UNIVERSITY OF CALIFORNIA SAN DIEGO

In Pursuit of Quality: The Politics of Expertise and Transforming Agrarian Geographies in India

A dissertation submitted in partial satisfaction of the requirements for the degree

Doctor of Philosophy

in

Anthropology

by

Amrita Achamma Kurian

Committee in charge:

Professor Joseph Hankins, Chair
Professor Lilly Irani
Professor Martha Lampland
Professor David Pedersen
Professor Nancy Postero
Professor Kalindi Vora

2020

The Dissertation of Amrita Achamma Kurian is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

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Chair

University of California San Diego

2020

DEDICATION

This book is dedicated to all the people who have inspired me.

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ACKNOWLEDGMENTS

It took several communities spanning two countries to make this dissertation possible. First and foremost, I would like to thank my interlocutors in Andhra Pradesh, who welcomed me and allowed me hang about their offices, workspaces, and homes. For reasons of confidentiality, I cannot name them all here. Still, I thank you all for your invaluable inputs and support. In particular, I would like to thank the staff and officials of the Tobacco Board, who treated me as one of their own, and the farmers and laborers, who invited me into their homes. I sincerely appreciate all the women who went out of their way to feed me while I pottered around their farms and homes. I thank Srikanth, Cherukuri Garu, Madhavi Garu, Buji Mama, and Pinni for letting a complete stranger into their homes and for watching out for me during my two years of field research in Andhra Pradesh.

I would also like to express my gratitude for the institutions and grantors who supported the research and writing of this dissertation. These include the Wenner Gren Foundation, the UCSD Dean of Social Sciences, the Institute for International Comparative and Area Studies at UCSD, the Friends of the International Center at UCSD, and the UCSD Department of Anthropology. These grants and fellowship, and the work of their administrative staff, have served as a lifeline in supporting my doctoral degree.

At UCSD, a community of colleagues, mentors, and friends have contributed to the ideas developed in this dissertation. I thank my advisor, Joseph Hankins, for his guidance through each stage of the process, and, importantly, for his kindness through it all. I also truly appreciate all the advice and support I have received from Lilly Irani, Martha Lampland, David Pedersen, Nancy Postero, and Kalindi Vora. I want to thank Michael Berman, Waqas Butt, Kate Clark,

Louise Hickman, Amy Kennemore, and Amy Rothschild for the intellectual companionship and endless patience with my intellectual projects.

I thank all my friends and advisors at Delhi University's 'd-school,' particularly Prof. Deepak Mehta and (late) Dr. Rabindra Ray, for the intellectual debates and casual conversations over chai that set me off on my scholarly path. I thank the friends who have given me remote support throughout the course of a PhD in a foreign country, Rosa Abraham, Ashawari Choudhary, Liz Koshy, Pooja Palicha, Vijay Raj T., and Ishani Saraf. I thank my family, Kurian Mathew, Anina Kurian, Pamela Kurian, Subin Mathew, and Elizabeth George for suffering with me through the slow progress of my career, and for believing in its possibilities. I thank Leah Mathew and Abraham George for being refreshing distractions.

And last but not least, I thank my greatest critic and supporter, my editor and my dearest friend, Thomas George, for his immense patience, support, and kindness through all the madness of thinking and writing this dissertation.

Chapter 1 will, in part, be submitted as part of an article for *Science, Technology, and Society*. Amrita Kurian was the sole investigator and author of the chapter and of the article that will be submitted.

VITA

2005 Bachelor of Arts, in Philosophy, St. Stephen's College, Delhi University

2007 Master of Arts, in Sociology, Delhi School of Economics, Delhi University

2011 Master of Philosophy, in Sociology, Delhi School of Economics

2013 Master of Arts, in Anthropology, University of California San Diego

2020 Doctor of Philosophy, in Anthropology, University of California San Diego

FIELD OF STUDY

Major Field: Anthropology

ABSTRACT OF THE DISSERTATION

In Pursuit of Quality: The Politics of Expertise and Transforming Agrarian Geographies in India

by

Amrita Achamma Kurian

Doctor of Philosophy in Anthropology

University of California San Diego, 2020

Professor Joseph Hankins, Chair

This dissertation examines the making and un-making of expertise as it unfolds over the socio-economic geographies in India that grow Flue-Cured Virginia (FCV) tobacco. Specifically, the dissertation studies the work of agrarian experts of the Tobacco Board who work to improve the quality of this lucrative cash crop used in the manufacturing of cigarettes. A governing body monitored by the Central Government of India, the Tobacco Board is mandated to regulate FCV tobacco markets in India and protect the livelihoods of tobacco farmers. Agrarian experts at the Tobacco Board have to take into account the layered topography that includes farmers' costs of production and livelihoods, volatile international markets, and unpredictable agro-climatic

patterns, in their research and development. An ethnography of technical interventions, this dissertation studies the role of expertise in maintaining the delicate balance of this market ecology at a historical moment when the Indian government is gradually withdrawing its significant infrastructural investments in the cultivation of the crop.

Backed by the authority of the state, the experts' tendency to render technical masks the structural inequalities that undergird agrarian relations in India. However, my fieldwork with agrarian experts on research stations, farms, and auction floors shows that the Tobacco Board has formidable friends and foes in the actual process of implementing technical interventions. Implementing interventions on the ground is an exhaustive process of negotiating the limitations of geographies and the resentments of farmers and traders. At each step of the way, farmers and traders resist any change they perceive as being harmful to their livelihoods. Significant figures in the national imaginary of modern India, farmers use their political voice to redefine how technical interventions work on the ground. This politics of negotiation and antagonisms frames the making of expertise in the tobacco-growing geographies in India.

FCV tobacco's notoriety in health circles has, over the past few decades, reduced the demand for tobacco, and the competition in state-regulated markets is at an all-time low. Without Central government support, the Tobacco Board increasingly finds it difficult to uphold its mandate, leading to resentment and resistance from multiple stakeholders, especially farmers. If expertise plays an important role in the expansion of the capitalist market, this dissertation also illustrates that experts have to put tremendous amounts of work into sustaining capitalist markets for a cash crop that increasingly benefits fewer and fewer numbers of people.

Introduction

"There is a civilizational impetus to grow tobacco in this region," declared Mr. Mohan. "Why is that?" I asked suspiciously, looking up from my notes. Mr. Mohan looked a bit annoyed. "The specialty and peculiarity of tobacco are it is grown in regions of poor soil and low and marginal rainfall [*sic*]," he explained. Mr. Mohan was a senior official with the most prominent domestic tobacco company operating in the country, Indian Tobacco Company Limited (ITC Ltd). Specifically, he was a senior official of the company's subsidiary for Leaf Development and Procurement (ILTD). To that end, Mr. Mohan and the team he led worked with farmers to improve the quality of Flue-Cured Virginia (FCV) tobacco purchased from the region. Mr. Mohan employed an interview strategy that I would come to recognize as one of two templates employed by tobacco company experts I met in the FCV tobacco-growing regions in Andhra Pradesh[1]. He turned to the whiteboard behind his desk and began a lecture on the history of technical interventions toward improving the FCV tobacco crop grown in the region. What I relate here is taken from the copious lecture notes I took that day.

In declaring that there was a civilizational impetus to grow tobacco, he was partially patting himself (and his company) on the back. In working with farmers in the arid regions that grow tobacco, Mr. Mohan believed that his company's interventions had significantly changed the economy of the regions and the livelihoods of the farmers he worked with for the better. As a representative of the notorious tobacco industry, he was also defending an increasingly unpopular crop. This, I believe, explained the vehemence in his speech. Mr. Mohan was not simply relaying information on technical interventions; he was also using his work to legitimize his standing in the nation's agrarian economy.

[1]See chapter four on the tobacco industry's interview formats.

My dissertation is broadly a study of agricultural experts, like Mr. Mohan, who work on improving the FCV tobacco crop cultivated in Andhra Pradesh. As agri-experts, people like Mr. Mohan relied on technical solutions to improve FCV tobacco in the region, and thereby the livelihoods of farmers and laborers who worked in the process of producing FCV tobacco. At the same time, in considering the sustainability of the livelihoods of farmers within the scope of their profit model, Mr. Mohan was also a part of the governing bodies working in the region. Within this dissertation, I follow the making and un-making of technical interventions, and thereby of experts and their expertise, as it unfolds in the socio-economic geographies that grow this strain of tobacco. In this sense, I study the politics that ensue when experts play handmaiden in the capitalist expansion of markets. I show the tremendous amount of work that goes into maintaining and sustaining a commodity market that increasingly benefits fewer and fewer numbers of people.

Before going further, I will first situate Mr. Mohan's perspective within India's broader agrarian sector, and then, particularly, in the Flue-Cured Virginia (FCV) tobacco sector in Andhra Pradesh. Second, I will recap current debates in the sector that lend a sense of urgency to Mr. Mohan's re-examination of the history of technical interventions, perhaps also contributing to the tetchiness of his response. Third, I use this background to foreground my research sites in the FCV tobacco sector in Central-South Andhra Pradesh.

Background

India is the third-largest producer of tobacco. Even so, tobacco is a relatively minor crop in its agricultural economy. As of 2007, tobacco was grown on 1.11 million acres, accounting for only 0.3% of the total cultivated land (Jadhav 2018). Flue-Cured Virginia tobacco (FCV tobacco from here on) is one strain among many grown in India. Today, FCV tobacco is exclusively grown in two southern states, Karnataka and Andhra Pradesh, with about 1,15,400 hectares (approx. 285,000 acres) of land under cultivation in 2017 (Tobacco Board Annual Report 2017-2018). This dissertation exclusively studies the FCV tobacco sector in coastal Andhra Pradesh.

India is also currently the third largest exporter of tobacco. In 2017-18, India exported around 181,587 metric tons of tobacco (Tobacco Board Annual Report 2018). Apart from its use in the manufacture of cigarettes in India, FCV tobacco also forms the bulk of tobacco exports (124,686 out of 181,587 metric tons) and accounts for 80% of the earnings from tobacco exports. Although the production of FCV tobacco has decreased by a compound annual rate of 5.48% over the last five years, FCV tobacco's exports still bring in significant revenues[2] to Indian tobacco farmers and state coffers (ibid 2018, 13). As an export crop under the Central Excise Act of 1944 and a regulated substance under COTPA 2003[3], FCV tobacco is also heavily regulated by the Indian state. The Tobacco Board is one of five agricultural commodity boards in India that works directly under the Ministry of Commerce and Industry, Government of India, to regulate

[2]The Indian state earned 22,737.07 crore INR (just over 3.2 billion USD at current rates) during 2016-17 for excise duty and 5,539.94 crore during 2017-18 in terms of foreign exchange to the National exchequer. FCV tobacco earned 474.58 million US dollars in export in 2017-18 (Tobacco Board Annual Report 2017-18)

[3]The Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003 or COTPA, 2003 is an Act of Parliament of India enacted in 2003 to prohibit advertisement of, and to provide for the regulation of trade and commerce in, and production, supply and distribution of cigarettes and other tobacco products in India.

the export crop production in India[4]. In this dissertation, I refer to the Tobacco Board as Tobacco Board or simply 'the Board.'

Though in-charge of oversight of the entire tobacco sector, owing to its financial and regulatory significance, the Board concentrates its work on FCV tobacco and on the FCV tobacco-growing regions in the country. The Tobacco Board regulates the production and marketing of FCV tobacco and controls its supply based on market demand in India and abroad. The Board also provides agri-extension services to farmers, and these responsibilities require Board officials to interact closely with farmers, manufacturers, and traders. Tobacco manufacturing companies, like Mr. Mohan's, collaborate closely with the Board to develop and improve the FCV tobacco crop produced in Karnataka and Andhra Pradesh. Complicating matters somewhat, due to Indian Leaf Tobacco Development's (ILTD) long-term affiliations to FCV tobacco agriculture and farmers in the region, the corporate also plays an agential part in farmers' welfare (see chapter two). On the other hand, as a rent-earning regulator of a highly commercialized export crop, the state sometimes acts like a corporate in the sector (see 'corporate regimes of governance' in Rajan 2006, 80).

Tobacco companies and the Board collaborate and compete in the research and development of new ways to add value to the FCV tobacco crop. They research and develop agricultural inputs, such as high yielding, high-quality seeds or new environment and market-friendly pesticides and fertilizers, as well as develop newer cultivating practices. They collaborate to organize agrarian seminars and field trials to disseminate knowledge on new agricultural inputs, cultivating practices, and market stipulations. The Board and the industry also provide loans and credit for farmers to purchase inputs, and the former's credits are often

[4]The other export commodities with commodity boards in India are tea, coffee, spices, and rubber.

interest-free, as part of Central government aid to farmers. That is, the Board and the tobacco companies, in today's parlance, can be called 'frenemies.' As I shall demonstrate in subsequent chapters, they have some similar objectives and some very different goals in their conception of science and development in the agrarian sector.

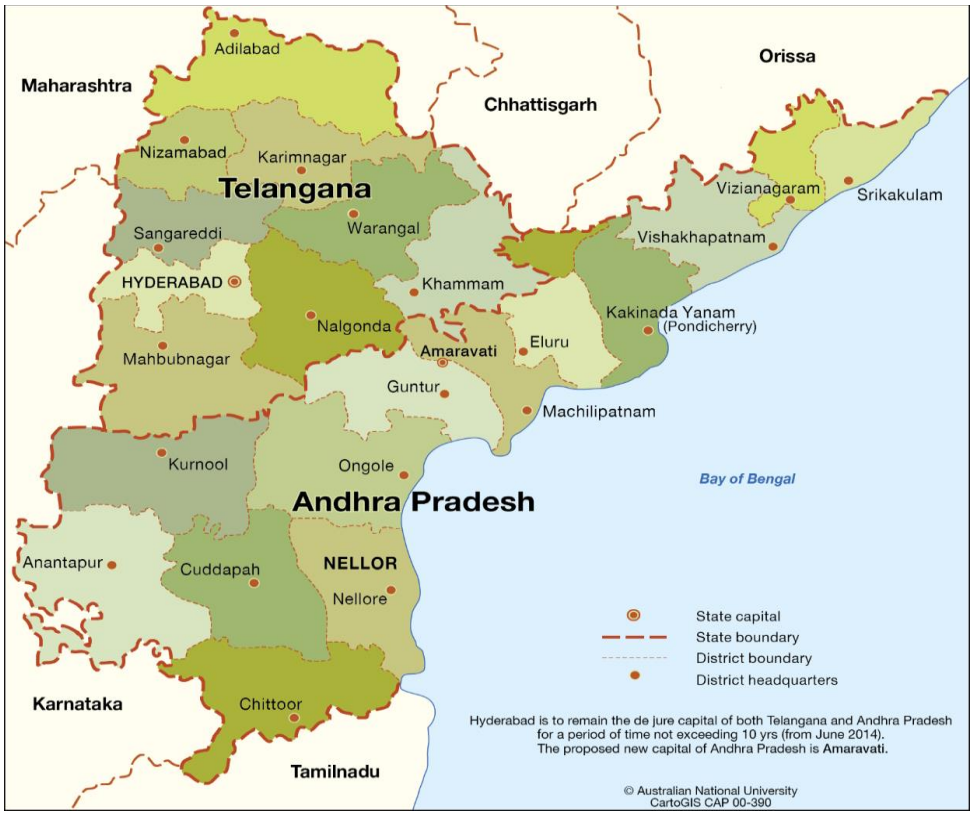

Figure 0.1: District Map of Andhra Pradesh
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Coming back to Mr. Mohan, I will now explore the veracity of his claim that 'there is a civilizational impetus to grow FCV tobacco in the region,' which also allows me to introduce some of the FCV tobacco-growing regions I worked in and some of the protagonists that animate this project. I met Mr. Mohan in Guntur town in Andhra Pradesh, the larger and older of the two

FCV tobacco-producing states in India[5]. It is this region, Guntur and its surrounding districts, areas under Mr. Mohan's administrative purview, that he had referred to in claiming for them a 'civilizational impetus to grow tobacco.' His claim was partially valid, and Guntur town was a testimony to this. Though Guntur district no longer grew much tobacco, its relationship to tobacco cultivation in the region was deep rooted. Guntur was headquarters for the Tobacco Board and several prominent tobacco manufacturers and exporters. Guntur's town had made its fortune by funneling tobacco profits into its infrastructure and economy, signs of which were visible everywhere.

Mr. Mohan's reference to the aridity of the region was also partially accurate. While Guntur had been infamous for severe droughts and famines in the colonial records of the 19th century, by the turn of the 20th century, the Nagarjuna Sagar Dam irrigation project had changed the socio-economic terrain of the region. Today, several regions to the South and South-west of Guntur continue to face harsh weather patterns and low-quality soils without the same irrigation facilities. This research is located in one such district, Prakasam. The district was formed in 1970 by merging parts of Guntur (north), Nellore (south), and Kurnool (southwest). Prakasam is marked by extreme summers and seasonal cyclones that are critical factors in determining the crop patterns in the region. Temperatures here soar to as much as 116 degrees Fahrenheit in peak summer, while annual rainfall averages 798.6 mm. Several parts of Prakasam are arid and drought-prone and depend on annual rains to raise their crops. The agro-climatic conditions of regions like Prakasam are proffered by tobacco companies and the Central government as the primary reason to continue tobacco cultivation here. Specific characteristics of FCV tobacco, it is implied, make it an especially suitable crop for cultivation under such challenging conditions.

[5]Karnataka started growing FCV tobacco only in the 1920s.

