking sellers for prices, comparing across sellers, and shopping frequently (daily), meaning that they have a much better idea of the going-rate and can therefore bargain more effectively. Bargaining is a very much a skill, cultivated with time and practice.

The loss of this skill was seen as indicative of broader changes in Bengaluru, one linked with linguistic changes and the influx of IT workers and non-Kannadigas to the city. Sumita, a native of Bengaluru, told me a story about a local street vendor who used Hindi to tell her the price of the vegetables she was buying. She was very upset and chided him, saying, “we’re both Kannada speakers, we should speak Kannada!”⁵⁸ The man shrugged and said that everyone speaks Hindi now. “The other thing about north Indians,” she continued, is that they refuse to “haggle.” Another Bengaluru native who was there with us, Santosh, jumped in to add, “north Indians and IT people” never ask the cost, “they just buy it!” He told me of a couple he had seen a few days ago—they were buying a lot of produce, just pointing to the various items and asking for the vendor to make the bill without ever inquiring about the cost. With a laugh, Santosh recounted the vendor’s question to the couple: “*niivu software engineer, alwaa?*” (you’re a software engineer, aren’t you?).

Concerns about cost—and strategies to discover the “market price” and ensure a fair rate—were a key point of contrast between middle and upper class shoppers. For example, I had

⁵⁸ For those without the local linguistic skills and knowledge of prices, bargaining can be experienced as stressful. One of the key values provided by supermarkets, then, is the fixed price. One of the largest supermarket chains, Reliance Fresh, posts the “market price” of items with a large slash through it and their reduced price written below, as proof of their customers’ savings.

very different experiences when accompanying a school teacher, Arvind, and a buyer for an elite clothing and housewares retailer, Anya, on shopping trips to organic stores. For Arvind, cost was of primary concern, and he was very familiar with the going-rate for most organic items. As I followed him around a tiny, one-room organic shop in Koramangala, he talked me through his reasoning for purchasing some items and not others. Pomegranates are normally expensive, he said, so he avoids them. Saying this, he turned to the shop owner, stating, “it’s about 240?” The storeowner shook her head in confirmation. He prefers *mosambi* (sweet lime), “which is 120, correct?” Again he received confirmation. He often will “pick up a pineapple,” charged by piece for Rs. 80. He will “pick up some vegetables as well”, and began putting a couple handfuls of *thondekayi* into his basket. I asked, how do you decide which vegetables to purchase? “Quite random,” he said, “but I tend to avoid things that are too expensive.”

In contrast with Arvind, Anya did not inquire about the price of a single item while shopping for organic fruits and vegetables. For her, freshness was the critical factor in deciding whether to purchase an item. As she filled her wicker basket with items, she commented on quality as she went. “These potatoes are not looking too fresh,” she said. Another shopper overheard her comment, and added that the lady’s finger (okra) “isn’t very good today.” She “really had to pick” to find “good” ones, and Anya responded, “I don’t have the patience for it.” The other shopper snapped the pointed end off of the tip of one okra, saying, “that’s the test,” and commenting that these okra do not have the right “snap.”

Consumers in other class segments are also concerned about quality of their fruits and vegetables, but are limited by cost and accessibility. A working class auto-rickshaw driver, Krishna, told me that he was able to buy a variety of vegetables for his family because he could roam the city until he found the right price. Street vendors offer the cheapest prices, he said. He

watches prices as he moves around the city and as the day progresses. If, for example, beans are selling for over Rs. 30 per kilogram he will pass them up, but if he finds them for Rs. 10 or 20 he will buy them and bring them home to his wife to cook for the family. Last week, onions were selling for Rs. 700, he said. In that case, he searches until he finds smaller onions that are cheaper. Krishna said that he never eats in a “hotel” (restaurant), even though he is often away from home at mealtime. If “by chance” he is too busy to return home, he might purchase food from a street vendor, where he can find meals for Rs. 30 or 40. But in hotels, the starting rate is Rs 50. For that much money, he said, four people can eat at home.

The differences between Arvind, Anya, and Krishna illuminate the range of food purchasing practices among urban consumers. Quality and cost are critical considerations for the majority of Bengaluru’s residents, although the extent to which people privilege quality or cost is related to class position. However, even those who have the money to spend on higher cost items worry that their money is being well spent. This concern is related to the perceived dangers in the supply chain discussed above, and the feeling that urban consumers are easily cheated by intermediaries. In this context, proving “trustworthiness” is of critical concern for food companies.

Producing trust

While corporate assurances of quality are increasingly the way by which middle and upper class consumers evaluate their food choices, this trend does not entail a complete reversal of other ways of establishing trust—shopping at the same vendors—nor does it indicate complete trust in these forms of audit and evaluation. Trust matters only because it has limits, and marking what is trustworthy is critical only when the untrustworthy looms large. In her discussion of higher education audits in Britain, Marilyn Strathern (2000, 310) argues that widespread

recognition of the limits of transparency is at the core of audit ideologies and practices. She says, “as the term accountability implies, people want to know how to trust one another, to make their trust visible, while (Knowing that) the very desire to do so points to the absence of trust.” And, as anthropologist Alberto Corsin Jiminez (2011, 193) argues, “we need a realm that lies after trust to make trust meaningful. There is, in a sense, no trust in society except in an ‘after-trusting’ mode.”

Middle class consumers in Bengaluru are familiar with the blurred line between trustworthy and untrustworthy, and are often ambivalent about corporate claims. Those who shop at organic markets, for example, are well aware that organic certification offers only one version of the truth. As one woman explained, she buys her organic items from mostly “standard companies” like 24 Mantra, the biggest and most widely available organic brand at the time of my research. She said that she chose bigger brands because you “can’t believe” all the organic claims—sometimes it might be “good,” and sometimes it might be a “lie”—but if you buy from a company you can at least contact them. As in other retail forms, building a relationship with a particular retailer often remains at center of consumers’ shopping strategies. When shopping with Parvati at an organic shop near her home in south Bengaluru, I noticed that she was often choosing Pro Nature branded items. In answering my question why, she explained that she had a good experience with the company: “I called them. Once I bought a brown rice from them, and it had small stones, the small ones. So I called them. They sent somebody [to my] home and replaced my rice bag. It was half already used, but they said, like, they’re so good with the customer service.” She had the opposite experience with another organic brand: “Once I bought [their] brown sugar, and when I put it in water, it was brown, then white crystals. I was not sure, and when I asked them, they did not even reply. So I’ve actually stopped buying that. Because at

least they should reply saying that it's a natural thing, or it's not a natural thing, they need to at least reply." For Parvati, when an item's quality became suspect, the (in)accessibility of the company determined whether she purchased that item in the future.

The importance of such connections came up in other interactions with customers about why and how they chose certain items and retailers. Several shoppers at an organic store in Bengaluru that sold Prakriti's fruits and vegetables located their confidence in the storeowner. Like Parvati, one middle-aged man valued the accessibility of the retailer: "we believe these people, they're trustworthy," because "we can ask questions, clear our doubts." Another attributed his trust in this particular shop to his wife's personal relationship with the owner. Yet another said that she trusted this store because of the "rapport" that she had with the owner and employees.

"With us you are not a consumer, you are a co-producer," responded the owner of an organic store to a woman's question about how she could trust that they sold only organic foods. He continued, "you've got responsibility" to "connect with the farmer" in order to ensure that organic claims are "genuine." Increasingly, consumers in Bengaluru are following his advice—at the end of 2015, Prakriti began charging city residents Rs. 300 per person to visit their partner producers' farms, in the hopes of compensating the local farm manager for his time showing people around. Prakriti had already generated over Rs. 5,000 in the first month and a half of offering this option, and still, an employee told me, there are always people just dropping in.

Most city dwellers, however, cannot travel to farms to assure themselves of the quality of their food (and, if they do, it is unlikely that they know enough about agriculture to evaluate farmers' practices—see chapter 5). Increasingly, middle and upper class consumers are turning

to third-party certification programs to assure them of a company's trustworthiness. It is here that Farm Fresh's and Prakriti's strategies converge. Although the two companies operate at different scales and with different corporate practices (as shown in the preceding chapters), how these companies convey quality to consumers is remarkably similar. Both companies rely on certification to convey that they have met stringent quality standards: Farm Fresh uses GLOBALG.A.P. certification, while Prakriti farmers are certified organic.

These companies' use of third-party certification programs says something about Bengaluru consumers' concerns and desires. It cannot represent all consumers, since both of these companies' products are targeted toward those who have the purchasing power to make choices about where and how they buy their food items. Indeed, this is one of the most important similarities between the companies—despite their different material forms and market practices, their intended audiences are in the same class segment. However, these companies' reliance on certification illuminates how companies convey trust to consumers and how this trust is represented and realized through material commodities and their production chains. It also suggests that there are divergent understandings of what makes “quality” food items.

International quality

Farm Fresh advertises itself as meeting international standards of food safety and quality. The company is certified under the GLOBALG.A.P. program, which sets standard practices in the production and processing of agricultural goods. To be certified, Farm Fresh must abide by regulations that are much stricter than those currently in India—only a few chemical inputs are permitted, and processing is very closely monitored. Farm Fresh went through the work of becoming GLOBALG.A.P. certified in order to export a few select products, including chillies and baby corn, to Europe, the U.K., and U.A.E. As a Farm Fresh employee told me, the company

had to go through a lot of work to ensure that the importing countries trusted their quality. When they first began selling in Europe and the U.K., they “had a problem with the image of India,” which he attributed to the perception of India as a poor country. Because of this perception, he said, buyers were concerned about their “reliability” and “food safety.” To account for this, Farm Fresh imported to India an “exact” replica of food packing facilities in the U.K., and “commissioned” a British company to design their packing facility. After building the appropriate infrastructure, he said, it was “easier for us to tell [an] elite customer from Europe or retail chain that...Instead of telling him so many stories, we tell them in a simple language that what facilities he has there, we have here.”

The large packing room at Farm Fresh is full of stainless steel surfaces and workers wearing long coats and hairnets. When I first toured the facility in May 2015, the company was in the process of converting their domestic packing room into one that met the same standards as their international room. At that time, a padlocked door separated the two rooms. When I again visited in December, the door was open, and both the domestic and international packing facilities followed GLOBALG.A.P processes. As a Farm Fresh employee explained, they wanted to “bring [the] level of our handling and packing to level of Europe for [the] Indian market. Because India is also [a] growing market. People are curious about health issues, people are considerate about health issues, and people are having sufficient disposable income to afford to purchase [higher cost items] now.”

Farm Fresh’s retail locations in Bengaluru look different than most food retail in India, even among supermarkets: they have a very large area of refrigerated produce, and most of their fresh fruits and vegetables are packaged in some way. For example, greens are sold in plastic sleeves, and chillies are packed in a Styrofoam tray and covered with plastic.



Figure 34: Refrigerated shelves at Farm Fresh retail location in Bengaluru

The store and its products successfully convey the company's commitment to "hygienic" foods. Shoppers at Farm Fresh appreciate the packaging, and feel that it represents the care taken by the company to ensure a product's cleanliness and freshness (see Appendix Table 2). As one woman said, "the way the package is, it's clean. I don't have to wash it [the produce] so many times." Another young woman explained, "the food seems fresh and the packaging is good," adding that with such a large diversity of fruits and vegetables, "it's got everything basically [that] a healthy person would want." A few shoppers appreciated the variety of items for sale at Farm Fresh. One shopper, who owned a "world cuisine" restaurant, said that he buys his "exotic" vegetables at Farm Fresh (a few shoppers expressed appreciation for the "exotic" foods sold by Farm Fresh). He admitted that the store is a "little more expensive," but the packaging is and quality are "good." He laughed, saying, "it might not be clean, but it looks clean!"

Although inaccurate, many customers assumed that Farm Fresh's produce was organic. The company sells certified organic grains and pulses, but makes no organic claims about its

produce. Although they are careful never to make a false claim, a representative in the retail division said that they do not actively correct the perception. One reason for consumers' misconception is word of mouth—a few people told me that someone else had told them that Farm Fresh sold organic fruits and vegetables. Another reason is consumers' expectations about the differences between organic and conventional produce. As one older couple told me, at Farm Fresh, the "taste is totally different. It is organic food, so obviously the taste is better." In addition, Farm Fresh's emphasis on "direct" connections between consumers and farmers leads many consumers to assume that the store sells organic produce.

As customers know, the diversity and quality that Farm Fresh offers comes at a price. Many shoppers told me that they knew they were paying more at Farm Fresh than other retailers. As one man said, "I know I'm paying more," but the cost is worth the "quality." A couple expressed appreciation for how "fresh" Farm Fresh's products are, while admitting that the "price is higher" by 30-40%." Prasad, the CEO of the company's retail division, explained to me that they cater to "Sec A customers," whom he described as "high-end"—people who own a house, have a four-wheeler, and are a "premium" customer. The other two categories, "Sec B" and "Sec C," are made up of "the masses." These are the people that a "hypermarket" is trying to reach. The Farm Fresh customer base is about 80% Sec A, then 20% between the other two categories. For those who can afford it, Farm Fresh offers a connection to global appetites through specialty commodities and international standards of quality.⁵⁹

Organic as a "lifestyle change"

Like Farm Fresh, retailers who sell and consumers who buy Prakriti's fruits and vegetables

⁵⁹ Not everyone who can afford these higher-priced food commodities chooses to spend money on them. Thriftiness is a critical ethic, and many of my interlocutors who purchased and advocated for "healthy" foods expressed frustration that their family members were concerned with price alone and were unwilling to spend money on "higher quality" foods.

are well aware of the higher cost of organic foods. For many organic companies, the primary struggle is in convincing consumers to spend what they often describe as “a little more” for organic products. In making this case, the majority of my interlocutors insisted that the problem is not the higher cost of organic, but rather consumers’ expectations that food should be cheap. While talking with the owner of an organic food delivery service, I asked if could characterize his customer base, and he said that different customers want different things. Some buy “only perishables,” for example, and one couple buys organic only for their children, while the adults eat “the non-organic stuff.” I expressed surprise about this, and Praveen explained that the parents “want their kids to be healthy but they’re also worried about cost.” His goal is to convince everyone that “cheaper food is worse quality.” In order for consumers to understand this and commit to buying organic, they have to make a full “lifestyle change,” one in which they expect to spend more money on quality and healthy foods.

Educating consumers was a key goal of organic food companies and advocates. This often entailed a common narrative. First, that organic used to be “standard.” The green revolution changed this and made food cheap, but also unhealthy. Second, in the words of one company founder, Bengaluru residents are already willing to spend money “eating out at a fancy restaurant, but not on their daily necessities.” This needs to change in order to prevent the rising tide of diet-related illnesses like diabetes and obesity.

In general, the role of organic food in staving off illness was a key talking point among both organic companies and organic consumers. While conducting a qualitative survey at an organic shop in Bengaluru that sells Prakriti’s fruits and vegetables, I found that many customers were eager to tell me about the dangerous effects of pesticides on human health (see Table 3 in the Appendix). They used terms like “poisonous” to describe pesticides and conventional

produce, and “pure” to describe organic foods. One middle-aged man, for example, said that he preferred organic because there are “no artificial fertilizers” which are “not good for health” because they “spoil stamina.” Another middle-aged man said that his “stomach problems” had subsided since eating organic food. A few women justified purchasing organic by saying that they have children, and they want to feed their children only organic foods to reduce exposure to pesticides.

While these concerns are tied to an “awareness”—as a university professor put it—that is largely specific to the middle and upper classes, concern about health was a reason given for the widening consumer base of organic foods. The owner of one of the oldest organic shops in Bengaluru said that they chose to locate their store in an “educated area” in the city, knowing that demand would be higher among “educated” (read as upper class) consumers. However, she said that over the years her customer base has changed, and today she has more customers from the “middle and lower middle classes.” I asked her why she thinks this is the case, and she responded that “health” is the main reason.

Despite claims about the widening base of organic consumers, the price comparison data in Appendix Table 1 shows that the cost of organic fruits and vegetables is higher on average than non-organic foods sold at a diversity of food retailers in the city. Most organic consumers are well aware of this price differential. According to survey responses detailed in Table 2 in the Appendix, the majority of shoppers purchasing Prakriti’s fruits and vegetables said that the price of organic foods is higher, and that cost is a challenge for them.

Given the higher cost of organic, quality becomes all the more important. Taste is key—as one organic shopper said, she prefers organic because she “can taste the chemicals” in non-organic foods. Alongside taste, freshness matters to organic consumers. It is here, however, that

organic farmers, suppliers, and retailers struggle to meet consumers' demands, and where tensions between these groups come to the fore. An employee of Prakriti told me that they are always struggling to convince retailers that they have done their due diligence to ensure that the fruits and vegetables they supply look fresh by the time they reach the end consumer. This means that Prakriti insists that farmers harvest the most perishable items—mainly, fresh greens—right before brining them to the village-level collection facility. One morning, a Prakriti employee chided the farmers and local managers for greens that looked wilted, saying that the farmer must have harvested them the night prior. The farmers and employees pushed back, saying that the problem was a lack of water, not the farmer's harvesting methods. This kind of tension also appears in Prakriti's dealings with retailers—a manager told me that retailers complain about wilted greens and squished tomatoes, but the problem is on the retailers' end. Have I seen how these retailers display their fruits and vegetables, she asked? It's often stacked up, in the sun or a hot storeroom. In my experience, the farmers, Prakriti, and retailers all had a point—it was difficult to keep perishable items looking fresh with the current infrastructure and transport challenges.