Since, FCV tobacco crop relies on leaves rather than the fruits of the tobacco plant, the crop can, comparatively better, survive untimely cyclonic rains. Unlike ripening chilies that fall off the stalks during cyclonic rains, tobacco farmers can retrieve a relatively higher yield from the standing tobacco crop on a disaster-affected farm (although, this is not the case if the plant falls). More importantly, some regions within Prakasam, especially the Black soil belt, grow tobacco rainfed. That is, farmers here use the residual moisture retained by the soil after the returning monsoon in October to irrigate the FCV tobacco crop. That is, for places classified as arid and drought-prone, FCV tobacco crop is conveniently water efficient.

However, there are several factors and tendencies within FCV tobacco cultivation that Mr. Mohan had omitted to speak of, for example, FCV tobacco's high cost of production for farmers in the region. The name of this strain of tobacco references a particular history and infrastructure. Flue-Cured Virginia tobacco was initially imported from the United States to India by British tobacco companies to provide raw materials for the UK market, later expanding to the domestic market, and then worldwide (Cox 2000; Sinha-Kerkhoff 2014). The specialty of this strain of tobacco is that its processing requires added infrastructure in the form of barns. Harvested green tobacco leaves are strung together on sticks and arranged on racks inside barns and cured by the heat generated by burning firewood, conducted through the barn by flue-pipes. The cured leaves once bulked to control for moisture content are graded and packed into bales, before they can be sold on state-led auction floors. Thus, apart from being lucrative, FCV tobacco also requires significant infrastructure (barns, grading halls, storage space) and a dedicated workforce to make it to market. Moreover, since barns need to operate at maximum capacity to make up for the cost of firewood, farmers need to own or lease enough land to fill their barns or find partners to share or lease their barns, every season.

Figure 0.2: Flue-Cured Virginia Tobacco

Since growing FCV tobacco is a costly undertaking for farmers, landowning farmers, particularly those with the substantial resources required for undertaking the cultivation and improvement of the crop, are the main subjects of expert interventions in the region. On the other hand, all these factors also mean that cultivation and allied activities provide seasonal employment for significant numbers of agrarian laborers in Andhra Pradesh, a fact that the industry never tires of reminding the anti-tobacco lobby[6]. In spite of this, since they were seasonally engaged, laborers and contractors fell outside the purview of expert's interventions. As this dissertation shows, FCV tobacco has significantly altered the geographies that grow the

[6] According to the Tobacco Board Annual Report, 2016-2017, the tobacco sector employs 45.7 million people directly or indirectly in 2016-2017. However, this figure is for the entire sector and includes people working in allied industries.

crop, but in doing so, its cultivation has relied on existing caste hierarchies in the agrarian sector in Andhra Pradesh that are conditions of formation of categories like the affluent land-owning farmers and the landless laborers. Another marked difference is that these two groups are highly gendered. While most farmers (and traders and Board officials) I came across were men, the agricultural laborers were predominantly women (and, in spite of their majority in wage labor, they were paid almost a third less than their male colleagues).

Another significant factor that Mr. Mohan omitted to mention was that historically the cultivation of FCV tobacco in the region has constantly moved, from one soil region to the next, depending on changing market preferences, what experts' in the region refer to as the *desirability* of FCV tobacco (see chapter one). This movement has, in the past few decades, shifted cultivation to more irrigated regions (on the banks of Godavari in North Andhra Pradesh) or to regions with ample rains (Karnataka). More crucially, Mr. Mohan's company, the largest buyer of FCV tobacco in the country, has openly declared its preference for the FCV tobacco grown in the above regions of the Godavari districts and Karnataka. So, if growing FCV tobacco was a "civilizational impetus" in arid regions, then it begged the question as to why there was a movement away from these arid regions and to regions where there was no such impetus to grow tobacco.

Today, under pressure from tobacco control lobbies, the government of India has devoted significant resources to a crop diversification program (CDP) in the FCV tobacco-growing region in an attempt to phase out the crop[7]. Despite such efforts, several farmers and Tobacco

[7] India is a signatory to the Framework Convention for Tobacco Control (FCTC) of the World Health Organization (WHO), which has committed to decreasing the supply and demand for tobacco and tobacco products. The Health Ministry of the Government of India (MOFHW) has argued that the cost to the state due to tobacco-related diseases and death outweigh the benefits of revenues from tobacco production and export. There is a worldwide decrease in demand for tobacco and tobacco products due to consumers' awareness of the health ramifications of tobacco use. These factors explain why the area under FCV cultivation has decreased by 5.48% over the past five years.

Board officials' characterized FCV tobacco cultivation in the region as an 'addiction.' Another factor Mr. Mohan had omitted to speak of was the significant reason behind this 'addiction.' When farmers referred to FCV tobacco cultivation as addictive, they were not talking about their tobacco habits or the inadvertent intake of nicotine during harvest that health lobbies pointed to (Green Tobacco Sickness). Neither were they referring to the ethics of cultivating a time-sensitive crop that Peter Benson's ethnography on tobacco farmers in the United States speaks to (Benson 2011). Tobacco farmers were addicted to FCV tobacco because FCV tobacco farmers and markets in India enjoy significant benefits of state protectionism as well as corporate investments in the region that most other farmers in India are not privy to.

In this dissertation, I focus on this layered topography of factors, including state revenues, farmers' costs of production and livelihoods, volatile international markets and unpredictable agro-climatic patterns, that simultaneously provides the impetus for FCV tobacco farming in the region while masking the costs and labor involved in sustaining the production of the lucrative crop. Particularly, I study the role of expert administrators in maintaining the delicate balance of this ecology, even as the Indian state slowly recedes from the sector. If FCV tobacco cultivation is 'a civilizational impetus' for arid regions like Prakasam, then, for the same reasons, these regions and its farmers stand to lose from the slow disintegration and dismantling of the infrastructures that support the crop.

Apart from farmers, there are also many businesses, like Mr. Mohan's, that profit from FCV tobacco cultivation. According to the Tobacco Annual Report 2017-2018, buyers comprised of 1160 organizations, including manufacturers, exporters (of tobacco and tobacco

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However, as of 2018, scientists at the Central Tobacco Research Institute (CTRI), under the Indian Council of Agricultural Research (ICAR) of the Government of India, are yet to find a suitable alternative crop for some of these regions in Andhra Pradesh. Currently, they have suggested reducing a farmer's total area of production of tobacco by diversifying into several other crops (see ctri.org).

products), local traders, dealers, graders, and packers. However, in the regional markets where I worked, buyers comprised mainly of two-three manufacturers and about thirty or so exporters, and local traders and dealers. As I elaborate in chapter two, these buyers competed with one another but were unified as an interest group vis-à-vis farmers and the state. Group interests were represented mainly by the Indian Tobacco Association (ITA). In line with my interlocutor in Andhra Pradesh, in this dissertation, I refer to the disparate groups that constitute the buyers of FCV tobacco in Andhra Pradesh as 'the trade' or traders.

The Plot

Thus far, I have provided the broad context and framed the debates that situate my field research. I have also described some of the main characters who animate this dissertation project. Now, I will introduce some of the theoretical interventions that I make in this dissertation. I had originally conceived of a project to study scientists working in agri-research labs and their role in the production of scientific knowledge in the development of FCV tobacco. Unfortunately, the head state tobacco scientist had not even entertained the idea of having me poking around his lab. Unsure whether to approach the Ministry of Agriculture in Delhi or proceed directly to Andhra Pradesh, my primary field site, I finally decided on the latter and took a train to Hyderabad, the capital of what used to be united Andhra Pradesh and was by then already Telangana[8].

Here, it is important to note that the FCV tobacco sector, while highly regulated by the state, does not attract much NGO interest for the same reason. So, forsaken by state bureaucrats and development organizations, I eventually decided to talk to the corporate officials of major tobacco companies instead, uncomfortably aware of the ethical ramifications of such a move.

[8]In 2014, Andhra Pradesh split into two, Telangana and Andhra Pradesh.

After several days of rummaging through the yellow pages, I finally landed my first interview, and on a sunny morning in October 2015, sat nervously waiting in the air-conditioned offices of a major domestic tobacco company's headquarters in Guntur. I knew I would be perceived with suspicion. As hinted at earlier, the tobacco industry had ample reasons to suspect a social scientist. The health NGOs were swarming with people like me, who regularly agitated against the tobacco industry. A brief introductory meeting with the chairman of the company, concluded with the declaration, "nicotine runs through my veins," instilled a little confidence in me and led to an introduction to Mr. Mohan. Thus, Mr. Mohan and I sat down to begin our uncomfortable conversation on the history of technical interventions in FCV tobacco production in the region.

Although Mr. Mohan and I remained only acquaintances after our meeting that day, my access to the Tobacco Board and farmers in the region was initiated with this meeting. I have also introduced Mr. Mohan, so early in this dissertation, because I realize, in retrospect, that my dissertation scrutinizes Mr. Mohan's stance and the many significant claims he made that day. This is because, as mentioned earlier, my dissertation is a study of how expertise is made and unmade in the FCV tobacco sector through various technical interventions implemented in the sector. Experts, as described here, are the people who develop and improve the quality of FCV tobacco sold (and exported) from FCV tobacco-growing regions. Mr. Mohan was one such expert and, according to him, he engaged in crop development from the DNA of the seed to tillage and curing. He characterized himself (and, by extension, his division) as a facilitator and educator. Thus, even though I could not access labs, I study the stages by which experts researched, developed, and 'improved' FCV tobacco for domestic and international markets through the interventions they made in the sector.

Though Mr. Mohan's company would later be instrumental to my meeting with the Tobacco Board, Mr. Mohan was not as generous in his appraisal of his colleagues working for the state as he had been in representing the role his company played in the regional economy. According to Mr. Mohan, after the formation of the Tobacco Board in 1976 and the institution of state-led auctions in 1984, "the Board did very little to help with the FCV development." He characterized the period as a "period of lull in the crop development." As mentioned earlier, the relationship between Board and tobacco company officials is often characterized by such odd combinations of backhanded comments and solidarity. Their solidarity arose from the fact that they both perceived themselves as experts (efficient or inefficient) engaged in the development of the crop's quality. Their solidarity also emerged from the fact that they both considered themselves to be representatives of highly commercialized commodity markets and guardians of farmers' interests. Their differences, on the other hand, stemmed from the fact that the experts working for the Board were state representatives and bureaucrats, while Mr. Mohan represented the goals of ITC and by extension, the tobacco industry. These aspects oriented how representatives of these two entities went about enacting their similar goals of improving the commercial crop produced in the region.

A note on how I use the term experts in this dissertation. I refer to the large group of agricultural science majors who work in the research and development of FCV tobacco as experts. State experts are a subset of this group, consisting of Board officials and state scientists who have bureaucratic responsibility and other administrative tasks apart from crop development. The Board's administrative tasks involve regulating traders and farmers, and arbitrating between them during FCV tobacco auctions. In terms of technical interventions toward crop development and improvement, the Tobacco Board officials relied heavily on state

scientists from the Central Tobacco Research Institute (CTRI) to research and develop solutions. As has already been mentioned, major domestic tobacco companies, like Mr. Mohan's, also had R&D units that corroborated and competed with state experts. Beyond this, the Board also disseminated knowledge regarding crop cultivation practices, inputs, subsidies, and the latest market stipulations through pamphlets, annual reports, agrarian seminars, and conducted field trials. In all these tasks, the Board collaborated with both state scientists and industry scientists and officials, such as Mr. Mohan, to educate farmers. Tobacco companies also conducted their own field visits and distributed inputs and know-how in the tobacco-growing villages through their field officials. Though this study largely focuses on state experts, due to the nature of their close collaboration, I intermittently include tobacco company experts when studying certain technical interventions that were the result of a collaborative effort. For the same reasons, technical interventions examined throughout this dissertation take multiple forms, including seeds, digital technology, and agrarian seminars.

As scholars of expertise have suggested, experts are people who have intimate knowledge of culturally valuable things that are relatively inaccessible to others (Knorr Cetina 1999, 135). But, "expertise is also the ability to finesse reality and animate evidence through mastery of verbal performance" (Matoesian 1999, 158 in Carr 2010, 19). The production of knowledge and implementation of technical solutions are also boundary-making processes that homogenize farmers, mask agrarian realities, and co-opt local and national egalitarian and development discourses to accomplish this task (Bowker and Star 2004; Lampland and Star 2009). In the case of FCV tobacco, experts were also part of institutions that profited from enabling and sustaining the expansion of free markets.

Yet, boundary-making, whether it be through regulation, quantification, standardization, or quality production is a messy process with frequent ruptures, requiring immense amounts of work (Hankins and Yeh 2016). Moreover, experts working in developing markets exporting to countries in Europe and Asia also straddle asymmetries, of histories and limitations of geographies, in their knowledge-making practices (Redfield 2002; Abraham 2007, 2014). In this sense, this dissertation speaks to postcolonial legacies as much as it speaks to development, capitalist expansion and globalization as larger dynamics channeled by the boundary making practices of FCV experts (Mitchell 2002). Individual chapters show how negotiations to implement various technical interventions drew on discursive registers ranging from colonial and national improvement projects, egalitarian reform movements, and demands to privatize markets over the course of the history of the Indian nation-state, as well as on globally-circulating ideals of transparency, environmental sustainability, and market standards.

For experts to accomplish all of the above tasks, they depend on the participation of their opposite, the lay people (the laity, the native, and the peasant) vis-a-vis whom they become a group (William 1985, 129; Philip 2004; Ludden 2016). And, while the tendency to render technical is a hegemonic way of responding to these scalar conflicts, backed by the authority of the state, the actual process entails a lot of what I call the politics of negotiations. In practice, the Tobacco Board officials were always negotiating stipulations and commitments with multiple stakeholders ranging from international traders to the farmers, all the while dealing with the limitations of agro-climatic conditions, small landholding sizes, and a competitive industry. Significantly, in the case of FCV tobacco, development subjects included powerful local rural capitalists and political voices from the dominant peasant castes, who mobilized their

development status and connections to the region's politics to push back against both state and company experts.

However, neither the Board's failures nor their politics of negotiation negates the fact that their technical solutions incrementally changed the dynamics of agrarian relations of production and the nature of state bodies, even when changes weren't planned or expected (Murray Li 2005). As several scholars of development and postcolonial studies have shown, science has historically served as a handmaiden to both colonial and capitalistic expansions across the globe (Drayton 2005; Arnold 2005; Gidwani 2008). So it should come as no surprise that technical solutions implemented to promote the commercialization of FCV tobacco have drawn on existing hierarchies and reinforced them where they allow for capitalist expansion (ibid 2008).

The Tobacco Board's failures and politics of negotiation also highlight that experts do not function in a vacuum. Commercial cultivation of FCV tobacco has also led to the democratization of the sector (see chapter two) (Ratnam 2008; Ramamurthy 2011). The Tobacco Board has formidable friends and foes, depending on the mode of intervention considered. On each step of the way, farmers, traders, and laborers have pushed back against changes that adversely impacted their lives through everyday acts of resistance, agitations, and movements. Farmers redefine how technical interventions work on the ground through practical and rhetorical means. Whether expert or farmer, official or laborer, every person I met in the field had their own goals and beliefs, whether they represented the rent-seeking state or the profit-seeking trade, or were wealthy farmers or laborers who were left out of the ambit of expert intervention. I highlight this politics of negotiation to bring back politics as a goal and a practice into anthropological research, not simply as nostalgia for peasant politics, but as an example of the antagonisms that is inscribed in the cultivation of fellow feeling (Chatterjee 2008, 2011;

Postero and Elinoff 2019; Hankins 2019). In this last sense, my dissertation builds on these negotiations to illustrate the moments of solidarity that result from them, as much as the labor required in sustaining negotiations, even among experts, the handmaidens of colonialism, development, and capitalism.

Outline

“It was six men of Indostan,
To learning much inclined,
Who went to see the Elephant
(Though all of them were blind),
That each by observation
Might satisfy his mind.

The *First* approach'd the Elephant,
And happening to fall
Against his broad and sturdy side,
At once began to bawl:
"God bless me! but the Elephant
Is very like a wall!"

The *Second*, feeling of the tusk,
Cried, -"Ho! what have we here
So very round and smooth and sharp?
To me 'tis mighty clear,
This wonder of an Elephant
Is very like a spear!"……

The *Sixth* no sooner had begun
About the beast to grope,
Then, seizing on the swinging tail
That fell within his scope,
"I see," -quoth he,- "the Elephant
Is very like a rope!"

And so these men of Indostan
Disputed loud and long,

Each in his own opinion
Exceeding stiff and strong,
Though each was partly in the right,
And all were in the wrong!!

John Godfrey Saxe, *Blind Men and the Elephant*.

My approach in this dissertation mimics the approach of the protagonists of the famous fable of The Blind Men and the Elephant. I approach the problem of (state) expertise across multiple technical interventions. Since technical interventions take the form of research, development, demonstration, and dissemination towards the improvement of FCV tobacco crop in India (as described above), every chapter of this dissertation uses distinct theoretical lens. Theories from science and technology studies, anthropology of the state, standardization, and agrarian studies are juxtaposed, depending on the nature of the intervention under consideration. This multi-flanked approach to expertise iteratively builds a picture of the current status of all the people in the FCV tobacco sector. I also take this perspective because it best reflects my field research in Andhra Pradesh, India. Most of the main interlocutors whose words and actions animate my ethnography approached the production of FCV tobacco from distinct vantage points and goals. These vantage points and goals were the cause of antagonism, which required constant negotiation, agitation, and persuasion. On an everyday basis, they also laid the conditions for solidarity among those situated at otherwise opposing structural locations.