Figure 35: A truck loaded with Prakriti's fruits and vegetables, ready to distribute to retailers



Figure 36: Prakriti's fruits and vegetables for sale at an organic shop in Bengaluru

Organic companies use these struggles with quality and consistency as an indication of their trustworthiness, and suggest that too consistent a supply chain is cause for suspicion. For example, Suresh, the CEO of Prakriti, said that they always struggle with supply, but that is because they are “very genuine” and are concerned with “control over farmers.” There are other organic companies, he said, that offer retailers a more consistent supply and never have any challenges with seasons or particular items, but this “worries” him because “how can they do this?” Suresh continued, “I don’t know where they’re getting and how they’re supplying.” He gave an example of a new group that is supplying organic fruits and vegetables for a low cost, but without details about their sources. Even with a network of 2,000 farmers, Prakriti still struggles to have a consistent supply, he said, so “how could these people be successful?” Other groups advertise that they have a “network,” Suresh said, but this is “just a claim,” and these companies are unclear about their sources.

Suresh also suggested that Prakriti’s commitment to seed saving and non-conventional methods made them a better, more ethical company, but also led to struggles in their supply chain. Prakriti focuses on growing “native seeds,” he said, while other organic companies grow only “hybrids.” This means that Prakriti “has some limits with season and such.” However, since this is part of the company’s “commitment,” they do their best to convey the value of this to retailers and consumers. He tells people, “don’t compare our price with anyone.” They might be more expensive, he admitted, but “you can go and see the farms” and talk with farmers. They are very “transparent.” His final point justifying Prakriti’s prices was that they always give a “higher margin” to the farmer, and the company’s margins only go to operating costs. According to Suresh, each of these points adds up to Prakriti’s trustworthiness, and also the extra cost.

As Suresh’s comments suggest, higher pricing was another way that organic companies

proved their trustworthiness. The founder of an organic food brand told me that prices are a “huge challenge” for his company. He said he doesn’t know why or how, but most of his competitors are cheaper than him, which makes him “wonder”—either they are losing money, or they are doing something “unethical,” he suggested.

Ethics is at the heart of organic companies’ claims to consumers, and organic consumers were concerned about being duped by corporate claims (see Appendix Table 3). As a young couple buying Prakriti’s items suggested, “we don’t know whether this vegetable is 100% organic” because “it looks the same [as conventional].” As these shoppers’ statement suggest, concerns about trust are rooted in the knowledge that it is generally impossible for consumers to identify whether a food has been produced with or without chemical pesticides and fertilizers. Although some organic consumers insisted that they could tell the difference between organic and conventional foods based on taste and appearance (see Appendix Table 3), the majority knew that they had to “blindly trust” companies and shops to assure them of production practices that were largely unverifiable.⁶⁰

Organic certification is intended to offer this verification. In part to curtail reports about high levels of pesticide residues in organic foods (*The Times of India* 2017a), the Indian government recently issued a regulation mandating that organic labeling be backed by third-party audits by pre-approved certifiers (*The Times of India* 2017b). However, consumers are well aware that organic certification is subject to the same forms of corruption as other industries and services in India. I heard from several people that an organic certificate is a purchasable

⁶⁰ This is true also for retailers, who found it difficult to assure both themselves and their customers of the veracity of their producers’ claims. In one instance, a founding member of a large and well respected organic store in Chennai shared on a story Facebook about being duped by a farmer who claimed to sell organic mango pulp. Random testing by the storeowners proved that the farmer had been using a chemical preservative to extend the shelf life of his product. Although his Facebook post represented a public confession about his mistake, the story offered further evidence of the storeowner’s commitment to transparency and trustworthiness.

commodity, meaning that certifiers can be paid off to provide certification. As one advocate for “natural” food (as opposed to “organic”—this is an ongoing debate that is outside the scope of this dissertation) put it, “who is policing the police? Certifiers also want to make money.” The founder of an organic delivery service admitted that certification “isn’t foolproof,” and said that some farmers find it is “insulting” to be required to be certified, since it is a “corrupt process” where the certifier arrives at the farm, asks for money, and leaves without looking at their fields. For this reason, the company wants to establish its own testing facilities, allowing them to provide “certification” that their farmers are organic. In the end, though, the company owner suggested that whether organic is trustworthy “boils down to the grower’s intention”—if he is “passionate” and motivated by a commitment to organic agriculture, rather than “making more money,” then the farmer can be considered “reliable.”⁶¹

Conclusion

This last point about the farmer’s intention reflects similar concerns about the changing moralities of urban development that motivate anxieties about profit-hungry middlemen discussed in previous sections and in chapter 1. These concerns reflect a growing suspicion that the pursuit of profit creates a food supply chain in which intermediary actors dupe unsuspecting urban consumers into paying more money for worse quality, or even dangerous, foods. This reflects a feeling of change in the sociality of the city that extends beyond food. In describing their childhoods in Bengaluru, two elderly natives of the city said that in the past, “there was trust. Everybody would act on trust.” Today, “the main issue is [that] trust is gone”, because everything is now “materialistic. Everything is measured in terms of money.”

⁶¹ Similarly, Julie Guthman (2004) considers motivation to be critical in her discussion of the divergent ideologies and practices of organic agriculture in the U.S.

As described in chapters 2 and 3, Farm Fresh and Prakriti position themselves as responsible actors who offer ethical alternatives to existing supply chains. They focus on quality as an ethical category—they monitor their producers and processing practices to assure customers that they sell only fresh, healthy, and safe foods. Despite their divergent corporate claims and material practices, both Prakriti and Farm Fresh share several similarities: they target elite customers; use certification to prove their commitment to safe and healthy food; and claim to offer “direct” connections with farmers, emphasizing their distinction from conventional methods and supply chains.

Despite these corporate assurances, consumers in Bengaluru know to be wary of food sources. Consumers’ concerns about trustworthiness in the food supply chain points to larger transformations and their associated upheavals and insecurities. However, this moment does not signal the complete absence of trust—rather, it creates space to re-evaluate and re-draw relationships. This often takes the form of corporate assurances, but it does not end there. As discussed above, many consumers evaluate the trustworthiness of brands and retailers based on whether they feel that they can have a personal connection with the company.

In navigating the moralities of changing urban food ecologies and economies, Bengaluru’s consumers might find different ways of configuring their relationships that benefit other actors in the supply chain. This is what a rapidly growing company that advertises itself as a “CSA” (community supported agriculture) is trying to accomplish. As one of its founders told me several times, their ultimate goal is to provide a living wage for farmers committed to sustainable agricultural practices. They leverage urban consumers’ desires for healthy and fresh foods to achieve this goal, by charging consumers a premium and returning most of the profits to

the farmers. Everyone gets what they want, he suggested—farmers get better prices, and consumers get better food.

The question remains, which farmers, and which consumers, benefit from these interventions? These forms of trust-building often serve only a particular segment of the urban population—middle and upper class individuals who have the purchasing power to search out particular food products and forms of quality. However, this story is not one of the uncomplicated victory of neoliberal systems of audit and transparency. Such a perspective misses the ways that diverse actors see promise in the focus on shortening supply chains and monitoring food safety and quality.

As Bengaluru expands, its residents are devising new ways of reading and responding to the risks embedded in the city's changing supply networks and ecologies. Eating is an embodied practice through which urban consumers mediate broader processes of urban transformation and their effects on human and environmental health. Examining how these processes are conceived and experienced through food, as well as how they intersect with class-specific experiences of a rapidly changing cityscape, illuminates the moralities and materialities of shifting supply chains.

In Part III, I examine middle and upper class consumers for whom corporate assurances and third-party certificates are not enough. In the context of rising insecurities about food safety and agricultural sustainability, they have decided to revolutionize their relationship to the food ecology by growing their food themselves. I argue that in so doing, urban middle and upper class gardeners are claiming different ethics for the city and its residents.

PART III

Reworking Production and Consumption

CHAPTER 5

“Grow What You Eat, Eat What You Grow”: Organic Terrace Gardening Among the Urban Middle Class

The organic terrace gardening workshop had drawn a larger crowd than expected, and volunteers were busy placing additional plastic chairs at the back of the room. The attendees sat facing a projected image of a dinner plate full of pill capsules of different shapes and colors. The slide read, “Future of Food?” The workshop organizer spoke above the hum of the projector: “If you want to eat like this, you just keep doing what you’re doing, taking vitamins for this, a tablet for that. But if you want change, you have to grow and eat your own food.”

Motivated primarily by concerns about worsening health and food safety conditions and secondarily by declining green spaces in the city, an increasing number of middle class residents in Bengaluru are growing fruits and vegetables for home consumption. I use the term middle class to describe this group because the majority of gardeners I discuss in this chapter lived in apartment buildings and houses in middle class areas of the city. In addition, many organic terrace gardeners began growing their own food in order to avoid paying for costly organic foods. These gardeners’ concerns are best understood within a context of rapid urban development that has altered how middle class residents of the city understand their food and urban ecologies and the effects of these ecologies on their health, as described in the preceding chapter. In this chapter, I consider motivations for organic terrace gardening among urban middle class residents who self-describe as “OTGians,” or members of the Organic Terrace Gardening Facebook group, comparing their practices with historical forms of gardening and food production in the city. What motivates middle class individuals to take up organic terrace gardening? How do organic terrace gardeners’ efforts reflect and intersect with other forms of

urban food production? What do these junctures and tensions teach us about the possible futures of urban agriculture?

I argue that OTGians use gardening to intervene in the changes to Bengaluru's food ecologies that they understand to have negative effects on themselves, their families, and their city. In so doing, they have created a vibrant community dedicated to sharing resources and knowledge about urban gardening. However, because OTGians' efforts are rooted in class-specific experiences of the transforming cityscape, the OTG community remains limited to the urban middle class, and has been unable to incorporate into its vision for urban food production other gardeners and forms of urban agriculture in the city. An ethnographic examination of Bengaluru's OTG community provides insight into how the political ecology of food systems overlaps with urban middle class experiences and anxieties of a rapidly developing city, and speaks to the possibilities and limitations of alternative food movements (Cadioux and Slocum 2015; Guthman 2008; Slocum and Cadioux 2015).

Terrace gardening as urban agriculture

While anthropologists have long focused their attention on rural agrarian production, urban forms of food production have been largely neglected within the discipline. Urban planners and cultural geographers have devoted more attention to the subject, but much of what has been written to-date about food production in urban spaces consists of brief survey-based studies focused on policy suggestions. Within the field of political ecology, scholars have traced food production, exchange, and consumption as insight into the politics and ethics of global food systems, agro-environments, and social movements (for example, see Hayes-Conroy and Hayes-Conroy 2012; West 2012; Christiansen 2013; Siniscalchi 2013; for a discussion of the role of political ecology in food studies, see Cadioux and Slocum 2015: 29-30). Although agriculture in

the Global South has been key to political ecology since its beginning (see Blaikie and Brookefield 1987), the political ecology of urban agriculture—especially in the context of rapid urbanization and shifting class relationships, concerns, and desires—remains a relatively small subset of the literature. Authors who do consider these themes often use the frameworks of urban metabolism to analyze urban food systems (Heynen 2006; Marvin and Medd 2006; McClintock 2010; Shillington 2013). In this paper, I focus less on socio-ecological processes themselves than on how these processes are experienced and mediated by a particular class segment of urban society.

My approach is influenced by Laura Shillington's (2013) analysis of fruit tree cultivation in Managua, Nicaragua as a practice that allows marginalized residents to claim their rights to the city. Like Shillington, I attend to urban gardening at the level of the individual household. Much of the existing scholarship on urban agriculture focuses on the use of vacant spaces in cities as the primary site of urban food production. In the Global North, these spaces are often configured as “community gardens,” and are motivated by issues such as distrust of the contemporary food system, desire to become self-reliant, interest in reclaiming and re-greening the city, and creating public space and community (Baker 2004; Chung *et al.* 2005, Hite *et al.* 2017; Morgan 2014; Nonini 2013; Poulsen *et al.* 2014; Rogus and Dimitri 2014; Turner 2011; Wakefield *et al.* 2007).⁶² Analyses of urban agriculture in the Global South often offer macro-

⁶² Too often these analyses are missing a thoughtful examination of the class and racial exclusions present in urban agriculture initiatives in the U.S. (cf. Tornaghi 2014). For example, Poulsen *et al.* give little consideration to why the majority of community gardeners in Baltimore are white, despite the fact that these gardens are most often situated in predominately black neighborhoods (2014). They briefly suggest that it is probably not race, but rather “income and a lack of experience with or interest in gardening” that accounts for this difference in participation (Poulsen *et al.* 2014, 80). Guthman (2008) gives a more nuanced argument for the racial inequalities that limit African Americans’ participation in urban food policy initiatives, arguing that these programs are often “whitened” in ways that make them unable to represent and respond to African American communities’ needs and desires. In contrast to Guthman’s

level accounts of structural readjustment, urban poverty, and development.⁶³ They approach urban agriculture as a productive livelihood strategy that links rural knowledge with urban spaces and markets, often through rural to urban migration (Drakakis-Smith *et al.* 1995; Linares 1996; Bryld 2003; Drescher 2004; Simatele and Binns 2008).⁶⁴

Neither of these perspectives accurately captures the situation in Bengaluru, where organic terrace gardeners are neither the urban destitute, nor—in producing food in individual private spaces—do they exactly resemble the community gardening movements of the Global North. Their motivations, however, are similar to those community gardeners and other forms of food activism in the Global North as mentioned above, including distrust of the global food system, concerns about production practices and their effects of human and environmental health, and desire to bring food production and green spaces to the city. Also, like many alternative food movements, OTGians are embedded in wider structures of inequality that limit participation to those who have the time, space, and resources to access healthy and sustainable food (Cadieux and Slocum 2015; Guthman 2008; Hayes-Conroy and Hayes-Conroy 2013; Pudup 2008; Slocum and Cadieux 2015).

The exclusive aspects of the OTG community begin with the term they use to describe their efforts: “organic terrace gardening.” Here, I use the English phrase “terrace garden” to describe the efforts of the OTG community in order to mark its difference from other forms of household food production common in India today. The Kannada term *kaithota* (literally “hand

argument about food policy initiatives, Hite *et al.* (2017) argue that community gardening in Florida has created space for African Americans to resist systematic racial inequalities (see also White 2011).

⁶³ For exceptions, see Premat 2012 and Archambault 2016. Premat examines the nuanced relationships between home gardeners and the state in Cuba, and Archambault considers love in plant-human relations among home gardeners in Mozambique.

⁶⁴ Though most scholars focus on urban agriculture’s positive potential for income generation among the urban poor, Susanne E. Freidberg (2001) makes a compelling argument that peri-urban agricultural production is a very precarious pursuit that further marginalizes food producers.

garden”) refers to kitchen gardens that are common in rural households, where women plant a few fruits, vegetables, and flowers for religious worship near the edges of their home.



Figure 37: A rural household’s kitchen garden that includes a diversity of plants for everyday household use such as green chillies, eggplant, and flowering shrubs

The term *kaithota* and the broader term *thota*, meaning garden or plantation, are sometimes used to describe urban home gardens. But the majority of the people involved in the organic terrace gardening community, as I will describe below, rely on the English phrase “terrace garden” to describe their food production practices. This phrase best captures the space, scale, and class aspects of this form of urban gardening.

Terrace gardening describes food production for home consumption in the outdoor spaces of independent homes or units in apartment buildings. In Bengaluru, the word “terrace” generally refers to the flat, walled cement rooftop of a house, but the phrase “terrace gardening” captures a larger range of private spaces for food production, including balconies and small yards. Terrace gardens run the gamut from a few pots on a balcony to an entire terrace full of plant beds.



Figure 38: Rooftop terrace garden in Bengaluru



Figure 39: Rooftop terrace garden in Bengaluru

The use of the term “terrace gardening” to describe their activities is one of the key ways in which this community is marked as privileged: it is an English phrase (I will return to this point later in this chapter) and it requires access to private space, whether the rooftop of an individual house or an apartment balcony, where plants can be grown for home consumption. Here, I refer to organic terrace gardeners as members of the middle class, following the schema outlined by

Fernandes and Heller (2006) that considers linguistic, caste, and educational inequalities as inseparable from class hierarchies. Describing OTGians as “middle class” highlights the educational, linguistic, professional, and spatial forms of middle class distinction that characterize and are reproduced through the OTG community.

Start any idea from your house and your neighbors will follow,” explained Anand, the founder of one of the largest and best-known terrace gardening associations in India. During my fieldwork with the organization, attending fairs and workshops, I heard the story of his personal transformation several times: he was a scientist at an agricultural university in Bengaluru, supporting the propagation and uptake of Green Revolution technologies to manage pests. But he began wondering about the effects of these chemical-intensive methods for pest control, and reading Rachel Carson’s *Silent Spring* was the final straw to convince him of the errors of industrial agriculture. Since then he has committed himself to spreading the word about the harmful effects of Green Revolution technologies and teaching alternative ways of food production and engaging with the natural world. Today he argues for a different approach to insect control and food production than he did during his time at the agricultural university, suggesting to both rural farmers and urban gardeners alike that because insects were on this earth first, we “have to pay 15% [of our output] to insects as rent.”

While this commitment could be said to be the result of intimate insights at ground level, his work promoting organic terrace gardening in the city was the result of a view from above: several years ago, when his airplane was forced to circle above Bengaluru before landing, he noticed all of the bare rooftops littering the cityscape below. It was then that he had the idea to promote terrace gardening as both a way to decrease consumption of pesticide-laden fruits and vegetables and to add green spaces to the city. In 2005 he and a small group of mostly IT

professionals started conducting workshops, and in 2011 they created a trust focused on promoting organic terrace gardening in Bengaluru.