In doing so, I also illustrate how the perspectives and goals of state and tobacco company experts pan out in the form of technical interventions seeking to homogenize and simplify all the stakeholders in the sector. I highlight how technical interventions predicate the landholding farmers, and, within this group, the affluent peasant farmer, as subjects and protagonists. That is, I caution that expertise allows state and tobacco company officials to selectively understand

precarity in the agrarian sector in India today, while acknowledging that, with the depleting demand for tobacco worldwide, even affluent farmers and state experts confront the limits of how much the system benefits them.

The first chapter of this dissertation, "Articulating Quality," studies how experts in the sector reconcile fluctuations in the concept of quality of FCV tobacco. As one of the core concepts driving crop improvement and development in the sector, quality provides the basis for scientific research and market-oriented standardization of FCV tobacco. In line with experts in the FCV tobacco sector, I refer to the scientific parameters of quality used in the research and development of technical interventions on the crop as *usability,* and to the market desire that drives the quality of the finished product as *desirability* (Ramalingam 1992). I show how quality has the peculiar characteristic of being both highly rigid and technical while being highly fluid and unstable at the same time, a function of it being defined differently by different stakeholders at different times and in different places, depending on which of these definitions of quality are being considered.

Most experts in the field, implicitly or explicitly, recognized this paradoxical nature. Dr. Lakshmi, an agrarian scientist working with the state, stated that quality was decided on the basis of the color of the cured tobacco leaf and the corresponding Board assigned grades on individual tobacco bales. Recognizing my difficulty in seeing how the color of the cured tobacco leaf, moving along a decreasing scale of quality from bright-orange to lemon yellow to green tinged yellow/orange to various shades of brown, corresponded with the grading schema, which move along a seemingly random scale of bright orange and lemon yellow to brown to green tinge to brown again, she laughed. "No, normally, visually what you see corresponds to quality…..An

experienced person can definitely say from color. Not just look at it, but if you can feel it. And the smell also….Color, feel, smell, three are important….."

The aberrations in gauging quality, for Dr. Lakshmi, stemmed from a lack of experience or carelessness, attributed to the individual Board officials who assigned grades to FCV tobacco bales or the traders who bought the bales at auction. Since grading was subject to "qualitative analysis" involving a complex visual-tactile process of seeing, smelling, and touching, its practice varied significantly from person to person. Dr. Ram, a senior scientist with a tobacco company, defined quality a little differently. "Perception of quality is different for different people. Trade quality is dependent on the customers, unlike farmers. It is highly difficult to give a definition of quality." For him, quality was what individual manufacturers and exporters' foreign customers needed. It should be noted here that neither scientist would necessarily disagree with the other. If they prioritized one aspect over the other, they were doing so based on the different definitions of quality they used, based on goals determined by their roles (or vis-à-vis me).

The first chapter also explores experts' frustration as they persisted in stabilizing definitions of quality in their negotiation with fluctuating markets and agro-climatic geographies. Determining definitions of *usability,* the fixed, general parameters of quality, was especially important because it determined the stance of research and development and technical interventions on the ground. Over the decades, 'this stance' has come to determine the nature of infrastructure and cultivating patterns in the FCV tobacco-growing regions. However, as this chapter shows, the polysemy of *desirability,* in its articulation and enactment, makes taking a stance to stabilize the epistemic object of usability an uphill task. Since experts, like Dr. Lakshmi

(above), believed themselves to be conduits in the production of objective scientific facts, I have used laboratory studies to illustrate their epistemological conflicts on a daily or seasonal basis. I use postcolonial science studies to situate agri-experts and their conflicts within large scale issues like asymmetries of histories and limitation of geographies that define agri-science research and infrastructure in India.

The second and third chapters on governance and mediation explore the causes of and outcomes from the disdain that Mr. Mohan demonstrated in his description of the Tobacco Board. Chapter two, "The Neutral Intermediary," studies how state experts, specifically the Tobacco Board, came to occupy the structural position between traders and farmers, and suggests that this structural location is what makes the Board highly susceptible to the ire and resentment of both traders and farmers. The chapter traces the figure of the intermediary or broker to the colonial land taxation system in Andhra at the turn of the 19th century and, from there, follows it through the institution of commercial markets for FCV tobacco in India in the early decades of the 20th century, all the way to the advent of the Tobacco Board in 1976. Drawing on Nata Duvvury's pioneering work on the FCV tobacco marketing system, published in 1985, I use the term intermediary, rather than brokers or middle-men, to draw out a continuity between earlier private intermediaries and later representatives of state, i.e. the Tobacco Board, and their origins in the rural capitalist class of peasant caste farmers.

The second chapter gives a historical sense of the division of labor in the tobacco sector and shows how the state, in replacing a long lineage of brokers, built on existing rural patron-client networks that benefitted certain class-castes of affluent peasant farmers. That is, it shows how, in replacing or regulating these private intermediaries, the Tobacco Board continued

privileging the affluent farmers. Yet, as a bureaucratic state machine, this lineage was masked by the Board's self-proclaimed neutrality and their official unaccountability to different interest groups. Their status as agrarian experts, over and above their status as state experts, further dissociated them from their link to rural networks of power. I argue that this structural location further complicated their work as experts.

The third chapter, "Transparency via Opacity", returns to mediation in the present, almost forty years since the institution of the Board as regulator and arbitrator of the FCV tobacco market. By the 1990's anti-corruption, accountability, and transparency, terms used in global policies on governance and espoused by development institutions like the World Bank's Transparency International and the Internal Monetary Fund, had become part of Indian public rhetoric. The Indian middle-classes, now less dependent on patron client relationships with the state, sided with corporate India in demanding transparent governance. Here, technical expertise and innovation solutions were given credence at the expense of the politics of governance (see Chatterjee 2011a; Subramanian 2015; Irani 2019). In the FCV tobacco sector, the state's lack of accountability to stakeholders became the subject of farmers' and traders' resentment.

Moreover, some of the resentment against the Board stemmed from allegations rooted in widely acknowledged realities. Board officials had indeed begun profiting as individuals from extra-institutional services selectively provided to individual farmers and traders in their capacity as marker regulator. State corruption, understood as the misuse of public resources for private gain, compounded the existing concerns and resentments about state interference in markets and its inefficiency as market regulator.

Responding to the relentless pressure from interest groups, the Board relied on technical solutions to resolve the problem of corruption within their ranks. In 2011, it introduced e-auctions in an attempt to use digital technology to rectify problems of 'human fallibility'. Using ethnographic data collected by observing and participating in FCV tobacco auctions, I show how digital mediation between state officials and buyers worked with the principle of transparency through opacity. Digital technology did increase market transparency, but it did so by blocking farmers and Board officials from tracking live auctions. Tracing the consequences of these minor shifts, I argue that they adversely impacted the state's authority and legitimacy as the market regulator to the benefit of traders, who, without close regulatory scrutiny, could now control prices.

The fourth chapter, "Non-Tobacco Related Materials," studies the relationship between hierarchies among farmers in Andhra Pradesh, owing to their class and caste backgrounds, and its relation to FCV tobacco market stipulations being enacted today. In it, I return to my conversation with Mr. Mohan, the ILTD official quoted at the beginning of this introduction. In line with his administrative responsibilities, that draw their lineage from colonial projects of improvement, Mr. Mohan believed that Indian farmers were in dire need of education. Referring to one of the more recent market standards under consideration, Non-Tobacco-Related Materials or NTRMs, he illustrated how tobacco farmers were often lazy and unclean. NTRMs referred to foreign objects that contaminated the packed FCV tobacco bales sold at Board-led auctions, which rendered these bales less desirable and candidates for rejection. The points of contamination were indicated to be the sites where the post-harvest processing of FCV tobacco took place, the premises of the farmers' barns and grading halls. In drawing attention to the sites where and practices through which contamination occurred, Mr. Mohan located the farmers, who

owned these sites and employed the laborers who worked on them, on a hierarchical scale based on the company's understanding of good agricultural practices, demonstrating vividly how market-oriented standards reinforce existing hierarchies among farmers based on their caste and class locations.

The chapter goes on to trace the lineage of the term 'progressive farmer' to colonial projects of improvement and the Nehruvian state's planned economy. It argues that the ideal of the 'progressive farmer', attuned to technology innovation and market stipulation, also corresponded to the affluent peasant castes in the region, who the FCV tobacco economy boosted to political and economic power. Today, farmers are a political voice and voting bloc that political parties revere and fear because they can swing majority votes, while their agitations arrest the time of technical rationality espoused by the bureaucratic state and by technology-based corporates (Chatterjee 2011a). By tracing the politics of negotiation between experts and individual farmers, located at different points within existing hierarchies in the region, I highlight the continuing importance of the role farmers' play in the political imaginary of the Indian nation.

The final chapter, "Flowers of Deception," studies the agrarian seminar as the site of knowledge dissemination to question who the experts predicated their interventions on. It suggests that the privileging of farmers, as landowners and lessors, tied by many cords to the land and the crop, has had other consequences. Most significantly, experts' technical interventions toward enabling environmental sustainability in the commercial cultivation of FCV tobacco have excluded the larger population that depends on and sustains the FCV tobacco crop in the region, the agrarian laborers. This chapter juxtaposes expert recognition of, and response

to, a virulent parasite which stands in as a metaphor for the changing agro-climatic conditions in the region, with the everyday work of agrarian laborers who sustain the FCV tobacco crop. By doing so, it shows how agrarian laborers, consisting not incidentally of mostly poor Dalit women, engaged with the crop and the parasite. Although they were also as much victims of monoculture and agro-climatic change, laborers were either absented from experts' world-making practices, or, on the rare occasion they made an appearance in it, were seen as disruptions to the status quo.

I argue that the elision of laborers from the experts' worldview and world-making practices hinges not only on landownership but also on the history of exploitation of caste-based labor on which agrarian relations in India largely rest. Since laborers were now afforded greater mobility in being free to sell their labor without displaying the dedication that experts and farmers expected of them based on a long history of exploitation, laborers were the recipient of farmers', traders', and official's ire and resentment. For all these reasons, while farmers were eligible for state-based subsidies and relief funds, laborers were absented from involvement in all state-led programs and interventions, including as beneficiaries of such largesse. I conclude by using this juxtaposition of worldviews and world-making practices to argue for the importance of not-flattening the human in our scholarly quests to ontologize the nonhumans that proliferate in the experts' worlds and worldviews.

Methods

During my field work, I enjoyed the privilege of being able to navigate between various stakeholders in the sector because I was viewed as an apprentice expert among seasoned experts, whether among Board or company officials or farmers and laborers. People were kind,

forthcoming, respectful, and reticent in their interactions with me. Many had trouble reconciling my expert knowledge with my age and gender.

On the farms and the auction floors, people celebrated, commiserated, and gossiped with one another. While state and company experts spoke articulately about their work as experts, lending this dissertation many of its most poignant one-liners, laborers articulated their expertise by setting examples for me to emulate. Farmers persistently complained about the economically precarious nature of farming. Increasingly complex, their decision-making calculations every year had to take into consideration not only trends in tobacco markets, both domestic and international, but also speculation on production volumes and prices, of tobacco and alternate crops, and, of course, the weather. In my chapters, I have tried to highlight this complex intersection of perspectives, while showing how these actors reached out to one another to build solidarities.

Much like the blind men of the fable, I meandered in and out of field sites guided by the rhythms of seasonal cultivation and marketing of tobacco. My primary field sites were located in Prakasam district, where I conducted research during the annual tobacco cycle of 2015-2016. Here, I worked with farmers and laborers on the farms cultivating, weeding, and harvesting, and near the barns, stitching and grading, and sharing the food that bridged the linguistic and cultural gaps between me and my interlocutors in the villages. During this period, I also occasionally attended agrarian seminars, field trials, and meetings of the Tobacco Board, where I had the opportunity to meet the state scientists I did not have formal access to otherwise. These are also places where I interacted with tobacco company officials, graders, and traders. In late 2016, I moved to Guntur to work at the Tobacco Board headquarters in Guntur, where I spent six months

pouring through the Board's archives, intermittently taking breaks to interview Board officials and take field trips with senior officials.

I have tried to represent the perspectives and actions of as many of the stakeholders in the sector as possible to highlight how homogenizing, hegemonic tendencies also invariably provoke resistance. Finally, I would like to acknowledge the limitations of an analytical framework that restricts itself to studying expertise and technical interventions. Ultimately, in taking the analytical lens of expertise, this dissertation elides over some of the same people that all expert interventions do too (see chapter five).

Chapter 1: Articulating Quality: The Problem of the Expert's Stance in the Improvement of Flue-Cured Virginia (FCV) Tobacco

> "Quality of tobacco for commercial purposes is not a precise concept. It cannot be measured with an objective yardstick just as one can measure length with a meter, volume with a litre and weight with a gram. It is this lacuna combined with the intimate and inseparable association of economic factors of price, supply, demand, and competition that makes quality in tobacco a complex and complicated affair."

G. Ramalingam in the Preface to *FCV Tobacco: A Critique of Quality and Problems* (1992, iv)

It was early summer, the beginning of auction season for FCV tobacco. The auction floor run by the Tobacco Board - a large warehouse attached to Board offices – was bustling with energy. On most days, the warehouse filled from one end to the other with at least 600 bales of tobacco[9]. Auctions began promptly at 8:30 AM, when, led by the Auction Superintendent (AS) who headed this particular Tobacco Auction Platform (TAP), the 'auction train' consisting of Board officials on one side and traders on the other made its way through the aisles of FCV tobacco bales. Bidding for a bale commenced when the Auction Superintendent assessed the grade recorded on the bale tags, made a mental calculation as to potential buyers for the bale, and quickly entered a price on his handheld bidding machine[10]. The traders then entered bids for the bale on their machines, until the machines timed out. This process was repeated until the bale was sold or declared a 'no-bid' by the Auction Superintendent.

[9] Each tobacco bale consisted of a tightly packed cube of compressed leaves packed in accordance with Board-mandated and market-approved packing materials. Bales were weighed at the auction floor and laid out in rows as per a roster of village clusters maintained by the Board.

[10] See chapter three for more on e-auction technology.

On one such day, midway through the auction season in 2016, Mahesh Rao Garu[11], a veteran Tobacco Board official and Area Manager who oversaw the administration of all the FCV TAPs in Prakasam district, was visiting one of the platforms under his purview to review the progress of auctions that year. As always, farmers were milling about on the auction floor meeting and greeting one another. Some trailed the 'auction train,' which was against the Tobacco Board rules, to gain proximity to the bidding process. Others waited in anticipation for information regarding prices or for their bales to be auctioned to start tallying up their auction receipts. The buyers, generally boisterous and distracted, were behaving themselves that day and refraining from cracking jokes or talking on the phone to show respect to the senior government official. Mahesh Rao Garu joined the 'auction train,' mid-way through the day's auctions, and began watching the trading process.

Within minutes of beginning his review, I could see that Mahesh Rao Garu was irritable. Being a temperamental person, Mahesh Rao Garu found it impossible to hide his irritation. He refrained from expressing his displeasure for a while, but after the sale of two bright yellow tobacco bales in a row of similar-looking bales, began berating buyers. The bright yellow color FCV tobacco bales were assigned the highest grade. High-grade tobacco also earned the best prices on the auction floor. However, that day, the buyers were "foot-dragging[12]" through the bidding of these high-quality FCV tobacco bales. Their "foot-dragging" signaled a hesitation to bid, either because they were uninterested in the bales or because they were waiting for a lower price to bid. The buyers' hesitation, having caused the e-auction machines to time-out[13], had

[11] Term of respect in Telugu

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[12] A term used by Tobacco Board officials to refer to traders feigning disinterest by hesitating to bid in the hope of availing of more favorable prices later.

[13] See chapter three for more on e-auction machines.

forced the Auction Superintendent to enter a new, lower price. While initially refraining from commenting on this behavior, when the buyers repeated this action across multiple high-grade tobacco bales, Mahesh Rao Garu lost his temper.

His angry tirade meandered from berating the act of "foot-dragging" to the general ethics of competition during auctions to his responsibility of having to explain to irate farmers why they were receiving lower prices than stipulated for their high-grade tobacco. After an impassioned speech, he stormed out of the building. Having known him and his temperamental personality for a while by then, I followed him out and cautiously asked why he thought the buyers were "foot-dragging" and lowering the price of a high-quality tobacco bale. Upon hearing the term quality, he remarked angrily, "quality is a *midya*!". In Sanskrit, the term midya refers to an illusion or false conception. Typical of English-speaking Indians using multiple languages to communicate in everyday scenarios, Mahesh Rao Garu's exclamation contained as many implications as it did languages.

In this chapter, I explore the roots of Mahesh Rao Garu's frustration. On the face of it, it was not difficult to understand Mahesh Rao Garu's outburst. Mahesh Rao Garu was a dedicated public servant. The Central government had recruited him, fresh out of college, to be part of the original skeletal team that streamlined the work of all the stakeholders in the FCV tobacco sector under one umbrella organization, the Tobacco Board, in 1975. Mahesh Rao Garu was now a senior Board official with an administrative purview that encompassed an entire region growing FCV tobacco. More importantly, in his everyday work, he embodied the goals for which the Tobacco Board was created in the first place: to protect tobacco farmers' livelihoods from the vagaries of the market and to improve the quality of the FCV tobacco crop exported from India.

As one of the original officials of the Tobacco Board, he was bound to feel outraged at this callousness toward the farmer.