Since then, the OTG community has grown into an extensive network. Much of the action is online, where the Organic Terrace Gardening Facebook group provides a space for OTGians to share successes and failures, ask questions and provide answers. At the time of writing, the OTG Facebook group has 30,414 members, and is full of photos from avid gardeners sharing images of their harvest or asking for answers about a particular pest or problem. The Facebook group is so popular that it took me several months to be added as a member, despite being familiar with the organizers. When I approached one of them about it, he said that he rarely checks the OTG group anymore because he'll have at least 300 requests every time, so he's stopped checking regularly. Perhaps to account for this, many locality-specific terrace gardening Facebook groups have sprung up: Bengaluru East Eerullies (BEEs; eerullies means onions in Kannada) and Basavanagudi Area OTGians, for example.

In addition to its online presence, the trust puts on trimonthly fairs that rotate to different parts of Bengaluru called *Oota From Your Thota* (with the first and last words translated from Kannada, the phrase means “food from your garden”). The events are popular and well attended, and the organizers estimate that they have around 5,000 visitors during each single-day event. The event is also popular with vendors; the organizers generally accept 60 vendors per fair and there is always a waiting list. The vendors are mostly new companies that were established to meet urban interest in gardening, and offer products like self-watering pots and composting bins. The *Oota From Your Thota* fairs are meant to aggregate in one place everything necessary to start an organic terrace garden, and is successful in this regard; you can find everything from seeds to plastic pots to seedling trays to cocopeat (shredded coconut husk, used in potting

media). The goal, as the organizers explained it, is to promote a “holistic transition” to an organic lifestyle centered on the group’s moto: “grow what you eat, eat what you grow.”



Figure 40: View of the stage and a row of vendor booths at *Oota* from your *Thota*



Figure 41: *Oota* from your *Thota* attendees admiring the display of container plants

As with the phrase “terrace gardening,” language is one of the key ways in which these fairs are marked as middle class events. I volunteered at an *Oota From Your Thota* event a few weeks after moving to Bengaluru and was charged with staffing the registration booth. My role was to ask attendees to fill out a basic questionnaire with their name, contact details, location in the city, and whether they currently had a terrace garden. The sheet was in English, and since I wanted to be prepared and make sure my Kannada would be adequate, I asked one of the

organizers if I was translating the questions correctly. He seemed surprised I was asking, and told me not to worry about using Kannada. I quickly realized why he was surprised by my question, since every single person who came to the booth spoke English. English was the primary language at these events: workshops, handouts, and vendors' signs were in English, and while I would overhear other languages like Hindi and Kannada, these were less common than conversations in English.⁶⁵

Language is a site of conflict in the city that represents larger battles over the future of the expanding city (see Nair 2000). It reflects educational and professional exclusions that mark class differences and concern about the influx of outsiders (of different class positions) into Bengaluru. Even from its name, the *Oota From Your Thota* fairs are implicated in these shifts, both as evidence of them as well as counter-strategies for maintaining the city that came before.

In a February 2016 article in *The Hindu* titled “Bengaluru’s Growing Pride,” the author perfectly sums up the links among the city’s past and present, linguistic culture, and class-based forms of belonging:

Garden city is grafted with IT city, to create the new-age urban farmer who harnesses technology and knowledge to grow a green organic spread...Oota From Your Thota (OFYT) is a perfect phrase. It captures so much about Bengaluru—mingling of languages, aspirations to grow and eat fresh food from your garden, harking back to the Garden City, multi-pronged efforts towards the revival of that green status. It is also a great encouragement to get green-thumbed. It is becoming clearer that the idea of sustainable living, eating safe, knowing what you consume and put back into your planet have caught people’s imagination and attention. (Bhumika 2016)

⁶⁵ See Baker (2004, 316-17) for a brief description of a seed sharing event in Toronto that alienated many Chinese gardeners because the event was held in English.

This excerpt illuminates how different types of labor and livelihood become linked with specific histories and futures of the city. These are key to understanding the experiences of and concerns about the transforming cityscape that motivate the “grow what you eat, eat what you grow” philosophy and practice. These include two primary concerns: first, and most importantly, the health effects of unsafe food and untrustworthy food producers; and second, an underlying sense of urban decay and environmental degradation. These concerns are linked with a desire to build community and to provide knowledge and experiences of “nature” that are otherwise believed to be lacking.

In what follows, I first consider OTGians’ concerns about unsafe food and the unknown food producer. Then, I present OTGian’s efforts to create communities that engage with nature, suggesting that gardening serves as a middle class intervention into the decline of food production and green spaces in Bengaluru. I contrast OTGians’ narratives of this decline with other experiences of food production and urbanization in the city in order to consider the possibilities and limitations of organic terrace gardening as a solution to the challenges in Bengaluru’s shifting food ecologies. I suggest that while the OTG community is successful in generating spaces of knowledge sharing and community building that intervene in worsening food systems and urban ecologies, their practices remain specific to the middle class and neglect other, co-present forms of urban food production. I conclude by suggesting that a more inclusive approach to urban agriculture would broaden the scope of OTGians’ efforts.

Fears about food safety

As discussed in chapter 4, the detrimental health effects of pesticide residues are a common topic in Bengaluru today, and appear often in news media as well as day-to-day conversation. There is a range of ways in which urban consumers attempt to manage these

dangers, and organic terrace gardening has become one of the most visible. Pesticide contamination was one the first topics of conversation in every terrace gardening workshop I attended, whether conducted by Anand's trust, the Karnataka Department of Horticulture, or companies selling ready-to-grow kits for beginners. In two of these, the same image was used: a baby crying with its eyes closed and fists balled, its horrendously large head taking up the majority of the photograph. The image is of a baby from Kerala, and as the presenters explained, its deformity is the result of overuse of the pesticide endosulfan in a particular area in Kerala. Narratives of the deformities in Kerala due to endosulfan poisoning were common among activist circles working against the effects of the Green Revolution, and even made an appearance in Aamir Khan's popular television program discussing social issues, "Satyamev Jayate" (2012). An example of the many stories that appeared in the English language press, a *Times of India* article titled "Poison on Your Platter: Even the veggies you eat may be unsafe" (Rohith 2015) suggests that the "tantalizingly inviting" vegetables in the market are "toxic" with pesticides.

Concern over pesticide residues and the health consequences of conventional agriculture appeared time and again in my interactions with organic terrace gardeners. As one woman at a terrace gardening workshop stated, her reason for attending the workshop was to learn how to start a garden at her parents' house since her parents have "some or the other ailment or some kind disease" and she was confident that it was because "the water and the food they eat was full of pesticides." The workshop organizer responded that this kind of worry is what inspired the "grow what you eat, eat what you grow" tagline of the organization; their goal in using this phrase is to bring attention to the positive health consequences of organic terrace gardening.

Growing your own food is one of the only ways to be sure that you are safe from the harmful effects of chemical-laden produce.

Due to the dangers of pesticides and other chemical inputs like urea (these are often conflated under the term “chemicals”), an organic method of production is central to how terrace gardening is practiced in Bengaluru today. The term “terrace gardening” is almost always assumed to be “organic.” This is not only true in the events put on by Anand’s trust, which is explicitly against the technologies of the Green Revolution, but also in government programs and corporate product lines aimed at urban terrace gardeners. In a Department of Horticulture organic terrace gardening workshop, the scientist who led a presentation about cultivation methods began with a slide titled “poisonous vegetables.” However, he was quick to point out that the organic methods discussed in the workshop were intended for urban terrace gardening only, because organic production won’t work for “real farmers” who are worried about yield. So, he suggested, the only way to stay chemical-free is to grow your own fruits, vegetables, and medicinal plants.

A suite of fears and ethical commitments often accompanies organic discourses and practices; chemical-intensive agriculture, genetically modified organisms (GMOs), non-native and hybrid seeds, and processed foods are often conflated as equally pernicious. In closing the stage program at one of the June 2015 *Oota From Your Thota* event, Anand said that he had just two requests for the attendees: 1) grow as much as possible in your terrace garden, and throw out as little waste as possible; and 2) don’t buy “processed foods,” and avoid foods like maize and soy, since we “don’t know where they’re coming from” and “if they’re from the U.S. then they’re GM” (genetically modified), so it’s better to avoid processed foods altogether. As this closing statement illustrates, various aspects of the set of transnational discourses surrounding organic agriculture enters conversations around terrace gardening.

While at a seed exchange near Ulsoor Lake in the heart of the city, two young men approached the group to advertise the International Yoga Day festivities that would be happening in the park the following day. They were handing out fliers, and explained they were from the BJP (the political party of the current Prime Minister, Narendra Modi, who was credited with—and critiqued for—establishing the first-ever International Yoga Day). They explained that while walking through the park, they overheard our meeting and were very happy to see such activism around the issue of organic food, which they support. A vocal middle-aged woman said in response, pointing her finger at the young men, “you tell [Prime Minister] Modi that we don’t want any GM [genetic modification].” One of the young men replied, “we agree with you madam,” but that it’s a very complicated issue. The woman retorted, “if GM, no PM!” Everyone in the seed exchange group laughed and clapped. The two BJP spokesmen smiled uncomfortably, said thank you for your time, wished the group well with its efforts, and then started to hand out fliers with the BJP logo and Prime Minister Modi’s photo on them advertising the event on International Yoga Day. At the time I was surprised by the interaction, because I hadn’t yet realized how important the GM issue was the organic terrace gardening group. But over time, I came to see this event as one of many that emphasized organic terrace gardeners’ commitments to a range of issues that they saw as interconnected, primarily those surrounding Green Revolution and “New Green Revolution” technologies and methods.

It is not only these interlinked concerns about GM and chemical overuse that worry organic terrace gardeners, but also their inability to “trust” food producers. Specifically, they are concerned about whether produce sold as “organic” is pesticide-free. Such fears are explicitly linked to the work of unscrupulous actors who are careless about pesticide levels and their impacts on consumers’ health, as discussed in chapter 4. There is a growing sense that what

consumers see on store shelves has been manipulated in ways that make these food items dangerous. The anxieties about food safety and health are therefore closely interlinked with feelings of distrust of food sources and certification programs (see also chapter 4).

As we stood around having our lunch during a full-day terrace gardening workshop, I struck up a conversation with a man wearing a polo shirt and glasses who appeared to be in his early 40s. He had been asking questions and participating actively in the workshop so far, and I was interested to know more about why he had come. He explained that he began gardening about three months ago when his wife started buying organic products. He argued with her that if they were going to be paying more for their food, he wanted to know whether he could “trust” that the organic products are “really organic.” At the time his wife responded that the farms will let you visit them so you can see for yourself. But, he explained, even if he took the time to visit the organic farms, “what knowledge do I have to find out if it is an organic food or not?” So, he decided to instead grow his own organic vegetables, as this was the only way he could have full confidence that what he consumed was truly organic.

This example illustrates that it is not only skepticism of conventional food sources, but also organic produce that motivates organic terrace gardening. A distrust of organic certification pervades organic terrace gardening discourse; as gardeners have told me on several occasions, how can you be sure that organic is actually organic? Even if a product is certified, that isn’t any guarantee; what is more effective is “trust” and “belief” in a particular farmer or group. But because this doesn’t come easily to urban residents, who find it hard to build direct relationships with food producers, the best course of action is to grow your own food so that you can be absolutely sure about its quality. The separation between food producers and consumers, which allows for unscrupulous practices on the part of the food producer or manufacturer, is explicitly

linked to feelings of distrust and fears about food quality, and is a key motivation for the “grow what you eat, eat what you grow” philosophy.

Building and educating communities

The concerns discussed above have successfully motivated the creation of a vibrant OTG community. Despite being a largely private pursuit, in one’s private space, OTGians make connections with one another online and in person through seed meetings, workshops, and events. The ethics of education and sharing of knowledge and resources are central to the terrace gardening community in Bengaluru. The information shared in these workshops ranges from the bio-pesticides that are most effective for certain pests, how to prepare the right combination of growing media, the growing periods for different fruits and vegetables, and how to source and save *nati* (native) seeds.



Figure 42: A growing media, seed, and potting demonstration at an organic terrace gardening workshop

Outside of these more formalized workshops and fairs, organic terrace gardeners in different parts of the city have created sub-groups via social media that meet on a regular basis to share information and exchange seeds and other inputs. As the founder of the first such group told me, he wanted to create a space where people could set aside time to meet and exchange

seeds so that the organic terrace gardening principles could be spread at the “grassroots” level. Through Facebook, I heard about a seed exchange that would kick-start a new subgroup of the OTG community for residents of the Eastern neighborhoods of the city. In the weeks leading up to the event, there was a flurry of arrangements on the event Facebook page, with people advertising the seeds and seedlings they had to give away and others requesting particular items.

When I arrived at the chosen location—a park near the city center—on the day of the exchange, the group was easily recognizable. There were clustered around a table covered with seedlings of various kinds, and as I walked up, a woman called out, “who asked for earthworms?” She extended a small plastic takeout container with soil and earthworms above her head. After someone claimed the worms, she pulled out water lily stems, drawing excited requests from the group. She dropped the plants into plastic bags and handed them over one by one. Someone teased her, “you said no plastic!” And she agreed, but said, “with water plants, there’s no option.”

The energy at these events was contagious and created a sense of community. In general, securing organic inputs was a common struggle around which individual terrace gardeners would coalesce and work together. During the introductions at the seed exchange, a woman shyly explained said that she had gone to an Oota From Your Thota fair months ago and had purchased a variety of seeds, but then realized that she had no idea where to start. She was having trouble, and was happy to have found this group. She said that she had started growing with some “organic” fertilizer she had bought, but she later learned that it was actually “chemical” fertilizer, and that’s why she was having so many problems. The other attendees nodded in shared understanding, and a few suggested reliable sources for organic fertilizer.

The struggle to find the right kind of input was a common one, and often brought the organic terrace gardening community together in a shared pursuit. It also offered a collective way to laugh at their fellow urban gardeners—the fact that cow dung (a critical organic input in India) is available in powdered form on Amazon.in was a topic brought up at many workshops, arousing a collective chuckle (and a few scoffs) from the group. These events created space for gardeners to talk, laugh, share frustrations, and offer support and advice.

These exchanges and events are motivated not only by an ethics of education and sharing the techniques and knowledges of organic production, but also by a commitment to the production of a particular kind of nature. The search for organic inputs and methods is linked with the desire for a particular kind of nature in the city. Srinath's "urban jungle" offers a good example. His house, located in an upper-middle class neighborhood, was immediately recognizable from the street—its walls were completely covered with lush green vines with big purple flowers. During my tour of his terrace garden, Srinath showed me that he kept trying to use more and more of the space along the edge of his property for his "jungle," but his neighbors don't want him to plant anything along the curb because it reduces parking. He explained that he's gardening to "go against the norm." Srinath was "against the norm" in more ways than one: the son of a poor farmer, he had struggled to attend school as a child, but built a successful career as a consultant. When we met, he had just established a consulting firm focused on supporting socially responsible companies. As we walked through his garden, Srinath pointed out that he was creative in using every kind of object he could find to grow plants—sprinkled among the terracotta pots were old grocery and cement bags (doubled up so that they would last), a bathtub full of water plants, and even a toilet bowl. Showing me the wide array of plant varieties, Srinath explained why he's so committed, despite his neighbors' complaints: this is his passion, and his

favorite part is building a “whole ecosystem.” He loves the birds, insects, monkeys, and stray dogs and cats that come to enjoy his garden.

Building “ecosystems” and creating connections with “nature,” especially for urban children who otherwise lack access to such experiences, were primary motivations for organic terrace gardeners. Both men and women emphasized the joy in bringing their children into their gardens, showing them “where food comes from.” For middle class children growing up in apartment complexes and tightly packed urban layouts, access to this knowledge is limited. Their parents understood this alienation from nature and food sources as damaging to children’s development, and organic terrace gardening became one way for urban middle class families to fill these gaps in their children’s education. At an organic gardening workshop, a man told me that he started his small garden so that he could be sure he was eating organic food. He quickly found, though, that his favorite part of gardening was bringing his daughter with him to work in the garden—he was happy that she was able to experience nature and learn about food.

Conflicts with neighbors

OTGians’ commitment to growing food sometimes causes conflict with those around them who don’t share the same priorities. One terrace gardener told me the story of her deep frustration with her neighbors. Two old mango trees in the corner of her family’s property had to be cut down at the insistence of a neighbor, who was upset that the trees’ branches crossed into his property. Because it took so much paperwork and so many bribes to municipal officials get the approval to cut the trees, and because the cost of cutting off one branch was as much as the tree itself, her family decided to cut down both mangoes trees completely. This event saddened and angered the storyteller, and she was hesitant to talk to her neighbors whom she found

unfriendly. She felt out of place in her neighborhood because no one shared her commitment to creating and maintaining garden spaces.

Another example comes from Srinath, who sees himself as an advocate for green and ecologically rich cities and as such works to educate those around him of the importance of these issues. In June 2015, amidst city-wide fear over the rise in Dengue Fever, he posted a comment to Facebook about his neighbors' misunderstanding of the source of the problem:

[The] combination of Summer rains, ongoing building work and the filthy open drains with puddle[s] of stagnant water are causing [the] mosquito menace in Bangalore neighbourhoods. But, my neighbors have started blaming the dry leaves collection I have as the source of mosquitoes which is simply a prejudice and ignorance. As a gardener, please ensure that your water gardens have plenty of fish to eat mosquito larvae and there is no collection of stagnant water under pots etc. Also, after confirming that you are not at fault, take patience and effort to educate the neighbor on the mosquito and stagnant water connection, take the extra effort even to show the culprit corners right in his backyard or in the gutter nearby or a construction site nearby!

Organic terrace gardeners not only work to build a community of like-minded people, but also try to “educate” those whom they see as “ignorant” of the importance of gardens in the city.

Even taste becomes the object of education. While at a seed exchange, a woman explained that she is happy to start growing her own food because she doesn't have to eat “chemical” food and the taste of homegrown food is so much better. A young man chimed in that his wife always tells him that his tomatoes do not taste like tomatoes, implying that she is so accustomed to badly tasting tomatoes that the good ones don't taste right. Everyone laughed in shared understanding.

Gender in the terrace garden

As this last example begins to suggest, conflicts also arise at the level of the family, and often these disagreements are formed along gendered lines. Divya, a young woman who lived in a joint family household in an upper-middle class neighborhood in the city, lamented to me that no one in her family shared her passion for gardening. She explained that when she comes home from work after a long commute (she works for an IT firm in a distant part of the city), she wants to relax by spending time in the garden. Her mother and other family members chide her, though, for neglecting her children, and accuse her of ignoring her family in favor of her plants. This makes her feel as if her desire to garden means she is not a good mother, she explained.

As we were having this conversation on the balcony of her large house, she gave her seven year-old son a little pile of soil and he went to work moving it between pots with a small toy shovel. She explained that she began terrace gardening because it reminded her of her childhood—she grew up digging and playing in the dirt. This is what motivates her to continue gardening, for herself and her children. I told her about a man I had met at an organic terrace gardening workshop who started his garden to teach his children about nature. She said that she was happy to hear that, but that when a man is interested in gardening, it is much easier to get the whole family involved. When a woman starts gardening, on the other hand, it is her responsibility alone, and she needs to make sure it does not interfere with her other jobs in the house. Even with the OTG group, she said, she has noticed that when men start gardening, the whole family devotes time to the activity. However, when a woman starts a garden, she has to do it alone, and on her own time. In Divya's case, her husband preferred to spend their weekends at the mall, so she rarely had the time she needs to care for her plants.

Divya felt that the extent to which terrace gardening can become a shared family pursuit, rather than a source of tension, depended on the male head of household's interest and commitment. She was caught between competing responsibilities and pleasures—she valued her time in the garden for herself and her children, but her family saw it as a leisure activity that took her away from her real responsibilities in the household. And, because her husband was uninterested in spending his leisure time in the garden, she felt that she was unable to spend her weekends doing what she most enjoyed.

Many OTGians recognize the gendered aspects of organic terrace gardening. Despite the fact that most of the founders of the various groups and subgroups are men, as are the workshop leaders, the far majority of participants in seed exchanges and other community events are women. One middle-aged man who founded a neighborhood group joked with me that he always tells his friends to come to the seed exchanges because it is the best place to meet beautiful women. This difference in participation is at least partly attributable to the longstanding observation that household nutrition and family wellbeing rest on the shoulders of women, as discussed in chapter 4 (see also Allison 2013; Garth 2014; Yates-Doerr and Carney 2016). The fact that women are more often the ones who participate in organic terrace gardening makes sense considering how fears about health and desires for educating children are common motivations for the “grow what you eat, eat what you grow” model. This also reflects the gendered aspects of leisure and labor; feminist theorists have critiqued the understanding of household responsibilities as leisure activities rather than labor, and also have questioned women's abilities to access and enjoy leisure activities outside the home (among many others, see Wimbush and Talbot 1988; Wearing 1998). As Divya's experience suggests, the extent to which terrace gardening can become a family and recreational pursuit, rather than an additional

household responsibility for women, depends on the male head of household's interest and commitment.

The garden city and its decline

OTGians' narratives connecting with nature through gardening are best understood in relation to Bengaluru's particular history as India's Garden City. As discussed in the introduction, this common nickname for the city is the result of interlinked histories of caste communities, Mughal rulers, the colonial state, and postcolonial imaginings of the city and nation (Nagendra 2016; Nair 2005; Srinivas 2004). Today, the city's esteemed gardens offer class-specific sites of nostalgia in the transformed cityscape. They are central to organic terrace gardeners' understandings of Bengaluru's decay. Among the very first slides in Anand's introduction to his terrace gardening workshop was a picture of traffic in Bengaluru. He paused on the image, suggesting that the city has become "too big." He suggested that with the "IT invasion of Bangalore" a lot has changed—35 to 40 years back, he suggested, every house had ornamental garden in the front and a kitchen garden in the back. Now the city has lost its greenery. Every single terrace gardening workshop I attended and every urban gardener with whom I spoke referred to how dense the cityscape had become and how much of its gardens and green spaces had been lost.

By emphasizing the bungalow and private garden, Anand's comment points to a very particular version of the Garden City. Imagined as a loss of bungalow gardens, the declining cityscape becomes rooted in a class-specific experience of Bengaluru, one that extends from the pre-colonial and colonial past to the forms of postcolonial urban development in the city that privileged middle class spaces, concerns, and desires (Nair 2009). Those who produced food

commercially for the city have a different history of the garden city and a different experience of decayed green spaces.

Feeding the garden city

The colonial pleasure gardens that form the basis for nostalgia among organic terrace gardeners, and the labor required to make and maintain them, are quite different from the gardens that fed the city. Shortly after my arrival in Bengaluru, I started to hear about the Vahnikula Kshatriya (also known as the Tigala) caste, renowned for its horticultural prowess. The Vahnikula Kshatriya community is responsible for the Karaga festival, one of the city's largest and most famous religious events. The caste falls under the OBC, or Other Backward Classes category established by the Indian government. The OBC category includes lower (but not the lowest) castes that have historically been disadvantaged and today receive a certain percentage of reserved positions in public sector employment and education.⁶⁶ For many years, Vanniyakula Kshatriya members were the primary horticultural producers for the city, and to this day are known for their gardening and landscaping skills, as discussed in the introduction. They owned farmland near the city's manmade lakes and supplied much of the food sold to urban consumers. But over time, as the priorities of urban development changed, the land where Vanniyakula Kashtriyas cultivated food was put to uses that largely excluded the community altogether.

⁶⁶ The most marginal caste groups, the Dalit and tribal communities, are excluded from the OBC and instead belong to the "Scheduled Castes" and "Scheduled Tribes" categories respectively.



Figure 43: Vanniyakula Kshatriya garden located near a major highway overpass

Chennappa, a retired government bureaucrat and leader in the Vanniyakula Kshatriya community, presides over a credit association office located on a narrow street behind the main city corporation headquarters. While sitting at Chennappa's desk at the end of a long boardroom table, he explained to me that most of his community used to grow horticultural produce like fruits and vegetables for the Bengaluru market. But now, most of the community's land, especially nearby the city center, has been taken by the city government for "development." He described that earlier "eighty percent of Bengaluru land was cultivating and growing vegetable and fruits." This started to change in 1933 under British rule, when 210 acres of Vanniyakula Kshatriya lands were "acquired" for Cubbon Park, 110 acres for a housing colony, and 88 acres for developing a road. This began the process of displacement, and in 1938 things changed for the worse; "earlier to that [1938], on request they [city government authorities] used to take and develop the layouts," but later, "against the will of the agriculturalist they started acquiring." The trend continued after Independence in 1947, and in 1951 the City Improvement Trust Board (CITB) was founded (it is now the Bengaluru Development Authority); "they [the CITB], without giving any importance to the gardening and production of vegetables for the city, they

acquired land. See this whole area, Sampanginagara, [was] growing fruits and vegetables. They acquired and closed it,” Chennappa explained as he swept his hand around us, drawing in the association building and the surrounding area. His own family experienced this loss first hand, when their lands near Lalbagh were taken for urban development projects and he was forced to find wage labor.

At the most basic level, both Anand’s and Chennappa’s stories are both narratives of loss. Of land captured by the expanding city, and unhealthy bodies and communities left behind. But the land, labor, and futures caught up in these stories diverge. These differences are linked with historical and class-specific definitions of what constitutes gardening in the city. For the British, who acquired Vanniyakula Kshatriya fields to create the immense and manicured Cubbon Park that separated the old city area from the British Cantonment, urban gardens were spaces for leisure, aesthetic beauty, and class refinement rather than food production. Smriti Srinivas (2004) traces these differences in her description of how gardening in Bengaluru changed over time:

Each [pre-colonial and colonial society] had its own version of what the ‘garden’ meant. In the first model, gardens were essentially horticultural lands where a variety of fruits, flowers, and vegetables were produced for the urban centers. The addition to this model was the pleasure garden of Haider Ali and Tippu Sultan that stood on the fringe of the City. In the second model, with the exception of the Lalbagh Botanical Gardens where ‘indigenous’ and ‘exotic’ species were cultivated, gardens built by the British were large or small grassy parks with trees and flowers and surrounded by suburban bungalow houses with their own green spaces. (2004: 47-8)

By emphasizing food production, organic terrace gardeners’ efforts do not fit easily into either of these categories of “garden” (see also Nagendra 2016, 77). Terrace gardeners offer a critique of

unbridled urbanization that emphasizes the importance of creating and maintaining urban green spaces not only for leisure, but also for food production. Yet in promoting organic gardening in private residences for home consumption, their vision for urban agriculture diverges from the historical forms of food production among the Vanniyakula Kshatriya community.

Class and caste in the urban garden

Narratives of bungalows with decorative gardens in the front and kitchen gardens in the back conjure a particular experience of gardening in private spaces in Bengaluru, one rooted in the very urban development that has displaced horticultural fields in favor of apartment complexes and individual homes. Home gardens are the only version of the Garden City that is represented in organic terrace gardening discourse; as described previously, a more general feeling of loss at the city's declining green spaces is also central to organic terrace gardener's narratives of what motivates them to garden. But in their descriptions of the Garden City's past, organic terrace gardeners reference a specific history of the city while remaining unspecific about when, by, and for whom the Garden City earned its name. It is in claiming this history as universal, and erasing the caste and class implications of how the city was and was not gardened, that the middle class experiences of Bengaluru's decay and its emphasis on greening private spaces become the most prominent roadmap for the future, further marginalizing the histories and futures of particular caste communities like that of the Vanniyakula Kshatriyas.

The founders of the organic terrace gardening trust are aware of the class inequalities in their efforts. I was often impressed by their critical self-reflections on their inability to challenge existing hierarchies. Anand admitted to me early on that their primary audience is middle and upper middle class families. He explained that upper class residents don't participate because "they leave everything to their servants" and aren't interested in doing things themselves, and the

lower class is “too difficult to reach.” Attempts to account for some of these class inequalities appeared in different ways during my interactions with the organization and its founders. For example, I learned that the trust had attempted to establish a gardening initiative targeted toward slum communities in Bengaluru. The idea was to introduce climbing vegetables, since vines can be trained up onto the roof of the small homes where they have sun and space to grow are therefore some of the few plants that can be grown in tightly packed slum neighborhoods. But Anand lamented that this initiative never got off the ground because they were unable to secure funding for the project.⁶⁷

Despite such attempts at crossing the class divide, the ideologies and practices of urban food production among the OTG community produce a different, and in some ways contradictory, vision for the Garden City than that the Vanniyakula Kathriya community. For example, OTGians’ commitment to organic production is a critical site of divergence between the OTG movement and other forms of urban food production. By emphasizing organic methods as a way to limit the harmful effects of chemically intensive agriculture, organic terrace gardeners distinguish themselves from urban farmers who produce for market and often rely on chemical fertilizers, pesticides, and water from sewage drains and contaminated lakes. Although these market-oriented urban gardeners also contribute to creating green spaces in the city and cut

⁶⁷ The struggle for funding speaks to the larger frustration many organic terrace gardeners feel toward the state and municipal government. As I came across time and again during my fieldwork, non-governmental groups are quite disparaging of governmental efforts and vice versa. With terrace gardening, the arguments largely centered on issues of efficacy and whether anyone is *really* trying or just pandering to their respective interest groups. A critique leveled against the Department of Horticulture’s organic terrace gardening workshops was that the only goal was to put as many people into a room as possible so they could achieve the required numbers of attendees, but no one cared if the experience was informative. On the other side, a government official argued that “hobby farmers” in Bengaluru are just wealthy people who don’t understand the practicalities of producing food. These disagreements illuminate different approaches, goals, and methods, but the workshops themselves were remarkably similar (with the same images and information) and the arguments made for one side versus the other often relied upon the same praises and critiques.

down on food miles, they do not fit into the OTG community's understanding of urban agriculture. Rather, they are a source of OTGians' anxieties: urban farmers who grow for the market are the very producers mistrusted by organic terrace gardeners, as they produce the chemical-ridden and contaminated fruits and vegetables that inspire the effort to "grow what you eat, eat what you grow." Organic production and consumption becomes a marker of class status, and is the line along which the desirable and undesirable forms of urban agriculture are demarcated.

OTGians are part of a vibrant and supportive community, but it is one predicated on individual rather than structural interventions. Chennappa's description of the reasons why his caste community members continue to farm in small urban pockets and the city's outskirts—despite the community's systematic exclusion and removal from the developing city—illuminates a different understanding of the role of food producers in urban spaces:

We feel that this is our family culture. We have to maintain it...Just imagine, one day vegetables [will] not [be in the] market. What are you going to do? We feel, and we satisfy [ourselves], we are producing something for the society...See, very healthy and good vegetables [community farmers are] growing and giving [selling] to society. And good fruits they're growing to give society. And green vegetables. Flowers! To ladies, women, and also to the temple. They are giving. But they do not have a piece of flower for their own [hair]. See, that is the condition. They do not have two *saris* to change, but they are giving healthy food to the society.

For Chennappa, this emphasis on their contributions to society means that Vanniyakula Kshatriya cultivation should be valued and promoted, and makes the economic inequalities that keep the community from enjoying the fruits of their labor especially frustrating. But he

recognizes that certain kinds of knowledge and labor are more valued than others. In Chennappa's words, "nowadays it has become very difficult to lead a normal life. Because the software [industry] has come, everybody is educated, and our caste people are not well educated. Only middle class and rich peoples' sons, children are well educated." The solution to this problem, for Chennappa, will have to come from both the community—he works hard to encourage his fellow Vanniyakula Kshatriya parents to send their children to school, a point of tension in the community—as well as from government intervention. As he put it, "lip sympathy will not work."

In re-focusing attention on food production, and especially in emphasizing teaching and knowledge-sharing around cultivation as a skill, OTGians call into question the priority given to the IT industry and other appropriately urban pursuits. They use gardening to create alternative spaces and practices of community building, and in so doing intervene in the food ecologies about which they are concerned. But at the same time, organic terrace gardeners are members of the educated, English-speaking middle class that see their work in the terrace garden as an alternative to their professional work in the very industries that have displaced cultivators from the city. The OTG community's intervention rests on the class-based inequalities in education, language, and types of work that have marginalized lower castes and classes from Bengaluru's past, present and future. They are in this way similar to other environmental interventions among India's urban middle class that often strengthen structural inequalities in the name of urban "greening" (Baviskar 2002; Mawdsley 2004; Véron 2006).

My goal in making this critique is to highlight a missed opportunity for collaboration across scales, practices, and sites of urban agriculture. As Anne Rademacher notes in her review of the literature on urban political ecology, there is a "constellation of competing and meaningful

understandings of urban nature, each potentially located in a privileged or empowered social position at different moments” (Rademacher 2015, 138). She also suggests that these competing understandings can be “generative of new affinities, sometimes surprising political maneuvers, and distinctly moral social logics” (142). There is space for such new affinities among different urban gardeners in Bengaluru. So far, OTGians have captured the concerns and experiences of the urban middle class in building a community committed to organic terrace gardening as an answer to worsening food safety and declining green spaces in the city. OTGians are thusly reevaluating and reworking the relationship between food and the urban ecology, and in so doing can generate new approaches to urban food security and sustainability. My point, then, is not to refuse the positive potential of organic terrace gardening which, as this discussion has shown, has already been productive in establishing communities organized around alternative engagements with food and the city. Terrace gardeners' commitments to healthier futures for themselves, their communities, and their city are impressive and potentially transformative. Rather, my goal is to show that the class and caste distinctions that divide organic terrace gardening and other forms of urban agriculture have implications for the lives, livelihoods, and futures that are possible in the garden city. There is room to expand the meanings and practices of urban agriculture in Bengaluru, for the benefit of the city and its diverse communities.

In the next chapter, I consider a group that has taken the “grow what you eat, eat what you grow” philosophy one step further by purchasing farmland on the outskirts of Bengaluru and participating in farm work on their weekends.

CHAPTER 6

“Money Doesn’t Fascinate Anymore”: IT Agriculturalists and the Future of Farming

We bumped along in Mohan’s small SUV, down rain-cut ravines in the narrow dirt road. Mohan, Nagaraja and I were on our way to their “community farm” about two and a half hours outside Bengaluru. As we neared the base of the hills that intermittently pop from the landscape, Mohan and Nagaraja told me the story of how they came to own this land. Three years ago they and nine other urban professionals decided to purchase a plot of land to grow organic grains, fruits, and vegetables for their families. They found a real estate broker who could show them agricultural plots, and were looking for around ten acres (over time they accumulated other small plots nearby, and in 2016 had close to twenty acres). Laughing, Mohan told me of the broker’s confusion: in the beginning, the broker showed them only land near the highway or other easily accessible properties, since the majority of investors are looking to purchase rural land for industrial or real estate development as the city expands outward.