For Mahesh Rao Garu and experts like him, the crop of 2016 had posed several challenges on its way to the market. Prakasam district, which was under his administrative purview, was infamous for its intense summer of regular droughts. Normally, cyclones alleviated the effects of droughts, making districts like Prakasam ideal for rainfed cultivation of FCV tobacco. For the same reasons, when cyclones were delayed, as they had been the past few years, they destroyed standing crops and young, transplanted saplings. Risk-averse farmers had taken to delaying plantation till the cyclones passed, which affected the maturity of the leaves when they were harvested. Mahesh Rao Garu had to compensate farmers for the loss of standing crops to the delayed cyclone. He had to assess crops in low-lying lands for diseases that stagnant water fostered. He had made countless field visits to different zones within his purview to review the effects of the cyclone and distribute disaster relief for farmers.

Apart from managing damage control, he was also in-charge of ensuring the smooth functioning of the agrarian seminars organized during cultivation season and of auctions timed to the harvest of the leaves. Producing a high yield of good quality tobacco had required farmers to spend extra resources on hiring laborers to ensure tobacco growing in the fields was pest-free. All things considered, the 2016 tobacco produced under Mahesh Rao Garu's administration had a significant percentage of bright and ripe leaves, the visual index for high-quality tobacco. The Tobacco Board had worked alongside farmers to overcome great odds to bring what they thought was an excellent crop to market, only to find their goals thwarted at the last minute by uncooperative buyers. When buyers "foot-dragged" through bales of high-quality tobacco at the

auctions, it cost more than money to most farmers. Like the farmers, Mahesh Rao Garu felt deprived of the fruits of his labor.

Yet, to me, it seemed odd that Mahesh Rao Garu's outburst was not directed at unsympathetic buyers or the detached tobacco conglomerates who were their clients. He did not complain about erratic weather patterns or the pests that had attacked the standing crop. Mahesh Rao Garu expressed his frustration at quality, the umbrella term used to demarcate and gauge FCV tobacco. The question Mahesh Rao Garu left me pondering that day, in the aftermath of his outburst, was why he had chosen to decry the quality of FCV tobacco rather than the foot-dragging of the buyers or domestic or international tobacco conglomerates who bought FCV tobacco at lower prices. Why did the concept of quality spur frustration from an expert like Mahesh Rao Garu? This seemed especially curious coming from someone who had been part of the strata of experts of the Indian government who stood at the helm of the process of interpretation and implementation of quality in the tobacco-growing regions.

As a term overused and overloaded with meanings in linguistic anthropology, philosophy, and agrarian science, it is necessary to differentiate "quality" here from its various competing meanings. According to scholars of markets and agri-commodities, quality as a general term is used to refer to the overall standard of any manufactured or export product, particularly in food and agri-commodity markets. Here, quality is as much the effect of industrialization, commodity chain formation, and niche markets as it is about consumer preference for certain types of products, especially concerning food products (Busch and Tanaka 1996; Busch 2000). Quality's "functionality is about how an ingredient fits into ("performs" in) production systems, whether because of its color and texture or how well it can be manipulated by current technologies: quality is about whether an ingredient is functional within given

practices and techniques" (Mansfield 2010, 5). Since it is dependent on the material of the product, quality is also a situated concept. Often accompanied by standards and grades that help differentiate products on a hierarchy, quality is both material and social, with wide-ranging effects on all participants along the commodity chain (Ilbeary & Kneafsy, 2000). In this chapter, I look at aspects of quality that determine the FCV tobacco leaf's grade and lend themselves to research and development. Later, in the fourth chapter, I study non-grade standards, which are technical interventions implemented to enable uniformity in the bales sold in the Indian FCV tobacco markets.

In the case of FCV tobacco, quality is an umbrella term, and as the quote at the beginning of this chapter suggests, quality is "a complex and complicated affair" (Ramalingam 1992). On the one hand, quality is a set of parameters to measure various morphological and chemical characteristics of the tobacco leaf. As a set of parameters of leaf tobacco, quality is an object of scientific research among agrarian scientists. On the auction floor, these parameters, along with the specificities of soil regions and agro-climatic geographies that grow FCV tobacco, become the basis for implementing grades. This aspect of quality is termed *usability* among agrarian experts. Experts like Mahesh Rao Garu of the Tobacco Board and agrarian scientists were tasked with the responsibility of ensuring the production, sale, and export of high-quality FCV tobacco from tobacco growing regions by improving the *usability* of the cured tobacco leaves produced in India. The first section of this chapter further elaborates on the various parameters that comprised *usability* and shows how these parameters along with the agro-environment translated into grades on the auction floor. These classificatory mechanisms shaped the infrstructure of the Board, their auction platform and offices, as well as the farmers and the regions that fell under Board classification.

The second section explores the other side of quality, *desirability*. *Desirability* refers to traits of Indian tobacco that increase its demands in the markets, both national and international. *Desirability* varies with short-term and long-term trends in the FCV tobacco markets. In the first case, *desirability* depends on the average annual production of tobacco among India's main competitor tobacco-producing countries as well as on the tobacco stocks of companies worldwide (Murthy, Rao and Chari 1987). Over an extended period, *desirability* also varies with consumer preference for a certain kind of tobacco product[14] and shifts in the machinery used for cigarette production.

These aspects of quality were no secret. I was alerted to the multiple facets of quality by experts themselves. In this chapter, I draw on the interrelation between these two facets of quality, *usability* and *desirability*, and the consequences of this interrelation. I argue that it is this interrelation between the two facets of quality that renders the *usability* of quality, which is the object of scientific research, unstable. This instability in the definition of quality, I believe, explains Mahesh Garu's frustration.

In doing so, I am using laboratory studies to analyze experts in the FCV tobacco sector, even though the scale of my analysis far exceeds the laboratory. Laboratory studies has pioneered the scholarship of everyday processes of producing objective scientific knowledge. According to scholars of laboratory studies, objects of scientific research are polysemic. Yet, they are more than linguistic tools of reference; they are material objects or processes unfolding within the experimental systems formulated by scientists in the lab (Rheinberger 1997). These objects of scientific research or 'epistemic objects,' as Rheinberger calls them, resist, succumb

[14] For example, the kind of tobacco grown worldwide shifts when consumers prefer to smoke rather than chew tobacco. The nicotine content of cultivated tobacco varies when consumers prefer lighter cigarettes to harsher cigarettes.

to, and exceed reference. By virtue of their capacity to be polysemic, scientists invest these material objects and processes with meaning (Rheinberger 2005). This investment determines the experimental pathways and systems in the laboratory. Then, through an iterative method of removing obstacles from experimental pathways, scientists produce scientific facts (Knorr-Cetina 1999, Lynch 1985).

In this chapter, I also focus on the experts' iterative process of stabilizing *usability* in their research and in the technical interventions introduced in the FCV tobacco sector. In order to accomplish this task, the experts also had to invest *usability* with meaning, which I call the experts' stance, and remove obstacles in their experimental pathways. Unlike the lab, these expert's experimental pathways extended beyond the lab to farm trials in the research station and in the selected farms in the region. Here, I move beyond lab studies and draw on postcolonial science studies, because though the experts' I studied, like the scientists that lab studies analyze, thought of themselves as objective conduits for the production and dissemination of scientific knowledge, their stance not only shaped their experimental pathways but it also shaped the infrastructural pathways of all the human and non-human actors who labored to produce FCV tobacco in the various soil and agro-climatic regions of Andhra Pradesh. As state administrators, the experts could not ignore the limitations of and ramifications to people and geographies built up to produce quality FCV tobacco in India. The experts, in this case, shouldered the responsibility of the nation and its subjects. But, while experts invest meaning to their scientific objects based on the reigning definitions of usability, *desirability* of FCV tobacco dislodges the meaning of usability and thereby the experts' 'stance.'

Moreover, *desirability* and its relationship to *usability* have also explicitly been structured by colonial relations of trade. India started commercially cultivating FCV tobacco to export raw

material for cigarette manufacturing in the UK and the hierarchies of colonial trade relations continue to inflect the logic of neoliberal markets today. The second section explores how these factors determined what was desirable at various stages in the history of FCV tobacco production in the region. Unlike the polysemy of scientific objects of research within laboratories, here, *desirability,* which is external to the scientific process and experimental system, determines the meaning of *usability* and forces experts to revise their stance. Over the long course of FCV tobacco's history in India, *desirability* has both determined and shifted the reigning definitions of *usability,* thereby rendering *usability* an equally stable and unstable object of research and governance for state experts.

Thus, quality is a moving constellation of interrelated scientific parameters and market desires. But, since its introduction in the 1920s, the Indian FCV tobacco markets have consistently failed to produce quality FCV tobacco, according to traders buying on the auction floor in Andhra Pradesh. Resolving quality was essential to experts because it directed most of the technical interventions in the sector. Technical interventions were introduced to resolve problems arising as a result of fluctuations in the definition of *desirability* and, therefore, *usability.* As state administrator, resolving quality was also important to experts because the geographies of production and farmers' livelihood depended on producing good quality FCV tobacco. Moreover, *desirability* not only changed the definition of *usability* but, in so doing, it changed what geographies could produce quality, thereby changing the state and scientific infrastructure attending these geographies. The third section of the chapter looks at how the science of tobacco and scientific infrastructure of the state has been determined by India's apparent inability to produce quality. In this section, I point out how India's location as

postcolonial geography affected the experts' capacity to produce quality and to improve the lives of farmers.

In the fourth section, I examine a vignette that elaborates on how these factors played out on the ground between a domestic tobacco company and state experts. The vignette looks at a stakeholder meeting to evaluate a new cultivar of FCV tobacco. Farmers and domestic tobacco companies represented the stakeholders. I use this vignette as an example of the contestation experts face as they research optimal solutions to yield and quality of the tobacco crop and profits for farmers. The farm trial for the new variety, TBST2, had been organized and spearheaded by the Tobacco Board. The Tobacco Board, with the aid of state tobacco scientists at Central Tobacco Research Institute (CTRI)[15], had tailored TBST2 to the agro-climatic needs of the Prakasam region's black soils. The Tobacco Board's active participation in research was a rare event, usually the forte of agri-scientists. The tobacco company's response to the Board's cultivar illustrates how the politics of *desirability* play out on the ground, as opposed to the international markets. Here, both the government and the company, claim to be working towards the improvement of the crop and farmers. I examine this dynamic to show how the mercurial quality of *desirability* creates an asymmetry in the knowledge-producing process among the state experts from the Tobacco Board and CTRI, who have to negotiate the market and the farmers while working with limited resources to improve the quality of the FCV tobacco sold and exported from state auction platforms (Anderson 2009).

Having examined quality's own qualities and the asymmetries it creates in scientific processes of knowledge production, I return to the frustrated expert working in the commercial

[15] Central Tobacco Research Institute is a government agri-research institute dedicated to improving the tobacco leaf produced in India. The head office of the Central Tobacco Research Institute (CTRI) is located in this region, according to scientists affording them the opportunity to study the characteristics of existing and new varieties by controlling growth factors input in the malleable, neutral sandy loams of Godavari.

agrarian sector in India. On the auction floor in 2016, Mahesh Rao Garu struggled to balance the production of objective scientific knowledge while remaining open to both farmers' livelihoods and market requirements. I suggest that understanding the epistemological conflict of experts, situated within bureaucratic mandates and the limitations of agro-climatic geographies, adds a set of new dimensions to our previous understanding of the process of scientific knowledge production.

A note on experts. Experts in the FCV tobacco sector include agricultural science majors who work for the government as agri-scientists (at CTRI) or as administrators at the Tobacco Board. State agri-scientists conducted most of the research and development, while the Board officials helped in the dissemination of scientific knowledge to stakeholders and in the implementation of technical interventions at various stages of production. I refer to this group of people as state experts. The prominent tobacco companies in the region, especially ITC, had the corresponding infrastructure and personnel for the research and development and implementation of technical solutions. Depending on the research and technical solution, they either collaborated or competed with the state. Tobacco companies, like ILTD, also shared a portion of the weight of guardianship that the state experts shouldered vis-a-vis their subjects, the farmers, due to their colonial ties to the land and the farmers. However, their principal focus was the quality of crop sans the farmers that could enhance their profits. In this chapter, I focus on state experts as opposed to company experts due to this very difference.

Usability of FCV tobacco

As the term suggests, the *usability* of quality is judged based on the properties of the cured tobacco leaf "required for a particular purpose" (Naidu 1987, 66). In this case, the *usability* of FCV tobacco is the leaf's capacity to be used in the manufacture of cigarettes. As a member of

the Solanaceae or nightshade family of plants, FCV tobacco's *usability* stems from the presence of nicotine, an alkaloid, an addictive substance, and the primary reason for the continued use of cigarettes amongst consumers. *Usability* of a cured FCV tobacco leaf is also dependent on other chemical and morphological properties of the leaf that aid in the production of desirable smoke in cigarettes (smoking quality) and its efficient use in the manufacture of cigarettes (manufacturing quality).

The smoking quality of FCV tobacco depends on the balance between nicotine and sugar contents in the leaf, the flavors and aromas the leaf produces when burned (dependent on the presence of hydrocarbons and polyphenols), its fire holding capacity (based on the presence of nitrogen compounds), its evenness while burning, ash color, etc. While compounds like sugar have a positive correlation to smoking quality, elements like nitrogen have a negative correlation to the smoking quality of the cured FCV tobacco leaf. Nitrogen compounds vital to the growth of the tobacco leaves reduce with the ripening of leaves, so the presence of excess nitrogen compounds usually signal a green leaf or prematurely ripened leaf, which imbues a harshness to the smoke and reduces the burning capacity of cigarettes. The manufacturing quality of a cured FCV tobacco leaf, on the other hand, depends on the leaf's length, durability, pliability, weight, etc. (Ramalingam 1992 121, 145-151).

There are several indicators to determine which leaves are likely to be of good smoking and manufacturing qualities. A leaf's maturity and body indicate both its smoking and manufacturing quality. Though there are exceptions to the rule, generally, ripe, mature leaves of significant size are considered high-quality tobacco, preferred by most manufacturers and traders. Maturity also increases the porosity, fleshiness, and durability of the leaf that are important for the shredding (without breaking) and filling of cigarettes (ibid 1992). For the same

reasons, the color of the cured leaf is a good indicator of a leaf's smoking and manufacturing quality. Another robust judge of the *usability* of tobacco leaf is the position of the leaf on the standing crop, also known as plant position. According to experts, 'lugs' and 'cutters,' leaves growing on the middle to lower part of the tobacco plant, tend to produce the most protracted, best-bodied leaves with optimum nicotine-sugar ratios. A leaf growing in the middle position of a plant is likely to be better than a leaf growing on the bottom, closer to the soil, where chemical compounds accumulate, or on top, where nutrients are harder to circulate.

For the same reasons, there exists an ecology of sensibility around appraising the quality of cured FCV tobacco leaves. The nicotine content in a leaf is a virtue of the heredity of the seed variety, even if its manifestation in the leaf is dependent on soil,water quality and the rate of maturity of the leaf itself. Other features like sugars, nitrogen, and hydrocarbons are entirely dependent on the health and maturity of the leaf grown in a particular soil region. They manifest or reduce in a leaf as it matures, and the distribution of these attributes changes the color of the tobacco during the curing process. The color of a cured leaf is also a good indicator of chemical components like total and reducing sugars or of the smoking quality of a cured FCV tobacco leaf. If a cured FCV tobacco leaf falls within the color spectrum between bright, lemon yellow to orange, it is considered a robust indicator of the sugars present in the leaf. The bright color also indicates the lower nicotine ratios currently preferred by most popular cigarette manufacturers in India and abroad. Though the veracity of this method of assigning a grade based on color has come under much scrutiny among the buyers (see section two), the Tobacco Board still uses color as an indicator to assign grades. Thus, the color of the cured leaf is an integral, though contested, part of the quality assessment process.

These ecologies of sensibility and their bundling of visual-tactile traits primarily manifest in the grading of tobacco leaves. Grades are mnemonic devices used to appraise and standardize cured tobacco bales on the auction floor. On the auction floor in Prakasam, the Tobacco Board's grading officials appraised tobacco bales through seeing, touching, and smelling the leaves. Every day during the auction season, before the commencement of the day's auctions, a senior Tobacco Board grading official along with two temporary staff would inspect a sample set of leaves from every individual tobacco bale. The sample set of leaves were selected by one of the temporary staff by fishing for a representative set of leaves from the center of bales[16]. The samples were examined for their color, maturity, and rate of blemishes in a single glance by seasoned graders. On occasion, grading officials held the sample aloft (against the light) or touched the leaves to gauge thickness or pliability. Frequently, officials would also smell the cured tobacco for rot. Following the grading of the bales, their grades were recorded on Board-issued tags with barcodes and registered on a portable machine attached to the central administration system. The tags contained the Tobacco Board Grower Number (TBGRN), the grade, and the weight of the bale. The grading occurred only a few yards ahead of the auction train, and this added to the pace of the appraising process. Such situated decision-making, implemented in response to the contingencies of the auction floor, also meant that errors were common. The fast paced grading method was adopted to discourage anxious farmers following the grading process from re-arranging the samples set out for their bale if they felt the selected representative sample lowered the overall grade of the bale.

[16] The fishing of samples from the center of the bale and quick inspection were implemented on the floor to remedy an oft-cited problem that farmers hid lower grade leaves in the lower and center portions of bales and filled the surrounding areas with higher-grade leaves in order to obtain a higher overall grade, and therefore price, for their product.