Unlike these investors, however, Mohan and his co-buyers wanted something out of the way where they could grow organic foods for their families and experiment with techniques for sustainable agriculture and water conservation. So, when the broker hesitantly showed them the property they now own, worried that they would disapprove of the crumbling road and its location bordering a wildlife preserve, he was shocked by their enthusiasm. Mohan explained that the features that made this land undesirable to other investors were what made it perfect for them: they were secluded from the growth of the city, and the wildlife preserve was a bonus. As avid wildlife enthusiasts, the possibilities for wildlife sightings outweighed the additional

challenges from elephants, wild boars, and jaguars that often wreak havoc with fields and livestock. I could see why they were excited about this land—it was strikingly beautiful.



Figure 44: Mohan and Nagaraja’s “community farm”

That same afternoon, after spending a couple hours at the farm, we climbed into the car and drove three hours to a small village near the edge of another large wildlife reserve. We were there to visit a new educational center established by a prominent social scientist and activist in rural communities. The school offered classes in ecologically sustainable agriculture and other complimentary forms of rural occupation, such as soap making and beekeeping. The students and teachers were putting on a program to celebrate the accomplishments of the students, who receive a college-level degree at the completion of the program.



Figure 45: Display of students' work at a sustainable agriculture education center

Participation in the program is free for students, paid for by funding from large donors including IT companies. Yet its founder admitted her frustration that they struggle to enroll enough students to reach capacity. She explained that the primary problem is parents' expectations that their children get a degree in engineering or IT-related fields. The last thing they want is for their children to become farmers, and for this reason parents are often extremely resistant to the idea of the program, even if their children are interested.⁶⁸

My experiences that day—split between a farm run by a community of urban professionals and a school for rural-based skills that struggles to enroll students—reflect the changing place of agriculture in the Indian economy and imagination. At the same time that farmers are enrolling their children in private schools so that they will have access to careers outside agriculture (see chapter 3), members of the urban professional class are looking to

⁶⁸ In addition, because the educational center didn't offer housing at the time, gender became an important barrier to admitting and keeping students; for young women from villages further from the school, the time it took to travel back and forth became a source of tension in their households.

farming to offer an escape from their daily lives in the city. In this chapter, I consider the motivations and practices of a group I call “IT agriculturalists”: city-based professionals who in recent years have purchased agricultural land on Bengaluru’s edge.⁶⁹ Many, but not all, of these individuals overlap with the OTG community described in the previous chapter. IT agriculturalists are well-paid professionals—most often employed in the IT industry—with cars, large homes, and comfortable urban lives, who work in Bengaluru during the week and visit their farms in their free time. Their farms are managed in their absence by hired laborers who live on-site or in the nearest village. I consider how city-based farmers position themselves in relation to the labor of cultivation, suggesting that agriculture offers a form of what I call “productive leisure.” I argue that despite historical precedents for absentee landlordism that look somewhat similar to the agricultural practices I discuss here, these urban landowners’ commitments to being involved in the labor of their farms sets them apart from city-based agriculturalists of the past. Their desire to labor in their leisure time suggests changing understandings of how to lead productive and rewarding lives.⁷⁰

This leads me to two questions: Why and how does farming offer a more ethical and productive alternative to prevailing norms of work and play among urban professionals? What, if anything, sets IT agriculturalists apart from ex-urban farmers in the Global North? I argue that IT

⁶⁹ It is difficult to assign a single term to group. Although some refer to themselves as “weekend farmers,” which in many ways is accurate since they work professional jobs in the city and travel to their farms on the weekends, for others this label does not capture their full commitment to their farming activities. “City-based agriculturalists” is appropriate, since these farmers’ rootedness in the city is a key part of what characterizes their relationship with the farm and its laborers. But this also applies to farmers who have left their lands for employment in the city. Ultimately, “IT agriculturalists” is the most effective term—if not perfect—because it captures the professional background and relative wealth that characterize this group, characteristics that are critical in understanding IT agriculturalists’ motivations for farming.

⁷⁰ Throughout my analysis I use the terms labor and work interchangeably, taking a similar approach to that of Kathi Weeks (2011). I find her definition of work as “productive cooperation organized around, but not necessarily confined to, the privileged model of waged labor” most useful for my analysis (2011, 14).

agriculturalists are motivated by the belief that their urban peers engage in unproductive work and frivolous play, a belief that is anchored in experiences of ambiguity as successful IT professionals in the Global South. IT agriculturalists' weekends on the farm offer an ethical alternative by connecting them with practices and spaces considered authentically Indian: agriculture and villages. In (re)valuing agricultural labor, IT agriculturalists generate new understandings and practices of contemporary urban life. However, there are limits to these projects in revolutionizing existing hierarchies of urban and rural, city professional and village farmer, which make agriculture a leisure activity for some and a livelihood strategy for others.

IT agriculturalists

Despite their relatively small numbers, IT agriculturalists loom large in the urban imagination.⁷¹ English news media in India love telling stories of people who left professional careers in cities, often abroad, to “return” to “traditional” agrarian livelihoods. These articles focus on how urban professionals apply their technical knowledge and business acumen gained from careers in the city to advance rural livelihoods and communities. With titles like “Back to the Future” (*The New Indian Express* 2016), “Techies Take up Farming out of Bengaluru” (Waseem 2015), and “The Road Back to Nature” (Pailoor 2015), news stories about these individuals focus on their movement from city to country, and from IT professional to educated and enlightened farmer. As one article’s tagline states, “it’s the toughest thing in the world to get a fancy degree here or land a great job abroad, and still think about rural India. These people are the exceptions to that rule. They actually went back” (*The New Indian Express* 2016).

These farmers represent both a new future for farming and a step “back” to their roots and Indian tradition. They connect the future-oriented knowledges and practices of work in the

⁷¹ Although I cannot provide a realistic estimate of the number of IT agriculturalists, in the course of this project I spoke with 18 individuals or small collectives of city-based professionals who owned and farmed agricultural land nearby Bengaluru.

global IT industry with India's core: agriculture.⁷² This narrative is anchored in a vision of rural India as the "real" India, and farming as its most authentic pursuit (Gupta 1998; Nandy 2001; Pandian 2009). This understanding competes with others in India's national imagination, and is contrary to a development agenda in which industrial growth is predicated on agrarian decline (Gupta 1998; Rostow 1990 [1960]). Ashis Nandy (2001) argues that the place of the village in the Indian imagination has changed over time, and continues to occupy an ambiguous space. As a scholar trained in psychoanalysis, Nandy sees stories that narrate the movement between the city and the village as central to the making of the self (Nandy 2001, 8). During the colonial period, traveling to the city from the village was the central narrative trope, one that established the rural as having "outlived its utility" (11-12). In the period following independence, this movement was reversed, and the village came to symbolize "control over self; the city reeks of self-indulgence and the absence of self-restraint" (13). Nandy argues that this has changed yet again, so that the village no longer exists as a physical space to which one can travel, but instead occupies an imagined, unknown, and equally feared and idealized place in the Indian imagination (23).

In traveling to their farms at the edges of Bengaluru, IT agriculturalists challenge Nandy's estimation of the contemporary moment. IT agriculturalists' movement from city to countryside, and their desire for more authentic engagements with food and farming, shares similarities with ex-urban artisanal producers in the U.S. and other parts of the Global North (Paxson 2013; Weiss 2015). IT agriculturalists, like other "back-to-the-landers," are looking for a different kind of life. In this sense, they share the self- and society-making goals of artisanal

⁷² Although their motivations for farming often include nostalgic understandings of India's agrarian past, IT agriculturalists' focus on improving agriculture with knowledge gained in their lives as urban professionals mean that their efforts are very much future-oriented (for a similar estimation of the relationship between nostalgia and the future among artisanal cheese producers in the U.S., see Paxson 2013, 8).

producers in the Global North. In her analysis of artisanal cheese production in the U.S., Heather Paxson argues, “the crafting of cheese and the crafting of a life mutually inform each other” (2013, 5). Similarly, IT agriculturalists understand their efforts on the farm as cultivating a different life, one anchored in agriculture as a more ethical alternative to prevailing forms of work and play among India’s urban professionals.

However, there is a critical point of contrast between IT agriculturalists and ex-urban farmers in the Global North: IT agriculturalists occupy an ambiguous place at both the center and margins of a modernity characterized by global interconnection. As IT professionals in the Global South, they encounter the kinds of mobilities and exclusions at the core of the transnational technology industry (Mankekar and Gupta 2017). Each of the individuals I describe in detail here was either working or had previously worked for an IT company in Bengaluru at the time of my research, and most of them had lived and worked abroad. They reflected on those experiences in describing their motivations for buying agricultural land and farming on their weekends.

For many of the IT professionals discussed here, purchasing or planning to purchase farmland was linked with their desire to be “ex-IT,” meaning to leave their positions in the IT industry. For instance, a man whose son was working in the IT industry in California’s Silicon Valley said that his son kept asking him to purchase land in Mandya—their ancestral hometown where the family had once been farmers—so that he could begin farming when he was able to return to India from the U.S. Mohan, an engineer in his late 30s who was introduced above, was even more specific about his future plans: his ultimate goal was to “shift back” to farming as quickly as possible. He consistently expressed frustration with his position in a large IT company, saying that the sooner he could leave his job and life in the city the better.

This desire to be “ex-IT” takes on new meaning in relation to the role of the IT industry in changing the meanings and practices of work and workers in India. In her analysis of the IT enabled services (ITES) industry in Bengaluru, A. R. Vasavai (2008) suggests that employees often think of their work as a form of identity creation rather than wage labor: "In an effort to camouflage the rigour, monotony, repetitiveness and the overall stressful nature of the work, ITES companies create work environments, processes and new socialities that combine to present and represent work as lifestyle rather than as conventional labour" (2008, 222). This reflects a larger critique of labor practice that requires the production of subjects whose identities center on their work, such as Kathi Weeks’ argument that “postindustrial production employs workers' minds and hearts as well as their hands” (2011, 31).

As quickly became clear from conversations about IT and ITES work in Bengaluru, what constitutes the “IT industry” in India has more to do with class and lifestyle than a particular kind of work. In other words, my interlocutors used the term “IT” to refer to city-based professionals who are educated, upwardly mobile, and believed to have a higher quality of life. For this reason, working in IT says more about the kind of life one leads than his or her day-to-day work. This is not unique to Bengaluru, but is a critical point in understanding the multiple meanings and practices captured in the term “IT.”

Despite this emphasis on IT work as providing access to a kind of lifestyle, the longevity of this lifestyle is uncertain due to “the tumultuous market conditions with inherent risks” that characterize working in an industry with a bad reputation for job security (D’Mello and Sahay 2008: 91). Mohan referenced this insecurity directly in his story of what brought him to farming. He explained that he began to question the security of his career and position in life during the global economic downtown of 2008. Mohan grew up in Bengaluru, where his father worked for

a large governmental cooperative at their urban facility, but his grandparents were farmers who owned land outside the city. Soon after the downturn he went to visit his grandmother in the village and expressed concern for her wellbeing, given the worsening economic scenario. His grandmother told him not to worry, because if this year was hard, they still had plenty of food saved up from the previous years. It was then, Mohan said, that he realized how little security money provides, given that food is the basis for life. He became committed to growing his own food, convinced that a high-paying position in the IT industry—the ultimate goal for many—was in fact more insecure than being a farmer. In Mohan’s estimation, the abundant future promised by the IT industry was not worth its volatile present. Agriculture offered an alternative, one rooted in stability rather than possibility. The global connectivity of the IT industry, which for some offers the promise of mobility, led Mohan to understand his job in IT as dangerously exposed to the ebbs and flows of the global market.

Another IT agriculturalist, Anil, had a different understanding of the problem with IT work. In December 2015, through my existing social media connections, I came across a new group on Facebook that organized weekend farming activities for Bengaluru residents. Its founder was Anil, a native of northern Karnataka who had worked for years in the IT industry before becoming an entrepreneur and starting several small companies. In explaining to me his motivation for this newest project, Anil said that he had “travelled across the world,” yet everywhere he was always doing the same things on his weekends: drinking in bars and going to malls. But, “now there is no fun as such.” He had grown tired of spending his weekends doing the same old thing. He asked me to consider the “loss of productivity” resulting from these weekend activities; he suggested that there are somewhere near 20 lakh (2 million) IT professionals in Bengaluru and each spends around Rs. 5,000 (approximately 75 USD) on the

weekend “eating junk foods, going to the same boring malls, watching the same stupid movies.” Because of this, “productivity is not happening, people are not happy coming back to the office on Monday.” He contrasted this with the feeling of peace he experienced after visiting his father’s 15-acre farm, located about 100 kilometers from Bengaluru. Every time he helped out on the farm, he explained, “I felt really relaxed. I felt like me many people might be interested in this kind of thing.” This inspired him to start a new company that sets up weekend trips to different farms in the larger Bengaluru area so that urban residents can learn from farmers and help out with farm work.⁷³ His goal was to reconnect urban Indians with farming communities, which he understood as India’s heartland and critical to its future—his Facebook group was part of a larger project to “start a movement” that would reestablish agriculture as a viable livelihood in India. However, Anil's commitment to agriculture did not represent an isolationist political ideology anchored in "traditional" as opposed to "global" attitudes and values. Rather, Anil saw agriculture—and specifically, agriculture "startups"—as critical to India's continued economic growth and emergence as a global superpower.

Anil’s emphasis on the value of farming as a productive form of labor—positioned in contrast to unproductive forms of consumption—is not unique to India. Nor is it unique to farming rather than other non-consumptive and non-work activities, such as volunteering (see Parreñas 2012). However, it speaks to broader ambiguities in Indian IT professionals’ understandings of themselves as members of a global workforce who are also uniquely Indian. Carol Upadhyaya and A. R. Vasavi (2006) suggest that Indian IT professionals feel caught between being Indian and being part of a global workforce:

⁷³ I cannot comment on the extent to which urban professionals’ willingness to offer their labor actually assists farmers, but past analyses have examined the challenges of community labor in community-supported agriculture initiatives (for example, see Janssen 2013).

The new generation of ‘global Indians’, represented by IT professionals, is caught in a web of contradictions around questions of identity and nationality. While they are well travelled, comfortable in international work settings, and masters of the latest technologies, many are nonetheless still embedded in ‘traditional’ social and cultural milieus and also articulate their adherence to ‘traditional values.’ (Upadhyaya and Vasavi 2006: iii)

Anil’s motivation for starting his weekend farming group—to connect urban residents with farmers so that they can experience farming while simultaneously supporting agriculture as a viable livelihood—reflects a desire to find fulfillment (which, for Anil, leads to greater productivity) outside the universalizing leisure activities of the global professional class. For IT agriculturalists, weekends provide space to assert a different kind of lifestyle, one rooted in an ethic of productive work rather than monotonous play. The decision to spend one’s weekends at the farm, rather than the mall, is represented as a rejection of the usual leisure activities of “the new middle class.”⁷⁴ It establishes as valuable a different kind of labor and leisure, one anchored in an ethic of agriculture as a more authentic and productive practice.

IT agriculturalists as model farmers and community gardeners

The individuals who purchase and farm agricultural land on the outskirts of the city can be broken into two primary categories, each of which encompass a wider range of motivations and practices: those who farm for profit and those who do not. Despite this key difference in approach, IT agriculturalists in both of these categories shared a common end goal: making agriculture a valued and valuable pursuit. I consider them each in turn.

Making profit as a “model” farmer

I met Adithya at a four-day permaculture workshop conducted by a sustainable living

⁷⁴ See Fernandes 2006 for a foundational analysis of India’s “new middle class.”

community just outside Bengaluru. The workshop, conducted in English, was meant to teach interested urbanites about the basic practices and tenets of permaculture, which disavows reliance on external inputs and emphasizes using the rhythms of ecology to limit energy expenditure. Adithya was attending the workshop because he had recently purchased land on the northern edge of Bengaluru where he was growing fruits and vegetables for market. The year before he had grown watermelons and tomatoes using conventional agricultural methods, but had quickly discovered that the cost of chemical inputs was so high he could barely turn a profit. He had also become more concerned about the effects of chemical inputs after talking with farmers who sell conventionally produced foods to the market but keep a small patch without chemicals for household consumption. This convinced him that he should look for alternatives to the conventional method, and he was especially interested in permaculture because it focused on creating healthy soil and farming without costly and dangerous chemical inputs.

An upper-level manager in a large transnational telecommunications company, Adithya had lived in Europe for many years and now owned a flat with his wife and two children in a large apartment complex in a rapidly developing area of Bengaluru. After moving back to India, Adithya decided to do “service” and “entrepreneurship” on his weekends: he would teach farmers how to be entrepreneurs by making a profit from farming himself. But he was very candid about unexpected challenges, saying that when he invested in agricultural land he had not realized how “tough” it would be to make a living from farming. He explained how careful he had been to select land that appeared healthy and had good access to water. But he had not thought about electricity, which turned out to be a critical input—he was unable to pump water from his bore well as consistently as he would like. He also had not known how difficult it would be to market his produce once it had been harvested.

Now that he had completed his first farming cycle, Adithya felt prepared to begin his second year as a permaculturalist, and was very reflective about his goals and methods. Despite his critical self-evaluation, Adithya's idea that urban professionals could and should become "model farmers" rested on a disparaging opinion of "traditional farmers," who were seen by many of my urban interlocutors as ignorant and in need of assistance from those who had a wider understanding of the world. At an event promoting the "buy-up" of agricultural lands by a group of Bengaluru residents interested in farming for profit, Anil—the founder of the weekend farming group for urban residents discussed above—suggested that the farmer "can grow, but he doesn't know marketing. He is not that smart." His audience's assumed knowledge, as urban professionals, would make their foray into agriculture more successful, and their success would in turn help other farmers. This idea functioned as a rallying point for Bengaluru residents to try their own hands at farming—figuratively and, to differing extents, literally—with the idea that they could do it better and in so doing could become a "model" for the future of farming. Turning a profit in farming was thus positioned as a moral imperative, for the benefit of the failing farmer.

Growing for the family and community

Whereas the IT agriculturalists described above were interested in farming as a form of entrepreneurship that could be a "model" for other farmers, the IT agriculturalists in this section took a decisively different approach, one rooted in food production rather than profit potential. Mohan and Nagaraja explained that for their "community garden," the ultimate goal is to practice ecological farming and cultivate a diverse ecosystem. The food they produce is shared amongst their families and laborers, never sold. If they can get to a point where their farm meets almost all of their families' food needs, they will be very happy and consider their project a

success. They were explicit that they did not think of their farm as a way to make profit, but rather as a space for them and their families to build bountiful ecologies and eat well from the land.⁷⁵ They positioned this objective as a rejection of the unsustainable lifestyle led by their fellow urban professionals, and as a way to learn from farmers' understandings and approaches to the natural world.

Like Mohan and Nagaraja, Shruthi came to farming through her passion for healthy food and bountiful ecosystems. Shurthi lived with her husband and daughter in a beautiful home they designed themselves in a newer layout in Bengaluru. She and her husband had both been upper-level employees in IT companies, but at the time of my fieldwork Shruthi had left her job so that she could spend more time with her children and do the things she loved most, like cooking. Her son was in college in New York, and the family had lived for many years in the U.S. She was passionate about food, and said that after the family returned to India she began buying organic products from a few stores nearby her house and became very committed. So, she decided she wanted to own an organic farm, to further promote organic farming and to feed her family with what the land produced.

She was fortunate, then, that an opportunity arose for her to purchase farmland. Her cousin had a friend whose wealthy uncle wanted to sell a large piece of “developed” land, meaning land that had already been put into agricultural production. Shruthi’s cousin invited her, along with his friend, to buy into the land in equal parts so that together they could afford to purchase a larger plot that was already under production. Shruthi and her husband were hesitant at first—they had not wanted developed land because they had their own ideas of what and how

⁷⁵ They understood that their careers in the city were what made it possible for them to neglect profit altogether, and they too were concerned about making farming a viable livelihood. To this end, they were involved in the creation of a direct-sale initiative that delivered a greater share of the purchase price to farmers.

to farm—but eventually they agreed to participate, and Shruthi came to be part owner in 24 acres of land located about two hours from their home in Bengaluru.

Although her co-owners considered their purchase to be an investment, Shruthi reiterated to me that buying agricultural land might never return a profit because of the expense of keeping it under production. For her, the point was to experience land ownership and cultivation; as she explained it, she was most interested in the experiment and experience of farming. She had fond memories of visiting her grandparents' areca nut and coconut plantation, and wanted similar memories for her own children. She and her husband were also thinking about their future: they were considering moving to the simple house they were building on their farmland after her husband's retirement. Shruthi's husband explained that he needs "fresh air."

The day was hot when we visited Shruthi's farm, and after touring the banana, mango, and coconut crops, Shruthi's husband asked the farm manager to cut us tender coconuts (the English term for young, green coconuts that are used for their water rather than their meat). He explained that the experience of drinking coconut water straight off the tree is, for him, what makes owning a farm so special. The farm worker brought us a bunch of coconuts, and with a machete cut a flap off the top of each one, handing it down the line. When the coconut arrived at Shruthi's teenage daughter, there was a hold up—she did not want to put the coconut to her mouth to drink from it. Rather, she wanted a plastic straw, like what street vendors provide in the city. Shruthi and her husband teased their daughter, but eventually Shruthi upturned the coconut over the water bottle so that her daughter could drink from the bottle rather than directly from the coconut. Even though the farm provided a space where Shruthi could provide her children with the kinds of experiences that she cherished from her own childhood, her children were less

enthusiastic; as she lamented, neither her son nor daughter had any desire to take over the farming project when she was gone.

Historical precedents: Another form of absentee landlordism?

The contemporary efforts of IT agriculturalists are best understood in relation to a long history of urban residents owning farmland. A review of the literature on historical and contemporary agricultural forms in India exposes the longstanding presence of the “absentee landlord,” a title that has made its way into popular understandings of agricultural production. Absentee landlordism is rarely explicitly defined, but has one key characteristic: landowners do not reside near their farmland. This includes farming families who purchase land in other villages to supplement the land they own closer to their homes, as Scarlett T. Epstein depicts in Mandya district (1962; 1973). Or, it describes elite landowners who leave the labor of their farms to others; as Bernard Cohn explains, powerful landlords under British rule “tended to be urban-dwelling, and although they maintained a house, or houses, within their estates, they tended not to be present within their areas” (1971, 83).

As part of the legacy of post-independence efforts to curtail the power of large landowners and redistribute land, it is not easy for urban residents to purchase farmland in Karnataka today. There are two primary ways that an individual who currently does not own farmland can purchase it: by proving that someone in the family owns farmland, or by showing a yearly income of less than Rs. 25 lakh (Rs. 2.5 million, approximately 39,000 USD).⁷⁶ The stated goal of these legal restrictions is to keep wealthy urban residents with no tie to farming from buying up acres of agricultural land, which would restrict small and marginal farmers’ abilities to own and cultivate farmland. Urban residents expressed frustration with these laws, and often

⁷⁶ This changed recently, with the 2015 amendment to the 1961 Karnataka Land Reforms Act that increased the maximum income level from Rs. 2 lakh (200,000) to Rs. 25 lakh (2.5 million) (see Johnson 2015).

found ways to work around them.⁷⁷ For example, when buying the land for Mohan's community farm, only those few people who had a family history in agriculture actually purchased the land; the others "own" the land on the basis of trust and mutual understanding with the legal owners (so far, he assured me, it had been going well). Similarly, Adithya put forward the money to purchase his farmland, but bought it in his father-in-law's name. For others, these legal restrictions prevented them from owning farmland altogether. I met a man in Mysuru, a city about three hours from Bengaluru, who opened an organic food store after he was unable to secure the paperwork necessary to prove that he could own farmland in Karnataka.

Landlords and laborers

Relations between absentee landlords and laborers have never been easy. In an early discussion of agricultural production in Mandya, an agricultural district between Bengaluru and Mysuru, T. Scarlett Epstein (1962; 1973) describes the difficulties faced by absentee landlords in managing their farms in the post-independence period. She suggests that the growing number of landowners who did not live near nor labor on their farms was linked with changing infrastructures in the area beginning in the 1940s. As irrigation facilities were established, urban residents chose to purchase land with the goal of making profit from the cash crops that irrigation made possible, such as sugarcane. She provides a long description of a man from Bengaluru who purchased land in Mandya district with the goal of producing sugar. After struggling to find adequate labor, he hired a farm manager whom was recommended to him by the village leader, but the manager cheated him and did not perform his expected tasks. After thirteen years of loss

⁷⁷ Adithya was the most forthright with his critique of the law preventing urban residents from owning farmland, suggesting that many farmers near Bengaluru are now growing only eucalyptus because it is the "easiest way" to make a little money without working. He argued that that if farmers are increasingly "lazy," why should people who are passionate about food production be kept from owning and cultivating land just because they are city-based? Farmers will only take the easy way out and grow eucalyptus, he suggested, whereas urban professionals will actually grow food. For Adithya, the important question was how the land was being used, not who was using it.

and frustration, the landowner gave up and sold his land (Epstein 1962, 87-88). There are many similarities between this narrative and those of contemporary IT agriculturalists, who also struggle to find and keep laborers and are hesitant to trust villagers and local-level politicians.

Tensions appear in several distinct ways on the farms of IT agriculturalists. Many disagreements between landowners and on-site managers arise as the result of IT agriculturalists' commitments to a particular method of production that often contradicts the farm managers' and laborers' understandings of what it means to farm. For most IT agriculturalists, the *method* of production is central to how they understand their efforts. Specifically, every person I interviewed practiced fully organic or "natural" farming, or had a desire to transition to this method over time. This often sets them apart from their hired farmers, who were often skeptical about the efficacy of using non-chemical interventions. For example, Mohan explained that they try to take their farm managers with them when they visit other organic farms, so that the farmers can see first-hand that it is possible to grow without using chemical inputs.

Managing labor while they are away from their farms is the primary difficulty for IT agriculturalists. They have to juggle respect for their laborers' agricultural knowledge with their own commitments and concerns. Most IT agriculturalists recognize that "nature's variability discourages any overbearing, non-local control over the intimate, everyday conduct of farming" (Ludden 1999, 32). They know that the families who live on site are more in tune with the process of agricultural production. But because they insist on certain methods of production, tensions arise. Shruthi explained to me what she called "typical labor problems": one of their two farm managers, Nameet, was reluctant to do things that his new employers ask of him, such as using the drip-line to distribute fertilizers (at the time of writing, Shruthi's farm was not yet organic, but they were cutting down on fertilizer use by using technologies like drip-lines and

planned to transition to organic over time). In addition, the other laborers were frustrated with Nameet, who Shruthi described as very “harsh” and “rude” to her other employees. To account for this, Shruthi and her co-owners asked Nameet to focus only on bananas—his “specialty”—but, she lamented, he was still acting like the “head worker” and bossing others around. She explained that Nameet was very insulted when they decided to hire a new farm manager who lives in town, because he felt like they were putting someone above him. I asked why they had hired the farm manager in the first place, and Shurthi explained that they needed someone to regularly check in on the farm since they cannot be there themselves, and to handle things like negotiating with brokers. In struggling to manage the requirements of owning a farm from afar, Shruthi and her co-owners had to negotiate a complex field of interpersonal hierarchies and relationships with which they were largely unfamiliar.

One way in which IT agriculturalists attempt to overcome the challenges of finding and securing quality labor is to represent farm management as a valuable position with opportunities for career development. A goal for Mohan’s community farm is to create space for a young person to practice farming while also making a secure living. At the time of research, there were two families working on the community farm, whom received a regular salary and an equal share of the harvest as the owners. However, as in Shruthi’s case, the two families were often at odds. So, the landowners were planning to ask one of the families to leave when their three-year contract soon ended. Their plan was to then bring on a young farmer who is committed to the ideals of chemical-free farming. Their goal was to hire someone who wants to farm with organic methods and who will accept a salary of around Rs. 8,000 a month. Mohan explained that they chose this salary because their new employee will need to make at least what an auto-rickshaw driver in the city can make in order to be convinced to move to the farm. They explained that

their ability to secure a young and committed farm manager would depend on how the position stacked up to the other kinds of livelihoods that were possible in the city. IT agriculturalists were juggling not only interpersonal conflicts and disagreements over agricultural practices, but also the shifting terrain of values—economic and ethical—associated with farming.

A different kind of absentee landlord

There is one very key way in which IT agriculturalists represent a departure from historical forms of absentee landlordism: the emphasis on participating in agricultural labor. For most of the IT agriculturalists with whom I spoke, it is not enough to simply enjoy the farm landscape, one must labor on the land (even if that labor is rather leisurely).



Figure 46: Permaculture workshop participants make *jeevamrutha*



Figure 47: Permaculture workshop participants planting seeds

For example, Mohan explained that they have chosen to restrict participation in their community farm to the original eleven founders because it is hard to get people to devote time to their farming enterprise when it is easier to buy whatever is needed at the store. He explained that some of his friends want to come to his farm for leisure time away from the city, but it has to be more than that—they have to work.⁷⁸ This ethic of labor is key to understanding IT agriculturalists’ understandings of themselves and their farming projects. I turn to this point in the concluding section.

Productive labor on the farm

IT agriculturalists’ desire to “get their hands dirty” represents a departure from longstanding understandings of non-labor as the mark of elite status. For example, in his analysis of middle class downward mobility and the act of “timepass,” Jeffrey (2010) states, “many rich

⁷⁸ I became so accustomed to these ethics of labor from my time with Mohan and most of the other IT agriculturalists mentioned in detail in this chapter that I began to expect it from everyone interested in farming. This expectation was challenged at a four-day permaculture workshop, where a very wealthy young woman who wanted to start an export-oriented health food company refused to participate in any of the hands-on activities, but took pictures of each step so that she could share them with her laborers. She explained that she had to make sure they would do things correctly.

Jat farmers took advantage of this growing wealth by removing themselves and their family members from the physical act of cultivating the soil” (2010, 43). This aversion to physically demanding labor is rooted in a caste system in which freedom from manual labor is the key defining characteristic of the highest strata of society. Characterizing this hierarchy as one of leisure over labor misses the religious work assigned to the Brahmin caste, but it does capture how strict social and political inequalities are inextricably linked with types of work, with spiritual labor at the top and manual labor with polluting substances at the bottom.

In his foundational work on “the leisure class,” Thorstein Veblen begins with a brief statement about Brahminism as the best example of how freedom from labor becomes the key indicator of elite status (1994 [1899], 1). In developing his theory of “conspicuous consumption,” Veblen provides a cutting satirical analysis of leisure as a marker of status. Perhaps his most influential insight is that different types of work are ranked differently, and that this has implications for class hierarchy. As he states, “the institution of a leisure class is the outgrowth of an early discrimination between employments, according to which some employments are worthy and others unworthy” (Veblen 1994, 8). Specifically, “manual labor, industry, whatever has to do directly with the everyday work of getting a livelihood” is marked as inferior while freedom from “industrial pursuits” is relegated to those of superior rank (ibid, 2). According to this framework, leisure—defined as the “non-productive consumption of time” (43)—becomes key to displaying one’s place in the social hierarchy: “conspicuous abstention from labour...becomes the conventional mark of superior pecuniary achievement and the conventional index of reputability; and conversely, since application to productive labour is a mark of poverty and subjection, it becomes inconsistent with a reputable standing in the community” (38). For Veblen, freedom from productive labor is what makes leisure powerful.

From Veblen's analysis arose the sociology of leisure, centered in Britain in the 1980s and 1990s. Chris Rojek is largely responsible for the development of this literature, and his foundational book *Capitalism and Leisure Theory* (1985) attempts to draw insight into leisure from social theorists such as Durkheim, Marx, Weber, and Freud (see also Rojek 1989; Butsch 1990; Olszewska 1990; Wearing 1998).⁷⁹ Economists too have engaged with the concept of leisure. Inspired by transformations in economists' understandings of household labor, economists created models to understand leisure as "free time" activities (Cameron 2011). An important point to draw from these literatures is the difficulty in defining leisure in relation to labor; for instance, if any activity outside wage labor is considered leisure, then unpaid household work—gendered in very distinct ways—would be characterized as leisure.

Rather than focusing on the distinctions between the terms labor and leisure, for me what is most interesting is the intersection of these terms—the sites, times, and spaces where they are inseparable. Baudrillard (1975) lays a foundation for analyzing these intersections his critique of Marxist theory, arguing that Marx's treatment of labor traps his analysis in the very terms of political economy that he hoped to subvert: "A specter haunts the revolutionary imagination: the phantom of production. Everywhere it sustains an unbridled romanticism of productivity. The critical theory of the *mode* of production does not touch the *principle* of production" (Baudrillard 1975, 17). Building from such critiques of the work ethic underlying Marxist thought, Kathi Weeks proposes a future built around what she terms "nonwork" (2011). More recently, James Ferguson has considered how new distributive politics have undermined the longstanding link between labor and welfare (2015). These analyses are in many ways more insightful than those focusing on leisure, since they challenge the meanings of both work and nonwork in the making

⁷⁹ Surprisingly, despite a body of "leisure theory" in sociology, the concept of leisure has been little theorized in anthropology. A different kind of inactivity (although it is an activity in its own right), waiting, has received more attention (see Jeffrey 2010).

of subjects. They point us toward an ethic tied not to work, but to other forms of value making and participation in society.

However, these new approaches to nonwork and the delinking of wage labor and welfare do not map onto the ideologies and practices of labor and leisure among IT agriculturalists. They want to work, and see a particular kind of work—farming—as a productive alternative to weekends squandered in unproductive leisure activities in the city. Their insistence on participating actively in the work of the farm promotes a work ethic considered contrary to both the consumption-based leisure of the urban middle class and the perceived “laziness” of the average farmer. The IT agriculturalists represented here uphold the value of work by participating what I am calling “productive labor”: choosing to engage—to differing extents—in labor-intensive activities considered productive as pleasurable alternatives to regular work responsibilities.

That many, if not all, of the IT agriculturalists whom I encountered contributed to the labor of production challenges non-labor as status marker.⁸⁰ However, it is in the specific kind of labor—farming—that the ethics of IT agriculturalists’ project become clear. Agriculture holds a particular place in the Indian imaginary. The values attributed to farming as authentic practice and villages as the “real India” create space for farmers to understand themselves not as failed subjects of modernity, but as actors navigating a rapidly changing nation and world (Gupta 1998). Anand Pandian’s (2009) discussion of the ethics of cultivation in south India provides

⁸⁰ Despite their participation in farm work, IT agriculturalists’ labor is not the same as that of their hired laborers who live on the farm or in the village. IT agriculturalists arrive on weekends in a flurry of activity, then load up their cars with produce (also leaving a share to their farm laborers) before getting back into their cars and driving home to the city. This ability to quickly and frequently move between city and countryside requires time and access to personal transportation, both of which are unavailable to most village-based farmers. But it would be too simple to argue that urban professionals have no restrictions on their mobility; as previously discussed, Mohan and many of his colleagues would prefer to quit their lives in the city altogether and move to the village but feel trapped by their current positions and family’s expectations in the city.

insight into the ethics of agricultural labor. For Pandian, farming is characterized by the labor of cultivation and the specific identities and ethics wrapped up in relations with agro-environments.