Other essential factors that are integral components of the usability of FCV tobacco leaves are soil type and soil moisture. The Tobacco Board had implemented a grading system based on Farm Grades in the rainfed back soil regions of Prakasam, known as Southern Black Soils (SBS), as recently as 1985. The grading mnemonics for the SBS region differ from that for the Northern Light Soils (NLS) of the Godavari delta, known for its loamy soil. Loamy or sandy soils can not retain moisture, which is beneficial as farmers can control irrigation to regulate the growth of FCV tobacco in these regions. In these water-regulated soils in Godavari, tobacco leaves differ significantly based on their plant position. On the other hand, black soils are clayey and retain water[17]. In black soil regions, the residual moisture stored in the clayey soils acted as a water reserve for the tobacco plants grown here. According to experts, leaves of the plant growing in residual moisture are not highly differentiated from one another based on their plant position. The contrasting soil and irrigating conditions in the two tobacco growing regions mean that the grading schema for Southern Black Soils (SBS) are farm grades consisting of a simple numerical code ranging from 1-10 with a prefix F (F refers to the term Farm Grades) while the grading schema for light soils also consider plant position (Ramalingam 1986). More importantly, farm grades rely much more on color than plant position grades.

Grades represent the overall *usability* of tobacco and therefore affect the prices. Grades F1 to F3 in SBS are assigned for ripe, bright lemon-yellow to orange leaves with a lower rate of blemish; F1 to F3 grades are also high-quality tobacco sold at the highest price. F4-F5 are grades assigned to brown tobacco leaves with a higher rate of blemish. F6 to F9 grades are assigned for leaves with differing levels of green tinge. F6 & F7 are of higher value than F4 & F5 as they have the potential to become F1 & F2 upon aging. F10, the final grade, referred to "tobacco

[17] Even so, due to erratic rainfall, most farmers provided 'life-saving' irrigation for their tobacco crop at least once a season from the time of transplantation.

bits," and were assigned to bales with broken leaves leftover from the barn and grading halls. Apart from the 1-10 range, there are other grades like "no grades" assigned to bales that did not fit into the grading schema (Tobacco Board Annual Report, 1986-87). In the next section, I will demonstrate how fixing of price based on grades differs when market *desirability* comes into play with grades. The correspondence between grades and prices means that both experts and farmers persevered to produce a healthy percentage of higher grade leaves in the total yield. Even so, the cost of producing a higher and lower grade was the same for farmers.

Annotated to these farm grade prefixes and numbers are non-grade acronyms denoting other properties of the leaf. Together, farm grades and non-farm grade acronyms on tobacco bale tags could significantly augment or deplete the overall price of the bale. Non-grade acronyms reflect cultivating practices to a greater extent. For example, Tobacco Board grading officials mark bales with mixed grades to the most widely occurring grade in the bale with an added prefix or suffix, "M" (for mixed). Acronyms denoting non-grade qualities of the tobacco leaves like S.H./H (Slightly heated/Heated), F'ked (Funked/smelling), or P (Pale for bleached, overripe leaves), when added to grade classifications, could significantly lower the overall quality and price of the bale. These descriptions, 'slightly heated' and 'f'ked', are the result of improper bulking of cured leaves, and 'pale' indicates the color of tobacco irrigated with salinated water. Bales can be identified as "caram", a local shorthand for over-caramelized leaves, which occurs when leaves are overheated in curing barns. Such non-grade qualities can affect the overall quality and price of a bale even when its grade is high. If an "F2" bale is classified "F2P" (Farm Grade Two Pale), it results in a price reduction of up to 20 INR (.31 USD) per kilogram for a 150-kilogram bale.

Industry scientists and traders have critiqued the Board's implementation of Farm Grades and the visual grading of tobacco as they are dependent on human senses, which are prone to error (Naidu 1987). Judging grades based on color, in particular, relies on the faculties of the grading official. The bright yellow color of the cured leaf that indicates ripeness and soluble sugars in high-grade tobacco can at times, indicate or be deceptive of less desirable factors. For example, bright yellow color also manifests in leaves that contain diseases like leaf spots or in

Figure 1.1: Tobacco Bale Tags

leaves growing in water-stagnant, low-lying areas. When color depleted in storage, high-quality leaves can be misjudged for lower quality tobacco (ibid 68- 71). Yet, in spite of these critiques of the market, the Tobacco Board implemented farm grades in SBS. The considerations that the Board took to stabilize Farm Grades in SBS were beyond scientific.

The Tobacco Board is primarily a governing body, with a two-pronged mandate since its inception. They have sought to protect farmers' livelihoods while improving the crop for market export. The former consideration makes calculating the cost of production to returns a critical element in the implementation of any cultivating practice. Board experts maintain that

classification according to plant position is an unnecessary excess cost in the SBS regions where FCV tobacco is grown as a rainfed crop. As explained before, here, farmers rely on residual soil moisture in the black clayey soils to irrigate the crop. Unlike in the loamy soils of the North, farmers here cannot control water intake or salt content in the water. The inability to control water and nutrient intake of the plant during the cultivation process, according to Board officials, decreases the differentiation between leaves of different plant positions in the SBS region. Since the quality of the leaves does not significantly change with plant position, the Board has implemented the more straightforward grading system of farm grades in rainfed regions like Black soils.

A complex grading system would mean one of two things for farmers in the SBS region; they would either have to spend more time (and money) to augment the grading skills of the laborers or risk the possibility of getting mixed grades. For Southern Black Soil (SBS) farmers to engage in plant position grading, they would have to maintain the separation of weekly harvests through the curing process. They would also have to separate harvests from different plots of land since soil quality affects the *usability* of cured leaves. According to the Tobacco Board, these cultivating practices are inefficient for FCV tobacco grown in residual soil moisture.

As of today, to compensate for the simplicity of farm grades, the state and tobacco company officials collect samples from farms prior to the auctions to determine the general quality of a harvest in a soil region or plot of land. Major manufacturers also employ their own grading systems to bypass Board schema and regrade auctioned bales to buffer for the limitations of visual-tactile grading. I found that very often, on auction platforms, young traders sniggered at the simplicity of the Board's schema and the mistakes made by grading officials. Even so, as the market intermediary, the Tobacco Board has maintained its stance on the grading process.

Thus, the existing understanding of *usability* as a set of parameters determines the 'stance' of experts. As experts in the sector and members of state bodies, this stance of the state experts has not only been extended to scientific research on FCV tobacco but also to designing policies to regulate the sector (like grading systems, crop size/production rates for regions, etc.). More importantly, the expert 'stance' also extends to the infrastructural economy of the FCV tobacco production in the region, a factor that is put to the test every time the *desirability* of tobacco shifts.

Thus far, I have shown how the *usability* of FCV tobacco, the smoking quality and manufacturing quality, are a set of parameters that determine the system of grading at the Tobacco board-led auctions. Yet, it is not only the experts' stance but the entire Board infrastructure for FCV tobacco that was built on understandings of usability. As mentioned earlier, apart from the heredity of variety seed lines, the soil and agro-climatic conditions play a significant role in the many traits of usability. The first level of classification imposed by the Tobacco Board to standardize FCV tobacco sold in Andhra Pradesh is the division of tobacco growing geographies into soil belts. Within Andhra Pradesh, there exist four soil belts/regions, the Northern Light Soils (NLS), which comprise mostly of East and West Godavari districts, and the Southern Black Soils (SBS) and the Southern Light Soils (SLS), which comprise parts of Prakasam and Nellore districts. The fourth and fifth soil belts like Central Black Soils (CBS) no longer grow FCV tobacco and Northern Black Soil (NBS) barely produce any FCV tobacco. As I will show in the next section, this is because the *desirability* of FCV tobacco grown in these regions has depleted.

The infrastructure of the state, including the Tobacco Board offices and research stations too are built following soil belts. Together they reflect how understandings of *usability*

determined ‘the stance’ of the Board, its infrstructure, and its administrative purview. The Tobacco Board distributes Auction Platforms (TAPs) across all soil regions, the number of auction platforms determined by the production policy[18] for the soil region. The Board also registers farmers and gives them barn licenses and grower numbers (TBGR), renewed every year upon inspection. Thus, farmers are also organized into clusters and blocks under the administrative purview of every Tobacco Board Auction Platform.

Even the infrastructure of the state scientists were mapped according to the Board’s classification of regions. The labs and research stations of the Central Tobacco Research Institute (CTRI), the premier tobacco research institute under the central government’s Ministry of Agriculture, are also distributed along the soil belts. So, the first level of standardization – the division of the tobacco-growing regions into soil belts, the grading system based on each soil belt, and the placement of state and farm infrastructure – were also the contingencies that constrained the experiments of experts (Murthy, Rao, and Chari 1987). These constraints, when combined with the fluctuating influences of desirability, made ensuring improving quality an uphill task for state experts like Mahesh Rao Garu.

Desirability of FCV tobacco

Desirability, the other side of quality, in its most general sense, connotes the desire for Indian FCV tobacco in the international tobacco market. More specifically, *desirability* is the buyers’ preference for styles of tobacco produced in different regions and particular grades of tobacco within soil regions. The *desirability* of FCV tobacco oscillates according to short-term demands as well as long-term demands of the tobacco market. As mentioned earlier,

[18] During every annual cycle, the Board of members of the Tobacco Board reviewed the demand for FCV tobacco in India and abroad and the marketability of different styles and types of tobacco produced in soil regions and determined a fixed crop size, which was considered to be part of its production policy (Tobacco Board Annual Report 2005-2017, https://tobaccoboard.com/propolicy.php).

desirability's ability to fluctuate makes it polysemic. On top of that, the buyers harness these varied meanings of tobacco to alter prices and enhance profits. Effectively, *desirability*'s polysemy and its effective manipulation by buyers affect 'the stance' of experts by shifting definitions of *usability*.

In a general sense, the *desirability* for FCV tobacco produced in India is low and opportunistic. Though the third-largest producer of FCV tobacco[19] in the international market, Indian FCV tobacco is considered predominantly to be neutral in flavor[20], and used for filling purposes[21]. Seasoned buyers complain that the FCV tobacco produced in India is of an immature style and of low quality. Indian FCV tobacco is also discounted for the country's inability to produce a uniform product; that is, Indian tobacco is not standardized or graded according to international standards. Secondly, the crop sold from India contains excess pesticide residues and Non-Tobacco Related Materials (NTRMS). As an opportune market, the demand for Indian FCV tobacco rises when other tobacco-producing countries fail to produce their targets. Economic collapse and inflation of currency in Zimbabwe made 2008 a good year for Indian FCV tobacco. Similarly, El Niño's adverse effect on the flavored FCV tobacco produced in Brazil in 2016 proved lucrative for Indian FCV tobacco farmers[22]. To compensate for its bad reputation, India has pitched itself as an opportune market for cheap,[23] filler tobacco that complements more flavored tobaccos in a cigarette blend. Thus, maintaining the Indian market's reputation in the

[19] After China and Brazil (and sometimes USA), India is the third-largest producer of FCV tobacco.

[20] As opposed to flavored or semi-flavored tobacco that determines the taste in a cigarette blend.

[21] Filler tobacco as the term suggests is a neutral tobacco used in tandem with flavored/semi-flavored tobacco in a cigarette, the latter dictated the taste while the former was largely used to add volume to the cigarettes.

[22] https://www.tobaccoreporter.com/2017/03/bouncing-back/

[23] Cheap tobacco was an important factor in the production of tobacco in India. This meant that the government had to ensure that cost production of tobacco remained low to ensure profits for both buyers and farmers.

international market by maintaining a low cost of production was another area of struggle for experts.

Short-Term effects of *Desirability*

Besides the opportunistic nature of the Indian FCV tobacco market, in the short-term, *desirability* for FCV tobacco produced in India and its various soil regions also fluctuates for several other reasons. If a company's storage facility already holds aged tobacco, this factor decreases its demand for tobacco in the next annual cycle. Besides, trading companies rely on export orders from foreign companies to determine their annual buying capacity. In recent years, export orders have come in late during auction season. Traders have often lost orders midway through auctions due to new stipulations laid down by their export liaisons[24]. In 2016, as I was participating in auctions, rumors began circulating that Philip Morris had reduced their orders. Here, Philip Morris' new policy mandate to monitor the sourcing and procuring of FCV tobacco stood in contravention to the Indian government's regulations disallowing direct foreign intervention in the agrarian sector[25]. The major domestic manufacturer, ITC (Indian Tobacco Company), stopped all manufacturing activity on April 1st , midway through the 2016 auctions, and threatened to reduce their purchases by 50% to protest the central government's implementation of an increase in the pictorial warning size to 85% of the cigarette packets surface area, claiming that, in tandem with reduced tobacco demand worldwide and smuggling of contraband cigarettes, this policy change would have a devastating impact on their annual

[24] A few years ago, Japan Tobacco International (JTI) had dropped off from the Indian market mid-auctions rejecting that year's export consignment when their labs detected excess pesticide residues in the Indian FCV tobacco. "Internationally permissible level of DDT residue is 6 ppm while Japan and USA had set their DDT levels at much lower level; Japan insists on 0.4 ppm of DDT level. Indian tobacco has DDT level of 1-2 ppm which is well below the international standard, but Japan does not allow tobacco import from India." (Arora 2013, p.157)

[25] This information was offered to me by traders and Tobacco Board officials who lamented on the fluctuating behavior of foreign tobacco conglomerates. These rumors were used to demonstrate to farmers how the state and traders could do very little to change their fates.

revenue[26] (The Economic Times 2016). On an annual cycle, these are only some examples of the several short-term factors that might affect FCV tobacco's *desirability* in the market, and in turn, a buyer's capacity to purchase FCV tobacco.

Moreover, every trader and manufacturer has their own preference for particular styles of FCV tobacco. The major domestic manufacturer, the Indian offshoot of British American Tobacco Company (BAT Co), ITC, prefers the irrigated tobacco of the Northern loamy soils in Andhra Pradesh and the rainfed FCV tobacco from Karnataka's light soil regions. As mentioned earlier, these styles of tobacco are characterized by low nicotine content and maturity, and are considered semi-flavored tobacco. On the other hand, traders who export to the Middle East prefer the high nicotine style tobacco produced in Black soil regions.[27] Within Black soils, non-cigarette manufacturers and their exporters prefer dark browns, or F4 farm grades, which are low in the grading hierarchy (see pg. 13) but have higher nicotine content when compared to higher grades like F1 & F2. Manufacturers with extensive storage facilities might prefer to buy F6 and F7 at high prices and wait for them to mature into F1 and F2, otherwise much more expensive grades.

Such short-term shifts in *desirability* are the primary cause of market fluctuations and slumps during auctions. When buyers recalibrate their desires every annual cycle, it results in price fluctuations that exert a one-sided effect on the cost of production. In the past, when the *desirability* for FCV tobacco produced in India was at its peak, the land and human costs of producing FCV tobacco increased. That is, the cost of leasing land for tobacco production and

[26] See for reference: https://economictimes.indiatimes.com/industry/cons-products/tobacco/protest-goes-up-in-smoke-itc-to-resume-cigarette-manufacturing-after-court-order/articleshow/51845757.cms?from=mdr

[27] Much like Central and Northern Black Soils, the Southern Black Soils were also losing its market for high-nicotine, immature style tobacco, until recently. According to Board officials, the turn of events was the industry's attempt to increase nicotine content in popular cigarettes to reduce consumer attrition rate.

the cost of labor increased in the good tobacco market years, without decreasing during the next year's market slumps. Thus, even as market slumps created a dent in the farmers' profits, their cost of production was calculated on the basis of profits from earlier years. Since reconciling the cost of production to profits made by farmers was a contingency they had to factor in, the state experts working on FCV tobacco research had to balance the cost of production with the quality of FCV tobacco exported from India's opportune markets. The farm trial in the third section of this paper explores the import of this contingency further.

Experts have accommodated some of the short-term effects of *desirability* and have attempted to mitigate the bad reputation of Indian FCV tobacco. Scientists have researched new technologies for pesticides by manipulating the molecular size of their ingredients to create slow-releasing pesticides to ensure the efficient use of low doses of pesticides, since pesticide residues are a new market stipulation. Others have engaged in entomology to study pests and their life cycles or researched naturally occurring plants that might work as insect repellents so farmers might avoid using pesticides entirely. For example, several tobacco farms in the SBS region were part of farm trials for pheromone traps. Similarly, attempts have been made to grow castor plants along the perimeter of farm plots as they are a natural repellent of insects. Scientists hoped this research would allow farmers to decrease the dosage of pesticides and fertilizers without it affecting the crop yield. . Techniques of Integrated Pest Management (IPM), popular in the agrarian sector worldwide, have also been disseminated to farmers to encourage better cultivating practices. Here, scientists urge farmers to monitor laborers' use of pesticides and fertilizers.

Since the source of origin of FCV tobacco exported has become of increasing importance to international tobacco conglomerates, scientists and tobacco companies have created kiosks

were farmers can purchase pure-breed, Tobacco Board-approved seeds. Apart from sourcing pure breed seeds, Board and CTRI scientists have built a list of authorized nurseries where farmers can purchase tobacco saplings. In my experience, farmers sometimes traveled for eight or so hours to the CTRI head office in Rajamundhry in West Godavari district to buy their saplings. The Board and industry have also increasingly advised more affluent farmers to build their own nurseries and subsidized the required infrastructure. Scientists also disseminate information and ongoing research work on these shifting turns in *desirability* through agrarian seminars, field visits, or demonstrations at the research station (co-organized by the Tobacco Board). Thus, experts made up for certain kinds of short-term fluctuations in *desirability*, like new market stipulations, by constantly reinventing technical solutions.