His definition of cultivation is particularly useful for my analysis:

By cultivation I mean several things at once: the developmental horizons that lend individual lives a moral impetus and direction; the practical techniques through which people may engage their own desires, deeds, and habits in the pursuit of a moral life; and the material labor that may transform a world of embodied experience into an environment for both moral and natural growth. (Pandian 2009, 3)

In considering the “ethical work upon the self and the practical labor of bodies on the land” (16), Pandian’s analysis illuminates how cultivation makes landscapes and ethical selves. His analysis provides a broader cultural context by which to understand how agricultural labor comes to be positioned as an ethical alternative to other kinds of work.

This understanding of agricultural labor as central to defining the self is very much present in IT agriculturalists’ narratives, as discussed above. However, in Pandian’s analysis, farmers’ understanding of cultivation as a virtuous pursuit is largely a coping strategy among those who have no choice but to farm: “those who cultivate the land may not freely choose to do so. But having been fated through the force of circumstance to pursue this life, they may still find within it a means of living well – in a moral sense, at the very least, if not in an economic sense” (229). IT agriculturalists *choose* to farm. Still, their commitment to productive labor offers further evidence of the ethics of labor on the land and self, as a choice by those who have the ability to live otherwise. It is a self- and society-building project that relies on the moral power of agriculture to challenge common understandings of the prevailing norms of work and play among the urban middle class.

IT agriculturalists' ethic of labor is inextricably linked with leisure. Weekend farming becomes an alternative to the kinds of play, and the ways of spending leisure time, that characterize urban middle class lifestyles. Increasingly, leisure is tied with consumption (Butsch 1990). Arlene Dávila (2016) suggests that malls in Latin America are leisure spaces that offer belonging in the "new middle class" through the performance of consumption. By positioning the farm in opposition to the mall, IT agriculturalists claim a different valuation of leisure and labor, production and consumption. At the same time that consumption is increasingly being positioned as central to national wellbeing and the state-making project on a global scale (see Meyers and Lange 2009; Dávila 2016), IT agriculturalists call into question the value of leisurely consumption through their insistence on productive labor.

Yet, as the story that opens this chapter suggests, the IT agriculturalist's insistence on agricultural labor differs from the majority of village-based farmers' understandings of the value of agriculture in making a good life. IT agriculturalists' interest in agriculture as doing something "meaningful" comes at the same time that the consumption of urban consumer goods rises in rural communities as they gain access to new retail forms.⁸¹ As Veblen notes, once the norm of high expense and "conspicuous waste" through leisure has become the norm, the elite change their priorities:

Within this select class the exemption from thrift is a matter so commonplace as to have lost much of its utility as a basis of pecuniary decency. Therefore the latter-day upper-class canons of taste do not so consistently insist on an unremitting demonstration of expensiveness and a strict exclusion of the appearance of thrift. So, a predilection for the rustic and the 'natural' in parks and grounds makes its appearance on these higher social

⁸¹ In recent years data from National Sample Survey Organization (NSSO) has shown higher growth rates of consumption expenditure in rural India than urban India (see Kant 2014).

and intellectual levels. (Veblen 1994, 137).⁸²

Similarly, this moving target of tastes is central to Bourdieu's understanding of distinction and the unattainable nature of upper-class status by those lower in the hierarchy (1984). The choice to spend one's leisure time laboring in the fields, then, is a shifting of values and a refusal of mainstream status markers at the same time that those markers are becoming more accessible to a greater number of people.

This suggests that it is only with a successful career in the city that farming can become an outlet for productive labor. In explaining why so many of her IT friends want to start farming, Shruthi put it this way: "the money doesn't fascinate anymore." Unlike IT work, farm labor is "completely passion." IT agriculturalists' productive labor is a choice. It is a way to spend leisure time, conceived in opposition to time spent at the mall. It rests upon an understanding of agricultural labor as an ethical pursuit, key to making particular kinds of selves and societies. IT agriculturalists, especially those such as Mohan who are explicitly looking for alternatives to their lives in the city, might be productive examples of what a different ethics of labor and leisure might look like. Their commitment to agriculture might be a start to reevaluating and revaluing food production. Many people in India today cite the low value assigned to agriculture as a reason why so few farmers want their children to go into farming, as suggested earlier in this chapter. So, valuing agriculture as something better than work in the IT industry might challenge existing hierarchies in productive ways.

⁸² Akhil Gupta (1998) discusses how this is true also of development discourse and the concept of indigeneity: "The growth of industries that reach more and more remote locations...is accompanied by renewed rounds of romanticizing and celebrating those who are found there – 'indigenous' people and their cultures. Thus, at the very moment when the basis of their livelihood is being undermined and their way of life destroyed, 'indigenous' people are being celebrated for their knowledge of the forest, their concern for the environment, and their 'philosophy' of life" (1998, 168).

For these reasons, IT agriculturalists' efforts hold productive potential for revitalizing rural communities and bringing new methods, technologies, and commitments to agricultural practice. The passion with which many city-based landowners take up farming, and their perseverance through the many challenges, suggests that there is hope for a future in which agriculture is a valuable pursuit, both economically and ethically. But, the transformative potential of IT agriculturalists will remain limited as long as the opportunity to treat agriculture as the pursuit of a better life is restricted to those who have already succeeded in—and become disillusioned by—achieving the successes of the urban IT professional.

CONCLUSION

If current trends continue, “one day, we will eat by tablets.” With this prediction, Ramappa described a dismal future for agriculture. As we talked, we stood next to his newly planted field of *ragi* that had been sown later than usual due to delayed rains. A few kilometers from his fields sat an unfinished ten-story apartment building, its stark grey walls contrasting sharply with the deep red of the newly tilled soil.

A question has haunted this dissertation: as Bengaluru expands, what future is possible for food and agriculture? This question, while specific to the problems that I detailed in the preceding chapters, hinges on much larger fears about our ability to live well in an increasingly uncertain world. In contemplating the possibilities and challenges of an anthropological approach to studying the Anthropocene, Cymene Howe and Anand Pandian suggest, “we face a call to be timely, of confronting squarely and somehow making livable this time of ours” (2016). In Bengaluru, this need feels immediate. In many ways, my interlocutors were engaged in “making livable” a cityscape that feels increasingly at odds with its communities and ecologies. They used food to describe, debate, and intervene in broader transformations wrought by urban development. In so doing, they claimed alternate futures for the city and its countryside.

Among these possible futures, the most pessimistic paints a picture of impending disaster, as with T. V. Ramachandra’s claim that Bengaluru will be a “dead city” (Menezes 2016). Although such predictions are intended to provoke anxiety and inspire action, they offer no clear path forward. The changes produced by unbridled urban development have already resulted in polluted urban landscapes and contaminated food, and the situation will only worsen. The city will be unable to support its growing base of residents, especially as farmers leave their fields for

work in the city. With a declining labor base, rising land prices, and worsening water shortages, agrarian communities in Bengaluru's peri-urban fringe are facing an uncertain future, one that also creates challenge for ensuring food security and safety in the city. Ramappa's prediction is thus linked with that of Ramachandra—the future of Bengaluru is inextricable from that of its countryside.

A second vision for Bengaluru emphasizes the positive potential of creating “direct” supply chains, primarily through the creation of new corporate intermediaries. In this narrative, contract farming companies and farmer-producer companies will break the stronghold of profit-hungry middlemen who cheat farmers and sell dangerous foods to consumers. By managing the food supply chain from production to retail, corporate intermediaries will provide a “market connect” that links farmers' fields with urban desires. In so doing, they offer more consistent income to farmers and better quality produce to consumers, interventions that have both moral and material implications.

While there is evidence that the specifics of Farm Fresh's and Prakriti's supply chains benefit both their partner-producers and urban consumers, it is unclear to whether the creation of new corporate intermediaries will solve the diverse challenges in Bengaluru's food ecology, from labor shortages to distrust of food sources. On the contrary, the transition to horticultural crops means that farmers are taking on debt to dig bore wells, even as the water table drops lower. The ecological effects of these interventions suggest that they might offer only short-lived solutions. In addition, the “quality” fruits and vegetables produced by these companies serve only a particular segment of consumers: the urban middle and upper classes. Ensuring food safety and security for the urban poor remains unaddressed by corporate intermediaries that serve only “cosmopolitan” consumers.

Urban consumers who are able to purchase more expensive foods are concerned that their money is not well spent. In a general context of distrust, urban middle and upper class consumers are worried that corporate claims and third-party verification systems cannot assure them of the quality and safety of the foods that they purchase. A third answer to the question about the future of Bengaluru addresses this concern: growing one's food oneself. For organic terrace gardeners and IT agriculturalists, getting into food production is the best answer to the insecurities of urban development. Urban gardening and weekend farming offer two kinds of escape: first, as a way to avoid dangerous food sources and feel confident about quality; and second, as an outlet for what I have called "productive leisure." OTGians and IT agriculturalists use cultivation to contest the negative effects of urban development and the social ills of the urban middle and upper classes.

These three visions for the future of food and agriculture in Bengaluru have diverse protagonists, launching points, climaxes, and endings. In each, changing food systems are interlinked with broader ecological and economic transformations in the cityscape and its agrarian periphery. The fresh fruit and vegetable supply chain offers a site to describe, critique, and address the moral and material effects of these changes, from artificial ripening to the insecurities of agricultural livelihoods.

For these reasons, efforts to rework food supply chains provide one approach to "somehow making livable this time of ours" (Howe and Pandian 2016). As this dissertation has shown, food supply chains offer sites for addressing the insecurities and aspirations of urban development. Bengaluru's food ecologies offer a different starting point by which to approach the insecurities, inequalities, and opportunities of urbanization. Equally, the developing city provides a different optic for analyzing and intervening in shifting food ecologies. However, the extent to which these interventions will serve diverse interests remains uncertain. As I have

shown, the positive effects of new corporate intermediaries and gardening among urban professionals are limited to the upper and middle classes. These efforts have been unable to address the concerns and desires of the most marginal communities.

These limitations suggest that the interventions presented here will further sideline the needs and concerns of the rural and urban poor. This speaks to a more general trend in South Asia and other parts of the world, in which urban development privileges “world class” aspirations over meeting the needs of urban residents (Ghertner 2015; Goldman 2011; Harms 2013; Watson 2013). Often, efforts to address the challenges of urban life—from navigating the street (Anjaria 2016) to ensuring clean air (Véron 2006)—address middle and upper class interests at the expense of the poor. In her influential essay on “bourgeois environmentalism,” Amita Baviskar argues that efforts to “clean up” the city in the name of public interest work only toward the preservation of middle and upper class comforts. Bourgeois environmentalists ignore the negative effects of their practices on the urban ecology while simultaneously restricting the actions and livelihood possibilities of the urban poor (Baviskar 2002).

In many ways, certification programs like organic and GLOBALG.A.P. similarly privilege elite consumers’ concerns and desires over those of food producers and poor consumers (Besky 2014; Freidberg 2006; Moberg 2008; West 2012). These are class-specific answers to class-specific problems. The underlying challenge of ensuring food security and health for the poorest communities remains largely absent from these interventions. There are currently efforts to address health and safety alongside security for the urban and rural poor, such as including millets and other coarse grains in the public distribution system (Karnataka announced plans to reintroduce millets in January 2018, and the central government declared its intention to follow suit in March 2018; see Poovanna 2018, Sharma and Sally 2018). The goal is to offer more

nutritive foods and to offer farmers a minimum support price that will encourage their production. In addition, the current health craze for millets in India's city centers will offer a new market for this rain fed crop. However, some advocates worry that rising prices for millets will have a negative effect on nutrition in rural communities because farmers who are growing millet for home consumption (as was the case with almost every farmer with whom I spoke) will instead sell their harvest to take advantage of higher prices and rely on the limited rations of millet, wheat, and polished rice available through the public distribution system to feed their families. This fear is yet to be realized, but it speaks to the wide-ranging effects of changing markets, government programs, production practices, and consumer preferences.

Despite these and other serious shortcomings, efforts to re-envision relations of food production, distribution, and consumption described in this dissertation offer other paths forward for Bengaluru, paths that emphasize safe and sustainable food supply chains and establish different values for agriculture. Bengaluru should look to its emergent food ecologies to envision and create possible futures for its expanding cityscape.

APPENDIX

TABLE 1
Price Comparison Across Food Retail Formats

Note: All prices are in Indian Rupees (Rs.) per kilogram unless otherwise noted. All prices were recorded on December 22, 2015 unless otherwise noted. Except for online retailers, all other retail locations were located in Indiranagar or HAL Layout (neighboring parts of the city).

	Farm Fresh	Local Organic Shop (sells Prakriti)	Street Vendor	Local F&V Shop	HOP-COMS	AK Ahmed Retail (local super-market)	Nilgiris (regional super-market)	Reliance Fresh (national super-market; recorded Dec 23)	Godrej Nature's Basket (premium national super-market)	Food Hall (premium super-market with few locations in big cities; recorded Dec 24)	Big Basket (online)	Town Essentials Organic (online)
Eggplant (small purple & white, unless otherwise noted)	84	65	40 (big purple)	60	60	65	98	59	100 (big purple)	65 (big purple)	48 (big purple)	84
Ridge gourd	55	75	40	40	47 (labeled "sponge gourd")	58	53	45	60	30; 70 for organic	42 (diced)	85
Beans ("field" variety, unless otherwise noted)	84	90	40	60	54	65	72 ("ring" variety)	65	none	-	54 ("ring" variety)	96

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Carrot (“Ooty,” a.k.a. “English” variety)	78	55	40	70	66	85	76	59	90	80	77	92 (type unclear)
Tomato	40	55	40	30	38	60 for organic	45 (hybrid)	35	45	60	43	75 (hybrid)
Onion (medium)	35	60	30	26	32	38	30	25	60	70	25; 40 for organic	none
Potato (medium)	29	70	30	24	26	28	30	24	40	-	26; 27 for organic	48
Palak (per bunch unless otherwise noted)	110/kg (1 bunch approx Rs. 40)	30	None	6 for small; 30 for large	60 (per bunch?)	9 for small; 20 for organic, large	6	13.50	150/kg	18	85/kg	160/kg
Coriander (per bunch unless otherwise noted)	110/kg	25	10	15	25	8	7	4.90	150/kg	20	15/100 g	95/kg

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Banana (“yelakki” variety)	50	70	50	40	31 (unripe)	44	70	35	70	90	43	none
Papaya (per piece unless otherwise noted)	25	45	none	30	30, 20, or 16 depending on variety	26	26	25	40	35	10/200g (diced); 37 for organic	47
Coconut (per piece unless otherwise noted)	23	30	15 for small	25	22 for big; 20 for med., 16 for small	26	23	21	none	-	19 (“medium”); 20 for organic	44
Orange (“Nagpur” variety)	45	none	40	30	27	32	30	22.5	none	99	27; 60 for organic	none

TABLE 2
Farm Fresh Survey Responses

Note: Responses collected at single retail location on October 4 and October 11, 2015. A single dash (-) denotes absence of data.

Gender	Age (approx.)	Profession	No. ppl in household	Budget	Why shop here	Where else shop
Couple (man & woman)	early 40s	-	3	average 12,000/month	"convenience"; not organic but "good choice and it's cleaner than something like Big Basket"	Nature's Basket and few meat suppliers
-	-	HR	5	mother knows	"fresh", can buy what's not in HOPCOMS	mother does shopping, not sure
Man	mid-30s	software	2	none	buys organic items like jaggery and pickles, can get "very specific stuff"	local shop
Man	late 20s	retail operations manager	1	none	comes for prepared foods, also likes "organic content of the vegetables," "it's organic and it's fresh"	local vendors
-	-	Digital marketing	4	~4,000-6,000/month	it's closest, prefers fruits and dairy	Nilgiris
Woman	early 40s	own business	5	-	buys basil and cashew nuts, not organic so she buys mostly elsewhere	Healthy Buddha
Woman	9th standard	student	4	mother knows	came to buy junk food to watch a film	MK Ahmed Retail
Man	mid-30s	IT	4	-	buying Amul cheese and baguette, comes here for prepared foods	Nature's Basket, D-Mart
Man	late 30s	IT	4	"dynamic"	it's "an exclusive vegetarian store," buys mostly "herbal leaves"	Big Bazaar
Couple	early 30s	sales	2	"not yet," need to plan	buy "organic stuff," they're "more into natural and organic", also come for prepared foods	Heritage supermarket (near home)
Woman	late 30s	entrepreneur	4	6,000/month	"fresh, healthy" prepared foods, doesn't buy much groceries but sometimes spinach, lady's finger (okra) because "clean, fresh", also English vegetables	More

Gender	Age (approx.)	Profession	No. ppl in household	Budget	Why shop here	Where else shop
Woman	early 30s	business operations at IBM	3	mother knows	comes for prepared foods, today came to buy green tea, also have "fresh" vegetables	Reliance Fresh
Man	mid-40s	business	7	~10,000/month	was in the area	market near house
Man	mid-40s	business	4	1500/weekly	"hygienic, nicely packed, organic, no haggling"; prefers beans, almost everything, fruits	MK Ahmed Retail
Man	early 30s	process manager	3	none	nearby to house, mother does most shopping	Godrej Nature's Basket
Woman	late 20s	copywriter and project manager	2	10-12,000/ month	"it's organic so it's healthy," "basically I'm obsessed with healthy eating"; especially like spinach, line of organic flour, rice, peanut butter	Nature's Basket, Organicshop.in
Woman	early 30s	technical writer	5	none	buys what's not in HOPCOMS, especially fresh greens	Bulk from Metro
Man	mid-40s	IT	4	5,000/month	close by	More, local shops
Woman	late 30s	IT	3	none	nearby, but come for "some of the organic stuff" like rice and jaggery (sugar)	More, Nilgiris
2 women	mid-20s	Analysts	PG (women's hostel)	none	came for prepared foods because heard they were good	Top in Town
Man	mid-20s	law student	4	none	wanted juice, is convenient to sister's house	supermarkets near his house
Mother & Daughter	early 40s; mid-60s	retired schoolteacher; sales	4	none	"they grow organically", prefer vegetables	More
Woman	early 30s	graphic designer	PG (women's hostel)	~1,000/week	"nice breads"	Noble (store near PG)