Long-Term Effects of *Desirability*

Desirability on a longer-term basis is a complicated affair that includes shifts in mercantile and consumer preference, as well as India's policies for governing the agrarian sector. This aspect of *desirability* not only calls for an examination of the various implications of *desirability* but also of how it affects *usability*'s definition in the long-term. More importantly, this aspect of *desirability* requires consideration of the long history of FCV tobacco in India, including the development of a desirable market for Indian FCV tobacco, an understanding of how those desires were structured, the various interest groups that protested state policies (see chapter two) and the infrastructure built around dominant ideas of *desirability*. This is where the realm of laboratory studies or epistemological conflicts of the lab (and trial farms) meets postcolonial studies.

The *desirability* for Indian FCV tobacco originated to cater to the needs of the UK market with its introduction by the British administration in Guntur district in the decades after 1920[28]. For the same reasons, the structuring of desire was always skewed towards the need of the UK market[29]. Today, even as an independent nation, India's administrative policies and interventions lean in favor of UK markets, and, more importantly, of Indian tobacco companies. The most prominent among these domestic manufacturers is, Indian Tobacco Company (ITC Ltd) and its leaf procurement department, ILTD, which were once the subsidiaries of British American Tobacco Company (BAT Co) in India. Having insight into the long-standing relationship between the colonial markets and administration and tobacco geographies is vital to understanding the long-term relationship between *desirability* and *usability* and the attendant 'stance' of experts and infrastructures catering to the production of desirable FCV tobacco in India.

By 1905, cigarette smoking effectively replaced cigars and cheroots in Europe and in India. In England, pipe-smoking was the prevalent form of smoking up until the aftermath of World War II when soldiers also picked up cigarette smoking along with the factory-workers. "Nevertheless, when the importance of cigarettes grew in England, 'Virginia'' or 'Bright-cured' tobacco, as developed in North Carolina, came to dominate" (Sinha-Kerkhoff 2014, 215)[30]. The

[28]The key factor to note here is that tobacco was not introduced to India by the British, but Virginia tobacco and the flue-curing method was introduced by British manufacturers with the aid of American scientists. Though tailoring a Virginia strain suitable to the Black soils of Guntur and to flue-curing occurred only by 1920s in Guntur, colonial scientists have extensively experimented with them in other places like Bihar (Sinha-Kerkhoff 2014)

[29] The British had started looking to the colonies as an alternative source of tobacco since the American Revolution (1775-83) in an attempt to replace Virginia as the primary source of tobacco, to meet the demand for cigar tobacco in Britain and maintain their hegemony in the global market. The British used the tax structures and land already available in the colonies to cultivate tobacco (Sinha-Kerkhoff, Cox).

[30]The research on tobacco conducted in imperial agricultural laboratories Pusa, Bihar) by eminent colonial scientists like Albert Howard and Loiuse C. Howard were towards producing a tobacco cultivar that could thrive in Indian soil while producing the Bright leaves for the UK markets.

Virginia strain of tobacco was introduced in India by BAT Co.'s subsidiary with the aid of American tobacco scientists in the 1920s. But the leaves were rack cured in the sun. The practice of curing tobacco in barns with flue pipes began later in 1929 (ibid 2014, Sivaiah 1984).

Figure 1.2: Cured Tobacco Leaves on Racks

The British administration in India instituted quality control of the FCV tobacco leaf exported to the UK. The Agricultural Grading and Marketing Act of 1936 answered "the need for improving the quality of Indian agricultural products exported abroad by the introduction of proper grade standards as first emphasized by the Report of Royal Commission on Agriculture in 1928" (Mahananda 1987, 148). During WWII, the London Chamber of Commerce appointed representatives of the Indian tobacco exporters to determine the quality of FCV tobacco exported to the UK. Thus, ideals of quality based on usability in the manufacturing of cigarettes and their attendant standards were instituted to improve the production and quality of the export tobacco

crop. The color grading and plant position grading of tobacco exist as off-shoots of this policy (ibid 1987). As shown in section one, these forms of grading prevail in the tobacco sector today and are applied to all buyers in the market. In cases where the grading system is inconsistent with buyers' grades, exporters and traders translate Board-approved grades for their buyers.

Desirability is also the product of iterations between market demand, government policy for agriculture and commerce, and the demands of stakeholders on the ground. That is, apart from being structured by dominant market forces and the colonial administration, in the post-World War period, Indian farmers, traders and manufacturers have also affected the formulation of policies applied to placate market *desirability*. When the top-down nature of gauging and assessing quality by London appointed graders in 1938 led to protest in Guntur by other exporters, the government instituted an internal grading scheme for Indian FCV tobacco destined for the export market. To placate internal and international buyers, the Indian government also instituted AGMARK (Agricultural Certification Mark), "the compulsory control and certification created under the provisions of Sea Customs Act in 1945 to all exports of tobacco to the UK." (Rao 1987, 88). Government experts provided AGMARK grade stamps formulated according to the needs of the UK market but also to protect the interest of domestic exporters trading with them. AGMARK grades were more complicated and nuanced compared to the farm grades used by farmers. AGMARK consisted of 14 straight grades and 13 composite grades, the latter comprised of fixed proportions of straight grades. AGMARK was complex in that one farm grade consisted of several straight AGMARK grades while composite grades encompassed several farm grades. Prices were assigned according to the most commonly occurring grade in a composite bale, possibly, significantly decreasing exporters' profits, whereas farm grades sold at lower prices on the auction floor might have received higher prices when classified as multiple

AGMARK straight grades. These complexities of translation also created disparities in pricing between export hubs and local depots and enabled foreign buyers to lower the price of bales (Ranga 1987).

The AGMARK system of grading in the export market meant a loss of profit for both exporters and farmers when straight and composite grading of bales decreased the price equivalent to the lowest straight grade in the tobacco bales. To further shield traders, the Government of India introduced Minimum Export Prices (MEPs) in 1963 (Rao 1987). The Tobacco Board also introduced auctions in 1985 on Board premises, where tobacco bales were auctioned one by one by bidding on their grades. This style of auction separated the grading process on the farms and auction floor from grading during export and customs. Secondly, this democratized the system of grading by dividing farm grades and plant position grades based on soil regions, reassessed by Board officials on the auction floor rather than traders and exporters or their liaisons. Thus, traders could translate the Board-approved grades to AGMARK or any other company-based system, but the Board determined the pricing at the farm level. Board assessment of grades and prices worked as a replacement for Minimum Support Prices (MSPs), deployed to ensure farmers' return. As of today, with multiple foreign buyers with their own grading system, AGMARK grades have become a dormant artifact, used by a few exporters. The Board has receded from governing exports, which has led to the withdrawing of MSP, and MEPs. Finally, the onus of pre-grading tobacco bales into grades before auctions has fallen upon the farmer. While a costly move for farmers, farm-level grading has ensured that farmers do not sell their entire yield for a bulk amount determined by traders.

The establishment of the grading system illustrates how the stance of the Indian state experts I studied in the tobacco sector are responses to the iterative history of quality imposed on

FCV tobacco produced in India by its major buyers. The interventions of the colonial administrators and later Indian tobacco companies were often met by protests by the farmers and traders, both of whom held some power over local politics (see chapter two). Thus, experts like Mahesh Rao Garu, who worked for the Tobacco Board, had to find solutions that reconciled the needs of international markets and national manufacturers with that of the local tobacco farmers.

When *desirability* has fluctuated, it has altered entire geographies. Indian Leaf Tobacco Development (ILTD), the Indian subsidiary for BAT Co., introduced the cultivation of non-FCV cigarette tobacco in Chirala, Guntur, which was a part of Madras Presidency (currently in coastal Andhra Pradesh) in 1915. The better (rack) curing practices in the region, the fertile black soils irrigated by the Krishna river, and the railway infrastructure connecting Calcutta, Bangalore, and Madras where BAT subsidiaries had their manufacturing units, and the low cost of labor were all reasons for this choice. Meena Radhakrishnan (2000; 1989) in her study of ILTD and the 'criminal' tribe, Yerukula, of the region shows of how women from the tribe were employed in the factory for very low wages and under severe labor conditions. The rehabilitation of criminal tribes was a joint effort of the Salvation Army, ILTD and the colonial government. Tribes were sedentarized in colonies on the basis of innate characteristics (such as criminal tendency). The Salvation Army managed their spiritual and family lives, while contributing to conditions that provided cheap labor for capitalist endeavors such as BAT's[31].

To secure markets in the Guntur region and prevent local competition, ILTD, the Indian subsidiary of BAT Co., introduced private contracts to buy tobacco from farmers. Farmers were given technical inputs, infrastructural aid for the curing process, and a platform to sell their

[31] Pandian's (2009) ethnography of the criminal tribes of Piramalai Kallars of the Cumbum Valley is in a similar vein. However, his focus is on the continuation of the effects of criminalization and rehabilitation on the ethical life of Kallars and the agricultural practices of the group.

tobacco[32]. The price of expertise was reimbursed from farmers after the sale of tobacco. Specialists were imported from both Britain and the United States to aid the cultivation of Virginia tobacco in India. As flue-curing replaced rack curing, barns sprung up all over Guntur, adjacent to tobacco farms. Even today, barns are the major capital investment for farmers growing FCV tobacco and, having invested in them, remain the major reason for farmers' reluctance to discontinue the production of the crop.

As an independent state, India, in its socialist leaning, entered into bilateral contracts with several other nation-states and they fostered private agreements between traders and international tobacco conglomerates. Thus, in 1951, the pro-socialist Indian government entered into bilateral trade agreements to barter FCV tobacco with the Russian government in exchange for wheat (Murthy, Rao, and Chari 1987, 87–90). The practice continued into the 1960s when India entered into bilateral trade agreements with Eastern Europe and Japan. By the 1960s, the high nicotine FCV tobacco of immature style produced in the Black Soil region north and south of Guntur district was the reigning style of FCV tobacco, since Russian and Eastern European markets desired these styles. Thus, from the introduction of FCV in Guntur, the black soil region has prospered from the cultivation and sale of FCV tobacco.

In 1975, the ratio of areas under cultivation between Black and Light Soils was 60:40 (Tobacco Board Annual Reports 1975). However, with the rising tide of global health concerns over the health impact of smoking from the 1970s on, and increasing arrears from Russia, the India government introduced schemes to promote the cultivation of FCV tobacco in the light soil regions and discontinued its trading agreement with Russia. The promotion of light soil tobacco was a direct result of the shifting consumer preference, especially in the UK and US markets, for

[32] See chapter two for more details on ILTD's relationship with local farmers.

lighter, low nicotine tobacco. Their consumers, unlike their Russian counterparts, preferred the high sugar content of the ripe style tobacco produced in the light soil regions. By the 2000s, the shift in consumer and industry preference resulted in permanent closure of TAPs and Tobacco Board offices across the Northern Black Soil (NBS) and Central Black Soil (CBS) regions (see pp. 17). Today, the Board has written off these regions as high saline regions unfit for the cultivation of tobacco. Whether salinity came in the wake of the vast deforestation flue-curing perpetuates or with the loss of buyers cannot be determined as scientists and Board officials switched between the two explanations. Probably, the two factors occurred concurrently. Guntur has now successfully transitioned away from tobacco to genetically modified cotton cultivation. More importantly, for my argument, the shift in consumer patterns and international buyers' preference not only changed the experts' understanding of *usable* tobacco from high-nicotine, immature to ripe low nicotine tobacco, grown in lighter sandy and loamy soils but it also shifted the agriculture of FCV tobacco from black soils to the light, irrigated, soils of Karnataka and the Godavari districts. This shift has rendered the barn, research stations, and Board infrastructures in these regions defunct or partially functional.

Southern Black Soils (SBS), which on the continuum of soil belts are lighter than that of NBS and CBS, continue to grow tobacco under the shadow of the threat of undesirability that the NBS and CBS regions faced a decade earlier[33]. I have heard traders and farmers whisper that the reasons for continuing FCV tobacco production in Southern Black Soil are likely for more devious reasons. Chinnaiah Garu, who heads one of the local tobacco farmers' associations, remarked sarcastically that cigarette manufacturers still needed the Black soil tobaccos despite

[33] In retrospect, the transition away from FCV tobacco is a success story in Guntur. However, Prakasam's black soil spectrum has less irrigation facilities than Guntur. A transition away would require finding an adequate lucrative replacement for FCV tobacco in the arid regions.

their disdain for their unripe styles because high nicotine tobacco has come back in vogue amongst manufacturers over the past decade. He claims, companies are desperately trying to retain consumers by increasing the nicotine content in their consumer products. Even so, the production of FCV tobacco in the SBS region has significantly dwindled over the last two decades. Thus, quality has always been structured by the needs of the markets, and skewed by the oligarchy of British conglomerates and their Indian counterparts, such that *their preference determines usability's reigning definitions*.

Science of Quality

Thus far, I have show how desirability has affected the constitution of the grading system as well as the shift in FCV tobacco production from black soil regions to irrigated loamy soils in Karnataka and Godavari districts in Andhra Pradesh. One can draw a similar history of quality's failure as a scientific project of improvement in the tobacco sector. This perspective of failure has guided the nature of scientific intervention in India both pre- and post-independence. In 1907, Albert and Louise Howard, an eminent agrarian scientist couple, appointed to the newly instituted agrarian research institute at Pusa under the Government of India, wrote on the state of tobacco cultivation in India, "In spite of the importance of the crop and its money value some rather surprising weaknesses in cultivation methods were prevalent…. Above all, there was no attempt whatever to aim at quality. A large harvest was the sole objective and even part of the stalk was illegitimately included in the cured product"(Howard 1953, 83). J Crawford, an independent merchant quoted in Sinha-Kerkhoff's study of tobacco cultivation in Bihar, says that of all the crops "Indian tobacco" was the sign of the "slovenliness of (the) native" (2015, 45).[34] Even today,

[34] Here, quality of tobacco grown was indexical of the superstition of the natives and their laziness, both of which warranted colonial and scientific intervention. However, Albert Howard added to his commentary the heavily unequal relations between European planters in Bihar and native farmers that led to severe peasant agitations,

The Board and tobacco companies espouse several of these views (see chapter 4 for more on "progressive farmers" and the continuity of improvement projects). They consider growing tobacco in India as a constant process of failure and improvement to meet the demands of the UK market. Thus, the developmentalism of the colonial administration's projects of improvement continue to inflect the scientific stance of experts today (Arnold 2000). Consistently, solutions to the problem of quality have been addressed using technical solutions, even when experts were aware that some of these solutions did not work with the limitations of farms in India (Ferguson 1990; Li 2007; Mitchell 2002)

Earlier, science was the handmaiden of the colonial administration's attempt to improve the natives and nature in India so they could become efficient producers of raw materials for British industry (Brockway 1979; D. Kumar 1997; Goswami 2004; Philip 2004b). At the end of the 19th century, practical expertise was also extended to infrastructure building like railway, health, and irrigation projects (D Arnold 1993; Prakash 1999; Gilmartin 1994, 2003). The general push for improvement in the agrarian sector during British Raj, and in cigarette tobacco in particular, has led to the rise of a sprawling scientific infrastructure built around improving the production of quality FCV tobacco.

Beginning in 1878, the Government of India introduced the "scientific scheme for agricultural improvement". This scheme resulted in laboratories and model farms, which would demonstrate the best farming practices for both European planters and local farmers in Bihar and Bengal (Sinha-Kerkhoff 2014). The scale of scientific practice shifted from museum exhibits and

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claiming that "a veneer of science over the native population, pushed under the weight of British capital, occupation and indebtedness, could not produce the results hoped for by the tobacco capitalists" (Kerkhoff 2015, 218-222). Albert Howard who worked with imperial and agricultural society believed that tobacco's lack of quality in India was because of the burdens of the peasantry, suffering from huge debts, and from the lack of usefulness of the crops to the peasants.

botanical gardens to model farms. In 1905, the Imperial Council of Agriculture was instituted in Pusa, Bihar, which started as a tobacco improvement farm in Tirhut, Bihar amidst the decline of indigo plantations[35]. Today, the institute continues to be one of India's premier agricultural research institutes under the name of the Indian Council of Agricultural Research (ICAR). On the other hand, tobacco research was hived off to a specialized institution called Central Tobacco Research Institute (CTRI) under ICAR with its head office in Rajamundhry, Godavari district, Andhra Pradesh. Thus, imperial institutes of science continue to function in India even if populations and policies have changed.

As I have show in section two, tobacco cultivation in India has a tendency to move, which it inherits from its colonial legacy. While Bihar continued to grow tobacco, cigarette tobacco cultivation was moved to the southern states of Andhra Pradesh and (later) Karnataka at the turn of the 20th century. According to scholars of the Indian nationalist movement and colonial economy, the primary reason for the shift from Bihar to the southern region of Guntur in Madras Presidency, in spite of Bihar's proximity to the Imperial Tobacco Company's (ITC) headquarters in Calcutta[36], was due to the rise of the nationalist movement and peasant uprisings in Bihar, where European planters continued to dictate agricultural practices (from indigo to tobacco) (ibid 2014). Laborers and farmers in the Guntur region were considered docile and cheap. Today, while the Guntur region no longer produces FCV tobacco, Andhra Pradesh continues to dominate in the

[35] See Footnote 24

[36]ITC, the subsidiary of BAT Co, is the major manufacturing company in India. Known as Peninsular Tobacco Company, it was renamed to Imperial Tobacco Company in 1910. BAT's leaf procurement division, ILTDC, set up in 1912 to regulate procurement of raw material for cigarettes continues to function as the leaf procurement division for ITC, ILTD. ITC has been in violation of Foreign Exchange Violations Act more than once for not declaring high foreign capital investment (from parent company, BAT) in 1973 and more recently for over-invoicing exports in 1996 (Chaudhari 1979, India Today 1996). Imperial Tobacco Company became Indian Tobacco Company (ITC) in 1974. ITC is also the major exporter to companies like BAT and Philip Morris and their Indian products range under the product line, Wills, continues from the BAT products.

production of FCV tobacco, even as markets keep pushing for the movement of tobacco to more conducive locations, which from the 1970s includes Karnataka. And, even within Andhra Pradesh, FCV tobacco has moved from rainfed black soil regions to irrigated loamy soil regions. However, today, tobacco farmers' involvement in Andhra Pradesh's state politics and the developmental agenda of the Central government resist the market's tendency to move from one tobacco-growing geography to the next.

Thus, the definition of quality and its constant failure in India has generated two different state infrastructures, the CTRI and Tobacco Board. State officials at both, whom I refer to as state experts in this chapter, work to buffer farmers from market fluctuations and to improve the quality of the export crop. As mentioned in the last section, the infrastructure of the state scientists is mapped onto that of the Tobacco Board's soil belt classification. This infrastructure has also moved with the movement of FCV tobacco production. As you will see through this dissertation, although projects of improvement have ruptured from earlier colonial projects of improvement, they also thread a common line. However, the infrastructure built up to produce the crop is not restricted to state infrastructure. The state's standaridization and classification to improve quality has leaked into tobacco farms and barns classified under soil belts and crop quotas. In some instances, shifts in desirability have changed the landscape of the local economy, as in the case of Guntur, which even today houses the Tobacco Board and all the principal trading and manufacturing company offices but grows next to no tobacco.

While BAT Co and its Indian subsidiaries reigned in the colonial market, the situation has changed significantly today. International tobacco conglomerates now have an oligarchy in the markets, and their voices are represented by Indian companies and local exporters. Indian Tobacco Company Limited (ITC Ltd) and Godfrey Philip India rule the domestic markets in Andhra

Pradesh.. The major national company, ITC, is now an independent company that also exports to British American Tobacco Company and other major UK companies[37]. GPI, until recently, have been exporting to Philip Morris Intl. Further, fluctuations in market tastes result in desirability accruing multiple meanings from a long history of changing buyers' preferences. Accruing over time, these multiple meanings are co-opted by buyers, strategically, to reduce the price of FCV tobacco produced every year. Despite the multiple meanings of desirability, its implications for quality become very concrete, and on the auction floor in 2016, a frustrated Mahesh Rao Garu pinned them down to a definition: midya, illusory.

Fluctuation in the *desirability* for FCV tobacco produced in India has at various times either rendered experts' effort and their infrastructure redundant, as in the case of Central Black soils in Guntur, or changed the defining parameters of *usability* entirely, from immature styles to ripe styles of FCV tobacco. A perpetual need for renewed interventions to cater to the short-term and long-term desires of the markets is reminiscent of the colonial projects to maintain India as the source of primary production at highly subsidized costs and develop its people into modern subjects. In the next section, I will follow the farm trial of a new variety of FCV tobacco introduced in the Southern Black Soils, an initiative spearheaded by the Tobacco Board and scientists at CTRI. I use this vignette as an example of how the weight of this history of fluctuating desirability currently works in the interaction between state experts and stakeholders. In particular, I explore the tobacco company's response to this new variety to show how profiteering masquerades as *desirability*, frustrating the efforts of state experts. The polysemy inherent in *desirability* allows the company to use and define it for its own purposes, that maintains the instability of the experts' scientific projects.

[37]The Government of India also holds significant shares in ITC.

Experimenting with Quality

Farm trials with farmer volunteers are the final phase of scientific research towards a new variety seed line. First, the scientists conduct bulk evaluations of the seed line on trial farms in the research stations, which is followed by farm trials with actual farmers who volunteer to dedicate a portion of their annual cultivation to the seed line under survey. Most FCV tobacco strains that exist in India are variety strains. Variety seed lines are seeds from an open-pollinated parent plant. They are cheaper and can be produced by farmers or saved from earlier cultivation. Variety seed line often compare in opposition to hybrid seed lines. Hybrid seed lines are created by mixing two different parent plants. Hybrids allow for plant modification for characteristics like disease resistance, but their production is controlled. Hybrid cotton in India has been controversial, for it provides companies like Monsanto a complete control over production and distribution of seeds (Stone 2004; Ramamurthy 2011). For tobacco, the only existing hybrid, CH3, was introduced a couple of year ago by ITC, the leading manufacturing company[38], and is widely used in the sandy loams. However, in the Black Soils, the prevailing variety, SIRI, has retained its hold over farmers for more than a decade based on its excellent yield with a healthy percentage of brights. In the midst of the tobacco harvest of 2016, I learned that the Board and CTRI scientists were evaluating a new variety cultivar, tailored to the needs of Black soils, called TBST2. Farmers who had volunteered to grow this new variety on a portion of their land gathered together at a village in February 2016 to discuss the merits and disadvantages of TBST2 after what had been several seasons of trials. Field trials with farmers were then in their third year of experimentation.

[38]According to some of the scientists I interviewed, ITC not only promoted their seed line but was keen on switching tobacco cultivation to hybrids. This would mean that they would control seed distribution for FCV tobacco beyond the existing perimeter of the state-mandated advice to farmers to use homogenous seedlines (see pp. 22). Controlling seed lines was also a way of controlling the quality of the yield as well as farmers.

Catering to the needs of farmers in the Southern Black Soils[39], the scientists had produced an FCV tobacco variety that required no excess water if it rained or could make do with a "life-saving irrigation" system if it did not rain[40]. The TBST2 variety produced 30-32 leaves of a longer size[41] than the 28 leaves produced by the currently reigning variety, SIRI. The TBST2 trial variety had leaves with high resin content that added to the fleshiness of the leaf, which in turn cumulatively added to the weight of the leaves[42]. They took longer to ripen on the fields, which meant that the variety was suitable for rainfed conditions and more resistant to premature ripening caused by water stagnation and sun wilt. This variety produced the higher yield expected by farmers, and the leaf length and fleshiness were added values that made the leaves of this variety more farmer-friendly than its predecessors. TBST2 was a technical object developed on the basis of quality that took into consideration farmers' income and profit.

The focus group meeting took place on a sunny day in February. Farmers from the red soil and black soil regions adjacent to the village, where the trial meeting in Prakasam was located, had been invited for a conversation on the merits and demerits of the new seed variety, which was to be followed by an elaborate lunch. The meeting was hosted by one of the farmers who had volunteered for the field trial. With the aid of the Tobacco Board, he organized a makeshift tent with a temporary platform amidst a field of tall tobacco plants. The follow-up on the progress of the trials was spearheaded by the scientists at CTRI and Tobacco Board officials.

[39]The Southern soil belt includes black and light soils. However, here the light soils are mostly red soil. The cultivator was tested in both regions.

[40]As mentioned earlier, FCV tobacco is grown as a rainfed crop in the Black soils, where the clayey soils retain moisture from rainfall.

[41]As mentioned in the Section 1, length is a vital part of manufacturing quality of FCV tobacco.

[42]Fleshiness adds to manufacturing quality, however, weight is an important criterion for farmers who sell their bales on the auction floor in accordance to weight. Higher leaf weight meant lesser number of leaves in a bale, which then increases the number of bales.

While the Tobacco Board has always been in the know-how of research conducted by both CTRI and industry scientists, as a wing of the Commerce Ministry their activities are predominantly restricted to the dissemination of agri-research, extension of agri-services, and most importantly, marketing of FCV tobacco. It was one of the few times a senior official from the Tobacco Board had taken the lead in the CTRI scientists' research and development of a variety. I had tagged along with this official on earlier field trips to monitor TBST2 farm trials, but that day, I realized his key involvement with the development of this seed variety. His excitement was palpable.

I had taken a detour from my routine of observing harvesting on the farms and arrived at the Tobacco Board Auction Platform (TAP) on the other side of town. The Board and tobacco company officials, now familiar with my project and my presence at these events, treated me as part of the crew of experts that embarked on any journey into the tobacco farms. This time, I accompanied tobacco company officials as they began their trek to the village for the meeting. The company official I traveled with was a bit nervous. He was young, and it was the first of many such meetings he would be called upon to preside over in the coming years. To muster some much-needed courage, he called up a senior scientist at the company's R&D department to discuss talking points. After a brief conversation with him, the official jotted down the industry's misgivings about the new variety. The industry, as I had come to understand by then, did not seem to share the Tobacco Board's excitement for the new variety. Then again, the advertised features of TBST2 that excited the Board officials catered primarily to the region's agro-climatic conditions and farmers rather than to the market or company's preferences. For example, the fleshy, heavy-bodied, long leaves of TBST2, which increased the weight of bales for farmers, meant that the company paid more for a lesser number of leaves. As I suggested earlier, the primary bone of contention between the market and farmers, since the time of the colonial

administration, was the question of quality versus yield. Yet, unlike the British tobacco merchant quoted earlier, the tobacco company officials could no longer call farmers 'slovenly', at least not to their faces (see Chapter 4).

The meeting began by late morning with customary salutations and short summaries from the Tobacco Board officials and CTRI scientists regarding the features of the new variety TBST2, the current status of field trials, and the promising future the variety held for the rain-starved regions of Andhra. Farmer reviews followed the opening remarks. Farmers had mixed reviews. For some farmers, the variety made significant difference in yields and the quality of the yields. For others, the benefits tapered off after the third year of field trials. Contamination of the seed line in nurseries, where farmers purchased tobacco saplings, was already an issue for both farmers and Board officials. The latter took the opportunity to reiterate to the farmers the importance of buying saplings from the Board or tobacco company ratified nurseries and growers[43]. Several farmers complained that the harvest contained too much green, unripened tobacco that turned brown upon curing (which meant a lower grade). The farmers' reviews were mixed but hopeful.

The tobacco company official finally got his turn to address the Board and the farmers. He commended the state experts on their progress on variety seed farm trials before proceeding to list the company's concerns associated with the leaf. The official framed his reservations in a very technical language and in relation to the existing infrastructure on the farms, rather than as incompatibilities with his company's profit model. As I mentioned in the introduction, tobacco companies, like the Board, often used the rhetoric of scientific improvement. Though they were less compelled to take farmers' infrastructure and costs of production into consideration, as an

[43] See pp. 22 on the problem of seed contamination

old domestic tobacco company working with farmers, they had to pitch their interventions to them, just like the Board did (see chapter two). The young official suggested that the increased length of the leaf was problematic for the dimensions of currently existing barns, which consisted of racks separated from one another at standardized ratios to allow for separation between leaves during curing. Longer leaves would mean that this arrangement in the barn would be crowded, which could lead to moisture trapping on the leaves that could later manifest as blemishes on the cured leaves[44]. The longer leaves and the increased number of leaves per plant would also mean that farmers had to increase the spacing between crops on the farms from 26cm to 30 cm between plants. The net result could mean that the perceived increase in yield was mitigated by the decreased number of plants cultivable over the same area. While the new variety had higher disease resistance and mitigated the problem of early ripening faced by the current variety, SIRI, TBST2 needed additional fertilizer supplements with nitrogen and phosphorous, which also suggested that the plant was consuming too much nitrogen during ripening[45]. As I show in section one, nitrogen is crucial to the tobacco plant's growth, however, its excessive presence during the ripening stage can be disastrous for nicotine-sugar ratios. For all these reasons, the industry official reserved his excitement for the new variety.

In spite of the negative reviews, the Board was hopeful for TBST2's success in the region, as it was resilient to drought and pest attacks. The above vignette also shows that, despite crafting and tailoring a variety suitable not only to regional conditions but also to farmers' needs, its success was dependent on whether farmers chose to cultivate this variety. Here, farmers had the final say in stabilizing a technology developed based on the reigning definition of quality.

[44] Percentage of blemishes was part of the grade calculus, see section one.

[45] Excess nitrogen at the ripening stage affected the smoking quality of FCV tobacco, see section one.

Farmers tended to show a preference for high yield varieties, the farmers' weapon to mitigate the perpetual problem of quality and price. If farmers rejected the variety, overriding state promotion, the variety would be relegated to the ranks of numerous others that had been shelved at various stages of research. Thus, the industry's reservations and their framing of these reservations as farming infrastructure incompatibility problems worked as a form of lobbying against the state experts' variety. Affecting the farmers' opinion of the strain was crucial to the variety's stabilization as a technical object, so, the industry was using the occasion to caution farmers to possibly unperceived increases in costs of production. As of today, the result of the farm trials is still ongoing and inconclusive. The jury is still out on whether the Board and scientists succeeded in stabilizing quality for its primary stakeholders, the farmers.

The vignette above illustrates how quality of FCV tobacco functions not only as an object of scientific research but also how the experts' capacity to stabilize quality into fact and into technical objects are intricately tied to their governance mandate of protecting farmers and their dependence on markets. TBST2 was a potential technical object produced in the service of the quality of FCV tobacco and farmers, but the vignette is also a representation of what experts experience as they work to stabilize quality into technical objects. Thus, for tobacco experts in India, stabilizing a technical object includes lobbying farmers and industry. That is, the stabilization of objects of scientific research into technical objects is dependent on peer-review by the tobacco industry and its willingness to participate. Also, the industry sometimes lobbied farmers against such technical objects, as in the case of the new variety seed reported above, if the Board's technical object did not align with their goals and profit-models.

Laboratory studies have shown that objects of scientific research are material processes suspended in the spatiotemporal processes of the laboratory, with attendant networks of

instruments, machines, and scientists, not to mention larger networks of peers and peer-reviews (Latour 1987; Latour and Woolgar 2013); where knowledge-making is often a process of elimination of inconsistent 'artefacts' (Lynch 1985). By positing symmetry to human and non-human objects[46], these works articulate how the process of making scientific knowledge in labs is material and open-ended, if not incredibly messy. Briefly introduced in section one, the primary distinguishing factor of an epistemic object, in Rheinberger's framework, is that it unfolds over the course of experimentation. Experimental systems are open pathways or labyrinths through which scientists navigate as they find solutions. When epistemic objects become scientific facts they generate technical objects that bolster the epistemic object's objectivity. A failure in any of these processes for laboratory studies can result in the obsolescence of the object and its attendant systems (Rheinberger 1997). In the case of developing the TBST2 seed strain, this navigational pathways extended from the land to farm trials in the research stations with farmers (Henke 2007). However, as I have shown in section three and four, the actual process of fixing the meaning of scientific research and producing technical objects involved mastering the limitations of Indian markets and geographies and negotiating with stakeholders who asserted their requirements from their situated locations. Thus, the epistemic object is updated by external factors that lie outside the parameters of scientific research and development, thus rendering quality a stable yet unstable object of research.

Conclusion: Expert's Frustration

This chapter began by exploring Mahesh Rao Garu's proclamation that quality was an illusion. His stance against quality was intriguing because Mahesh Rao Garu was very much a

[46]Positing symmetry to human and nonhuman actors in science studies is a move to dislodge 'man' from the center of discourse and knowledge formation (Latour 2005, Donna Haraway 2006).

part of the personnel who worked to ensure quality was reproduced in the field, on the auction floors, and in the Indian FCV tobacco market in general. However, during my fieldwork, I have met several scientists, from both the industry and government, who struggled to explain how quality actually worked (see introduction). The industry scientists, as expected, proclaimed confidently that quality was always biased to the buyers' needs. The government scientists sounded more irate or resigned to their fates when they pointed out quality's capacity to be polysemic if not outright deceiving. Drawing from their interviews, outcomes from tobacco seminars, and scientific journals, I have tried to map the various facets of quality of FCV tobacco.

Quality of FCV tobacco mainly consists of two aspects, *usability* and *desirability*. In the first section on *usability*, I have shown how aspects like soil belts, styles, grades and non-grades are part of the experts' stance towards quality. That is, that the Board infrastructure and grading policies are technical objects based on a pre-existing understanding of *usability* of FCV tobacco produced in India. The infrastructure and classificatory systems are earlier interventions produced in the pursuit of quality in Indian FCV tobacco research and development that have now become stable technical objects in the tobacco-growing geographies. Research on variety seeds tailored for high quality and yield in particular soil belts, not to mention other interventions like barn dimensions and technology for curing, storage halls and practices of cultivating and harvesting the time-sensitive cash crop are all deployed to enhance the smoking and manufacturing quality, or *usability* of FCV tobacco. These conditions are integral to the reproduction of *usability* in quality.

In the second section, I mapped out various aspects of *desirability* drawing on short- and long-term market preferences to show that the enactment of *desirability* along various scales

rendered it a fluctuating and polysemic concept, that buyers took full advantage of. The polysemy of *desirability* allows buyers to shift between multiple ideals of *desirability* to suit their goals. I also showed that short and long-term aspects of desirability have had varying effects on reigning definitions of *usability* and the stance of experts. While short-term ideals of desirability have created new technical objects and interim policy interventions, long-term shifts in the meaning of desirability have shifted the parameters of usability, requiring a recalculation of the experts' 'stance'. The pursuit of quality has also resulted in the movement of tobacco across geographies rendering existing Board, CTRI, and farmers' infrastructure redundant. In tracing the long-term effect of desirability, I effectively show how quality, defined as both *usability* and *desirability*, was created and structured by India's colonial past as the primary producer of raw materials for British tobacco conglomerates, who then steered the cultivation of tobacco and its markets to suit their needs. Today, the market structure is determined by the desires of the postcolonial offshoots of earlier tobacco conglomerates in the market and continues with similar as well as newer interests and profit models.