Gender	Age (approx.)	Profession	No. ppl in household	Budget	Why shop here	Where else shop
Woman	late 20s	nutritionist	1	none	"Fresh, organic"; came originally for prepared foods, now shops here; prices are a "little higher" and doesn't think 100% organic because it doesn't spoil after 2 days; likes Farm Fresh's green leafy vegetables because "you get really good quality, they're clean, not housed in sewage water like outside" and are "well grown"	HOPCOMS
Man	late 40s	software	4	none	vegetables are "quality", buys mostly from here	groceries from different shops
Man	early 40s	businessman	4	~1,500/week	"freshness", can get vegetables like zucchini, broccoli, "exotics"	malls
Man		engineer	4	none	organic, prefers leafy vegetables	
Man	early 70s	business	5	none	organic, prefers all things here	anywhere
Man	early 30s	designer	2	~3-4,000/month	lives close	SPAR
Woman	mid-40s	yoga instructor	4	~7,000/month	likes fresh green leaves	non-veg at Frosty's, SPAR for groceries
Couple	mid-70s	professor	2	"depends on the vegetables which are available"	"taste is totally different," "it is organic food so obviously taste is better"; prefer greens and gourds	potato and onion from Reliance
Man	mid-50s	teacher	6	wife knows	"quality is good"	other stores
Woman	late 20s	architect	1	1,500/week	"the food seems fresh and the packaging is good," convenient, "it's got everything basically a healthy person would want"	supermarkets like MK Ahmed Retail
Woman	early 30s	HR manager	1	none	nearby so stopped	Spencer's, Reliance, whatever is convenient
Man	mid-60s	retired advertising	4	~1500-2000/week	"fresh", "even though it's not organic it's fresh"; prefers parsley, lemongrass, bitter gourd, broccoli	organic stores like Ojas Organic and Grameena
Woman	early 30s	advertising	1	2,000/month	"fresh vegetables"	Top in Town
Man	early 30s	start-up	2	none	"quality", buys vegetables	Supermarkets

Gender	Age (approx.)	Profession	No. ppl in household	Budget	Why shop here	Where else shop
Man	mid-50s	restaurateur	5	none	has "world cuisine" restaurant so buys "exotic" vegetables here; "little more expensive" but the packaging is good and quality is good, "it might not be clean but it looks clean"	various shops
Woman	mid-40s	IT	3	~2,500/week	"quality of vegetables", "I know I'm paying more" but good quality; only comes once a month	pushcarts, various shops
Woman	early 30s	salon	2	none	"fresh vegetables"	Big Bazaar
Man	late 30s	software	3	none	"quality of produce"; what isn't produce isn't fresh, so prefers not to buy packaged items	Reliance, MK Ahmed Retail
Woman	late 40s	homemaker (husband is businessman)	5	10,000/month	nearby to house and "fresh", buys mostly fresh fruit and vegetables	MK Ahmed Retail, Big Basket
Couple	late 30s	software	5	none	"quality", prefer "exotics" and grocery items	other shops
Man	late 60s	insurance	2	3,000/month	"quality", buys whatever needed	Big Basket and Amazon
Man	late 30s	software engineer	4	~1,500/week	"primary concern is to get vegetables that are free of pesticides" because has kids	supermarkets
Man	late 30s	IT	4	1,500-2,000/week	"it's more about the fresh vegetables and fruits we get here," likes the "variety"	Home delivery through apartment complex
Couple	early 30s	housewife; engineer	3	none	"purity," "less preservatives and pesticides", "quality"	nearby markets like HAL market
Woman	mid-50s	teacher	5	none, but ~ 25,000-30,000/month	"they grow it in bore well water", prefers leafy and root vegetables	HOPCOMS, MK Ahmed Retail
Man	mid-40s	police	5	wife knows	"we get at once place everything", "good for organic"	Big Bazaar
Couple	late 30s	video game industry	5	none	"mostly for fresh," can get "whatever I need," but "price is higher" by 30-40%	MK Ahmed Retail

Gender	Age (approx.)	Profession	No. ppl in household	Budget	Why shop here	Where else shop
Woman	early 40s	vet hospital	3	none, but ~15,000/month	"very nice and fresh vegetables" and can get "all varieties"	MK Ahmed Retail
Woman	late 50s	educator	3	none	doesn't usually shop here	wherever is convenient
Man	mid-60s	retired engineer	2	none	buys mostly fruits, can get "exotic fruits" like grapes from Australia or US, can get "good vegetables" like basil	shops around "whole Bangalore"
Woman	late 20s	charitable trust	2	none	"most accessible" for her	Total Mall
Man	mid-30s	software	4	4,000/week	"fresh enough and good enough," likes the paneer, other cheese, and "continental stuff" like pastas	local vendors
Woman	mid-30s	auditor	1	none	convenient	MK Ahmed Retail
Woman	mid-40s	lecturer	4	~40,000/month	"I like it," it's "fresh"	"everywhere"
Man	early 50s	software engineer	4	none	"good food" and "no pesticides is what I heard", prefers fresh fruits and vegetables	Big Basket
Man	mid-40s	doctor	3	none	"gives the best greens"	malls
Man	early 30s	IT sales	1	none	"into body building" so buys broccoli, it's convenient, "can get most of the stuffs"	Not sure, just relocated
Man	late 40s	marketing	8	600/week for vegetables	"purely vegetarian and organic and fertilizers are not being used"	MK Ahmed Retail
Man	late 20s	studying	1	none	convenient	
Woman	early 60s	husband is police	4	10,000/month	works nearby so convenient	Total, Big Bazaar, Reliance
Couple	early 30s	software (both)	5	6,000-7,000/month	nearest to them	Not sure, just relocated
Woman	early 20s	student	4	none	convenient, "everything we get here in 1 store"	-
Woman	mid-30s	pharmacist	3	none, but ~3-4,000/week	Shopped here last 15 years, "the way the package is it's clean, I don't have to wash it so many times," likes the paneer and imported cheeses; loves to cook, so "basically I do all my shopping here"	local markets

TABLE 3
Local Organic Shop (Retails Prakriti's Fruit and Vegetables) Survey Responses

Note: Survey conducted at single retail location in Indiranagar on September 22 and October 2, 2015. A single dash (-) denotes absence of data.

Gender	Age (approx.)	Profession	No. ppl in household	Food budget	Prefer to buy organic	Why buy organic	Cost difference with non-organic/ challenges with buying organic	Why/how trust that organic	Where else shop
Woman	mid-40s	runs school	3	~70,000/month	milk, rice, dal, fruits, NOT vegetables	too many pesticides	veg "too expensive" instead grows on terrace garden	-	this organic store most convenient
Woman	late 50s	homemaker	2	none	vegetables and milk	no chemicals, which are "health hazard"	"little more expensive"	-	MK Retail
Woman	mid-40s	dentistry	3		greens, eggs, soaps, oils	"very high quality", "fresh" and "no pesticides"	things you cook everyday too expensive	-	MK Retail, nearby organic store
Man	early 60s	retired, defense	5	700/week	vegetables	"good for health", "stomach problems" now gone	cost is "double the rate"	-	MK Retail
3 women	late 30s	-	-	-	greens, spices, rice, jaggery	"it is pure"	cost is "slightly higher" but don't mind	Look for "freshness" and do research online	Namdharis, MK Retail, Nature's Basket
Woman	late 30s	-	-	-	milk, vegetables	"no artificial feeds", vegetables "not sprayed"	Milk is more but "I don't mind paying it"	-	-

Gender	Age (approx.)	Profession	No. ppl in household	Food budget	Prefer to buy organic	Why buy organic	Cost difference with non-organic/ challenges with buying organic	Why/how trust that organic	Where else shop
Man	late 50s	retired, reserve bank	2	wife knows	-	"no artificial fertilizers" which are "not good for health" b/c "spoils stamina"	Won't last long, not concerned about prices b/c "go for quality"	-	HOPCOMS, Nilgiris, Spencers
Woman	late 20s	housewife	3	none	spinach, veg, honey, milk	"there's a huge difference" with taste and "has no chemicals", healthy	"huge difference" in price but willing to spend	-	supermarkets
Woman	early 40s	business	3	none	greens, fruit, rice, oil, "almost everything"	want "pesticide free and fertilizer free," give support to farmers, keeps free from disease	difficult to trust	trust this shop owner, try a brand to see if good	Gopalan Organic, Patanjali
Woman	mid-40s	homemaker	3	none	greens, most veg	to keep away from pesticides	"lots of difference" in price	"you have to believe them", never know	MK Retail, supermarkets
Woman	mid-40s	housewife	3	none	veg, oil, pulses, groceries	"health", "chemical-free"	yes price difference	"whatever we believe in," go with larger brands	-
Man	late 50s	retired, defense	4	none	most items, especially veg, NOT rice	from a farming family, "we have fear of buying from outside with chemicals that are bad for health"	"a lot of price difference" but cost is for "good health"	"we believe these people, they're trustworthy", "we can ask questions, clear our doubts"	-

Gender	Age (approx.)	Profession	No. ppl in household	Food budget	Prefer to buy organic	Why buy organic	Cost difference with non-organic/ challenges with buying organic	Why/how trust that organic	Where else shop
Couple	mid-50s	retired, private sector	2	none	veg, groceries	non-organic is "poisonous"	-	-	-
Woman	mid-50s	banker	5	none	veg, cereals, pulses	"we hear that a lot of pesticides are being used", organic is "raised with proper standards"	-	"by experience" and from friends	MK Retail, Nature's Basket, nearby organic store
Woman	late 30s	teacher	3	none	"depends on what's available"	"safer"	yes price difference	-	-
Woman	early 50s	homemaker, teacher at Art of Living	-	-	vegetables "as much as possible"	"because of use of chemicals and pesticides" that cause cancer	some things not available, "huge" price difference	based on "the person" and the "rapport" that you have	online or supermarkets
Man	early 50s	software engineer	4	none	"as much organic as possible"	"pesticide free, chemical free"	brands come and go	look for brand names	stores that carry organic
Woman	mid-30s	homemaker	4	10,000/month	vegetables, greens	"no pesticides," have small children	"little expensive"	-	supermarkets
Couple	mid-30s	housewife & HP	4	-	"as much as possible"	-	difficult to get fruits like apples, expensive, "we don't know whether this vegetable is 100% organic" because "it looks the same"	this store is popular and busy so people trust it, and this area is a high end market so confident	local vendors

Gender	Age (approx.)	Profession	No. ppl in household	Food budget	Prefer to buy organic	Why buy organic	Cost difference with non-organic/ challenges with buying organic	Why/how trust that organic	Where else shop
Man	mid-30s	SAP	4	none	milletts, groundnuts, jams, sometimes veg	"there is so much of adulteration"	"I'm still not sure" if organic	choose brands that you "trust"	nearby organic store
Couple	mid-30s	software	4	~500/ week	honey, chillies, curry leaves	"I heard there are more pesticides" for these items	"choice is very less"	-	local markets
Woman	early 40s	designer	3	none	veg, cereals	"just to avoid pesticides"	availability is challenge	-	HOPCOMS
Woman	early 20s	studying medicine	5	none	veg, esp. root veg	reads reports about pesticides, "I see the difference", "I can taste the chemicals"	"much more expensive, almost double the price", "not readily available everywhere," "you don't know if it's truly organic"	-	-
Woman	early 60s	retired, bookseller	1	none	veg	"as far as possible I try to keep out pesticides"	"you don't get such a variety", "it's more expensive", and "lingering doubt whether it's truly organic"	-	-

Gender	Age (approx.)	Profession	No. ppl in household	Food budget	Prefer to buy organic	Why buy organic	Cost difference with non-organic/ challenges with buying organic	Why/how trust that organic	Where else shop
Couple	late 30s	housewife & Samsung	3	none, but organic veg ~300-500/week	veg	researched "excess use of pesticide", don't want children to consume	"have to go to specific places and specific times," and not sure if organic	"go to places we know about," recommended by friends, and "things should look a little dirty"	-
Man	late 30s	software engineer	3	none	rice, pulses, whole wheat flour, NOT veg	"healthy" and "homemade" snacks can't get elsewhere	not sure if prices appropriate	-	-
Woman	late 30s	consultant	4	none	nothing particular, millets, sometimes veg	in past could only get millets at organic shops	not everything available	-	MK Retail, HAL market
Man	late 30s	business	3	none	everything	"whatever you're getting in the market is pesticide", leads to cancer	"I prefer organic but it's too expensive"	-	-
Woman	late 30s	teacher	4	none	"everything," "as much as possible"	"to support the planet, to eat well, support my body and mind"	things packaged in plastic	-	-

Gender	Age (approx.)	Profession	No. ppl in household	Food budget	Prefer to buy organic	Why buy organic	Cost difference with non-organic/ challenges with buying organic	Why/how trust that organic	Where else shop
Couple	early 30s	professor	4	none	"new to this"	started buying because reading reports about pesticides, organic is "without pesticides and all that"	"not sure" about organic	trying out brands to see which like	-
Couple	early 30s	IT	3	5,000 groceries & 2,000 meat & fish/month	wheat, milk	"improve our quality of life"	"inconvenient" to come when delivery happens	-	-
Woman	late 40s	homemaker , husband is CEO	4	none	"everything"	"you get everything fresh and reliable", nonorganic as pesticides and there's "no control"	less variety	-	only this shop
Woman	mid-30s	software engineer	3	none	leafy vegetables	"I have a small child" and "nowadays you can't get essential nutrients"	"no proof whether it is organic"	trusts this place because the veg "don't spoil so easily"	-

Gender	Age (approx.)	Profession	No. ppl in household	Food budget	Prefer to buy organic	Why buy organic	Cost difference with non-organic/ challenges with buying organic	Why/how trust that organic	Where else shop
Man	mid-30s	engineer	3	wife knows	fruits and veg, pulses, "whatever is available"	"health reasons"	"not too many stores" and delivery infrequent, also "it's not certified" so have to "trust"	his wife knows the shop owner	-
Couple	mid-30s	wife is fashion designer	3	none	"whatever is available," esp. fruits, vegetables, milk, eggs	"healthy, nutritious" and "to support small farmers"	prices are reasonable, real question is why is non-organic so cheap? Some items much more expensive though, challenge that not everything available	-	-
Man	early 70s	retired, electronics	2	none	palak, ladies finger, pumpkin	small children in his home	less variety	-	-
Couple	early 30s	artists	2	none	veg, dairy, eggs	"all the reasons" like hormone use, treatment of animals and the soil, organic more fresh	not too challenging in Bangalore, but not always available	-	pushcart vendors
Woman	mid-30s	software engineer	6	none	fruits and veg, dal, turmeric, honey	"good for health" because "pesticide free"	"not much accessible"	-	supermarkets

Gender	Age (approx.)	Profession	No. ppl in household	Food budget	Prefer to buy organic	Why buy organic	Cost difference with non-organic/ challenges with buying organic	Why/how trust that organic	Where else shop
Woman	late 30s	business	3	20,000/ mo	veg, fruits	"to avoid pesticides" for a "healthy lifestyle"	"very less organic shops" and "prices are very high" and "not getting everything"	-	-
Woman	late 30s	marketing	5	none	"whatever I can get"	-	"only available on two days of the week" and at certain times, means there are long lines	-	Namdharis, Nature's Basket, Food Hall
Couple	mid-40s	Philips	5	none	veg, fruits, millets, wheat flour	"soil pollution and pesticides"	"supply is not so frequent" and "not always same vegetables"	-	-
Man	early 30s	IT	3	none		new baby daughter	this is first time shopping for organic, experience was good	-	-
Woman		designer	1	none	"everything" but organic coffee because doesn't like the taste	have to buy organic, "it's the only way to go"	now more available than 2 years back, but still expensive so not everyone can afford	-	-
Couple	mid-30s	wife is software engineer	4	none	veg, fruit, "food as far as possible"	"pesticide-free", want because have small children	"less easy access", but have driver come so it convenient, more variety at this shop	-	-

Gender	Age (approx.)	Profession	No. ppl in household	Food budget	Prefer to buy organic	Why buy organic	Cost difference with non-organic/ challenges with buying organic	Why/how trust that organic	Where else shop
Man	late 20s	business	2	none	veg and fruits	"100% healthy"	"availability"	-	-
Woman	mid-40s	housewife and teacher at Art of Living, husband is coffee planter	2	1500-2000/ week	"everything," veg, honey, ghee, soaps	through Art of Living got "awareness that there's a lot of manipulation", want to avoid doctor	no challenges, this shop is "heaven for us"	-	Art of Living ashram
Man	early 40s	engineer	1	none	"whatever's available", about 80% organic and 20% non-organic	did research, "wisdom of the past" is being lost and he wants to support "simple, quiet, healthy" life, now has less health problems	easy because lives nearby, but friends find difficult, "pricing" is main concern	shops here because "cause-related," not just about money	-
Man	late 30s	software engineer	4	none	"anything"	"the less pesticides the better"	"we need to have trust" and the price is higher	"enquire" about "on what basis they certify this is organic?"	Grows at home, buys from other shops

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