For the purposes of this paper, it is sufficient to say that *desirability* has changed with factors outside the control of experts, like market preference. Shifts in trends in market preference have meant more short term research into technical objects or a change in the definition of the object of scientific research. The policies established by the postcolonial Indian state, which are also influenced by farmers' and traders' protests, require experts to consider the will of farmers. Thus the success of agrarian research into quality has depended on stabilizing chemical and morphological traits to both market and farmers' requirements. For experts, this is a frustrating and long-drawn process of negotiating with stakeholders and the limitations of tobacco growing geographies. In the particular case of the variety farm trial described in the

previous section, the success of their research depended on the variety's capacity to work smoothly in the conditions of the Black soil region as well as the constraints within individual farms. But, more importantly, it depended on the acceptance of the variety by farmers and, for the same reasons, both state and industry officials lobbied farmers to acknowledge and accept technical objects of research or to reject them. This section illustrates how the experts' mandate to protect farmers is effectively exploited by domestic tobacco companies to destabilize ongoing research. Thus, the *usability* of quality stabilizes outside laboratories, involves negotiations between stakeholders, and is built on top of colonial agricultural reforms and infrastructures of post-colonial development, forcing the quality of Indian tobacco to seem unpredictable and insurmountable. Tobacco Board officials and state scientists seek objective scientific outcomes to a problem influenced by constantly fluctuating market values and agrarian relations. I argue that experts' attempt to remain both conduits of scientific knowledge and governance in India, a task linked to the frustrating and insurmountable task of stabilizing quality.

In laboratory studies on scientific knowledge production, laboratories allow scientists to render naturally occurring objects and processes into artificial objects of the lab. That is, objects are taken out of their natural environments by re-configuring and recreating them into functional objects in the lab (Knorr Cetina 1999, 28-29). Making functional scientific objects is a messy process, but the lab does not have to tolerate the *object as it is*, or account for the *natural object where it is*, or accommodate *the event when it happens* (27).[47] Objects of scientific experiments,

[47]Ethnographic studies of the production of scientific knowledge in laboratories have been salient since the 1980s. These studies have shown how this configuration of the immaculate space of the lab is often muddied in the everyday practice of laboratory life. Scientists are situated within networks of scientists and have to navigate hierarchies of the immediate surrounding and with the larger community and locations (Latour 1987; Mukherji 1989). They are forced to orient themselves and their experimentation to relevant paradigms (Kuhn 2012). They are orienting agents or interacting bodies of an idiosyncratic nature within the social order they have created in the lab environment (infrastructure of the lab and the experiment) and interact with devices and apparatuses in order to perceive their objects of study (Haraway 1990; Knorr-Cetina 1981; Pickering 1995). Finally, the sanitized space of

in this sense, are objects without a place. Laboratories allow for a regulated space where objects can be sanitized and reanimated using an artificial or novel surroundings (Cooper and Waldby 2014). Scientific labs are also sanitized and immaculate spaces where wild nature is tamed (Kohler 2008). Even so, scholars of knowledge production in scientific laboratories concede that scientific research with epistemic objects is a messy process. In the case of applied sciences, research includes the spilling of the lab into the field. It also entails supplanting certain forms of knowledge produced elsewhere (in artificial spaces in the lab) on to concrete spaces[48]. Agrarian scholars have documented the effects of this spillover of immaculate objects into farms and agrarian seminars, such as in the deskilling of labor and erosion of local, cultural practices.[49]

Agrarian experts occupied a peculiar position in the colonial administration and in the Nehruvian imaginary of postcolonial India. Though disparaged by their peers in the theoretical sciences stationed in Britain, applied scientists (including the Howards) rose to prominence as personnel at the frontier of tailoring the sciences to the colonies and to the needs of colonialism (Kumar 2000). The gradual shift away from viewing scientists as collectors and translators of

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the lab is often disassembled by external disturbance and the presence of non-scientific objects that require makeshift strategies (Lynch 1985).

[48]Henke's study of agrarian scientists and Californian farmers reflects this aspect of agrarian science particularly well. The scientists funded and located in the nearby University of California take their state mandates into the commercial farms. The farmers, on the other hand, are caught between maximizing profits and buffering against loss from weather or agri-commodities prices vagaries. The difference in positions and in the temporality of outcomes (time/cost of investing in scientific innovation and results) and goals of these actors make new interventions harder. Scientists are forced to demonstrate expertise produced in labs on the outposts or in sections of the farms in an attempt to convince and negotiate with farmers.

[49]Several bodies of literature speak to the misalignment of different actors' desires and goals disrupting applied scientific innovation. Colonial studies of science speaks to the clashes between natives and applied scientists over projects of modernization (irrigation) as well as to the cooptation of native forms of knowledge to scientific development in the metropole (Gilmartin 2003, Philip 2004; Hayden 2003). Several ethnographers of agriculture echo this sentiment when they urge scientists to formulate projects in tandem with farmers rather than smoothing over the presence of natives in their scientific writing. This has in turn resulted in the deskilling of farmers who depend on the state and scientists to make decisions on farming instead of relying on their experience (A. Gupta 1989, Crane 2014, Abraham 2000, Stone 2007).

local knowledge for universal sciences of geology, geography, botany and anthropology, to viewing them as applied scientists of public works, civil engineering, agriculture, and public health occurred with the fall of the East India Company, the shift in educational policies toward Western knowledge systems (1835) and the delegation of administration to the Crown (ibid 2000; Baber 1996). Like the Howards (see pp. 32), later applied scientists were conditioned by the needs of colonial capitalism, even if they believed themselves to be agents of a universal science as natural enthusiasts or ethnographers (Philip 2004). The instrumentalization of the relationship of the state to science continues in post-colonial India in the work of state experts like Mahesh Rao Garu. In being called upon to fulfill the desires and overcome the sense of inadequacy of the postcolonial nation-state, formed out of colonial market structures in a world that ranks nations based on progress and development, these experts are strapped between mandates and markets.

In this chapter, I reverse the direction of the lab spilling into the farm, and the rendering technical of heterogeneous practices, by studying how the outside interferes with the agricultural research and extension services of state agrarian experts in India. I show how experts are part and parcel of large experimental systems or networks of scientific knowledge-making processes interspersed between objects of enquiry. Experts working on improving parameters of *usability* in the labs and research stations cannot render *usability* stable in the labs by removing its natural existence, situatedness in the market, and farmer politics. Even if they tried to, the polysemy inherent in the concept of quality, provisioned by market *desirability*, would stymie their attempts to sanitize the scientific object of research.

Yet, as experts, they continuously tried to sanitize and render technical the problem of quality as set of usable parameters in the manufacture and consumption of cigarettes. Mary

Poovey, in her historical epistemology of modern fact in 19th century Britain, speaks to the origins of the expert. According to Mary Poovey (1998), in spite of the philosopher's efforts to produce infallible, objective knowledge untainted by fallible human perception, the production of scientific knowledge requires humans to act as conduits for knowledge to transmit and transform (1998). Experts are the crop of humans who came into existence in the perceived space between the observed particular (fact) and systematic scientific theories. Experts came into existence to perform a task or to fill gaps in the acquisition of knowledge, which had ethical ramifications. Daston and Galison (2007) elaborate further on the expert in their analysis of scientific objectivity in the 19th century. They state that there are certain epistemic virtues associated with the scientific pursuit of knowledge such as truth-to-nature, mechanical objectivity, and trained judgment. From these virtues there emerges "*a portrait gallery of scientific exemplars: the sage, whose well-stocked memory synthesizes a lifetime of experience with skeletons or crystals or seashells into the type of that class of objects; the indefatigable worker, whose strong will turns inward on itself to subdue the self into a passively registering machine; the intuitive expert, who depends on unconscious judgment to organize experience into patterns in the very act of perception*" (2007, 44).

This understanding of experts as object conduits of scientific fact and knowledge production lead me back to Mahesh Rao Garu's frustration. Like scientific experts everywhere, state scientists and Tobacco Board officials considered themselves to be objective, and conduits for the production of such objective knowledge. The Tobacco Board officials and CTRI scientists, as experts, wanted to function in an immaculate space devoid of temptations other than the pursuit of knowledge itself, but as members of the state machinery, they had to mitigate various policies and politics that inform the production of their scientific object of

research, along with the parameters to improve quality of FCV tobacco. For example, to mitigate the pursuit of quality with the effects of the failure of quality, state experts marketed India as a source for cheap filler FCV tobacco.[50] This is also why I use lab studies alongside postcolonial science studies because I want to highlight the experts' epistemological conflicts, even as they recognized their limited capacity to bring about scientific change.

Agrarian experts from the Board and CTRI are in a unique position. They are the liaisons between the local, the national, and the global (Mukerji 1989). Nevertheless, it also means that there is an asymmetry in the process of knowledge production whereby experts rely not only on scientific peer review for the stabilization of objects of scientific research into facts and attendant technical objects but also on market players, policy mandates, and local farmers. For postcolonial scholars of science, this persistent asymmetry demands an alternative approach in the study of 'postcolonial technoscience' (Anderson 2017; Law and Lin 2017)[51].

In the case of tobacco experts in Andhra Pradesh, even as they are situated to produce generalized scientific knowledge, experts are aware that quality is an illusion dependent on India's status as a developing country and its capacity to remain an opportune market for cheap, filler FCV tobacco. Their inability to gauge the markets or to secure export orders, the result of

[50]According to a study of Indian scientists by Itty Abraham (2000), Indian scientists, limited by the lack of resources and expensive equipment enjoyed by their colleagues in the U.S. and Japan, are forced to be enterprising. They earn their legitimacy by producing science that is uniquely Indian and unique to India. That is, certain forms of knowledge that can only be produced due to their location within India. Unable to reproduce the lab resources and conditions available to their peers, Indian scientists use the particular positioning of the Indian landscape as an ideal to studying scientific phenomena. Indian scientists advertise India as the perfect terrain for the study of Cosmic Rays for its proximity to the equator; the abandoned gold mines of Karnataka for neutrino detection.

[51] Feminist and postcolonial scholars writing on biolabor and biocapital have pointed to the disparities created by power differentials across nation-states' health and trade regulations that affect the speed, direction, and flow of the movement of scientific objects (Cooper and Waldby 2014, Vora 2015, Sunder Rajan 2006). This literature highlights the existence of uneven relation across boundaries that situate and render certain actors and labor as immobile, cheap, and dispensable. Here, the nation-state plays the role of the intermediary in relation to transborder scientific activities mediated and structured by larger global politics.

various historical moments of market structuring (see Chapter 2), forces them to focus on improving quality by producing interim technical objects based on the *usability* of FCV tobacco. *Usability* of tobacco is the only factor they can effectively control (apart from farmers). Even then, applying usable traits on the field has entailed negotiating erratic agro-climatic patterns, persuading traders, and lobbying farmers. As conduits of objective scientific knowledge and technology, they stand on the frontlines of the nation's desire to modernize via economic development (Abraham 2007, 2014, Mitchell 1991). From this vantage point, considering the weight on his shoulders as a government official and agrarian expert, Mahesh Rao Garu's frustration seems entirely legitimate.

The following chapter studies the other side of state expertise by mapping the formation of the Tobacco Board vis-à-vis its stakeholders as arbitrator between buyers and sellers and regulator of markets. Stakeholder is a term used by the Tobacco Board to refer to all the people (as individuals, groups, and organizations) who had a vested interest in the improvement of FCV tobacco and its production. However, I refer to farmers and traders in the next chapter as interest groups to show how they formed organizations to represent their interest as a distinct group vis-à-vis Board mandates and policy. Here, the representatives officially presented the concerted view of the entire group to the Board or the Government of India (or to the media). Thus, these interest groups became the Board's main interlocutors in the sector. Secondly, while I have looked at only tobacco companies, particularly one, as a stakeholder in this chapter, in the following chapter, the traders' interest group represents a greater range of manufacturing companies, as well as exporters and local traders and dealers, even if the tobacco companies opinion prevailed in the interest group. This disparate bunch of buyers is also referred to collectively as traders or 'the trade' when not referring to this official set of representatives. 'The

trade', again, was a term used by Board officials and traders themselves to refer to the myriad buyers in the FCV tobacco markets in Andhra Pradesh.

Chapter 1 will, in part, be submitted as part of an article for *Science, Technology, and Society*. Amrita Kurian was the sole investigator and author of the chapter and of the article that will be submitted.

Chapter 2: The Neutral Intermediary: The Tobacco Board and Interest Groups

Singaiah Garu was the team leader of the Indian Tobacco Association (ITA), a voluntary association of manufacturers, exporters, and traders that represents and safeguards the interests of FCV tobacco buyers. In line with my interlocutors in the FCV tobacco sector, I will refer to this disparate group of buyers as 'the trade,' especially in cases when they came through as a single voice vis-à-vis the state and farmers in the sector (see section two). Under Singaiah Garu's supervision, fourteen junior supervisors monitored the Tobacco Board-led FCV tobacco auctions in the Southern tobacco-growing regions of Andhra Pradesh. Talking of his duties as a team leader and supervisor working on behalf of "the trade," Singaiah Garu explained that his team had to "checkup the [auction] floor, grade-wise [*sic*]." He went on to explain why this was one of their major tasks during the auction season: "sometimes, farmers will influence the Tobacco Board officials…..sir, put better grade, but they [Tobacco Board] will not accept our recommendation or policy[52]…we are well-versed in grades, F1-F10....but we cannot influence Tobacco Board….[the Board says] let them buy, what is it? [*sic*]".

As I detail in chapter one, the grading process of FCV tobacco is a visual-tactile process where Tobacco Board staff look at, feel, and smell the leaf for quality indicators. These indicators are translated into Farm Grades (F1-F10), which the Board officials enter into their central data storage system via hand-held scanners. These grades determine the price of FCV tobacco during auctions. However, because of the nature of grading, the process has errors, which the Board claimed was due to lack of training or poor judgment on the part of grading officials. The traders' association alleged that many of the mistakes were acts of commission

[52]By "our recommendations or policy", Singaiah Garu means that the Tobacco Board did not extend the same courtesy to the "the trade" or buyers grade recommendations or policies.

rather than omission. Thus, one of the tasks entrusted to Singaiah Garu's team was to recheck the Tobacco Board assigned grades on tobacco bales at auctions with an eye on preventing inflation or deflation of grades (see Singaiah Garu on trade inflation and deflation in chapter three).This task was necessary for three reasons: farmers influenced Tobacco Board officials' judgment and record of grades. While the Board could be persuaded by farmers to modify grades, the trade could not similarly influence the Board's judgment. Finally, the Board officials brushed off the cost to traders with the alleged glib quip, "let them buy, what is it?" This phrase can loosely be translated as *what is the big deal if the trader loses money?* Traders' allegations against the Board often quickly tipped over from partiality towards farmers and into a problem of state accountability.

Before I launch into the nature of the trade's relationship with state actors in these tussles, I would like to make a segue to point out the setting of my conversation with Singaiah Garu. The location and timing of this interview revealed something about the state official's stance towards traders and to allegations such as those made by Singaiah Garu above. My interview with Singaiah Garu took place in August 2016, a couple of days after the final day of auctions on the Tobacco Board office premises in Prakasam[53]. After a tedious five months, the Tobacco Board officials, traders, and farmers had celebrated the last day of auctions with a short ceremony. The ceremony involved the trade thanking the Board for their efforts and vice-versa, summing up a long five months of strife and relegating it to the past season[54]. The final day was also marked by the final sale- a short auction of tobacco leaf scraps.

[53] The Tobacco Board office in Prakasam, where I conducted most of my research, consisted of a building with four to five offices for the Auction Superintendent, the Senior Grading Official, the grading staff, the technical and janitorial staff.
[54] Incidentally, I was also called upon that day to talk to the farmers and the Tobacco Board.

The Senior Grading Official of that particular regional Tobacco Board office, Ismail Garu, had pointed Singaiah Garu out to me, insisted that I talk to him, and conceded his private office to me to conduct the interview. Needless to say, as we sat in Ismail Garu's office talking about Board officials' corrupt practices and the ensuing accountability issues at auctions, I felt more than a little awkward. I also knew that Ismail Garu was aware that the conversation could turn against his organization, the Tobacco Board. Public sector corruption was an open secret. Sinagaiah Garu's narrative was representative of many others circulating about in India over the issue of bureaucratic corruption. Everyone in the sector, including Board officials, were conscious of these narratives and talked animatedly on the need for change.

This chapter is the first of two with related but distinct arguments on the nature and role of the state in the FCV tobacco sector. The chapters both speak to the idea of mediation and the state. However, the arguments of these two chapters are situated in different genres of writing. This first chapter is historical in that it seeks to situate the conditions of becoming for the above conversation with Singaiah Garu set within the premises of the Tobacco Board office. In this chapter, I map out the histories of becoming of both Singaiah Garu, the supervisor monitoring auctions on behalf of the trade, and Ismail Garu, the senior official of the Tobacco Board, in whose office I conducted my interview with Singaiah Garu. One is a representative of an interest group and the other of a regulatory, state institution.

In order to show the intertwined history of the formation of the Tobacco Board and its major interlocutors, the traders' and farmers' interest groups, this chapter relies heavily on historical studies of FCV tobacco marketing and on reconstructed narratives of the past that farmers' representatives, traders, and Board officials shared with me. In that sense, this chapter veers away from the theme of the dissertation of studying expert interventions in the FCV

tobacco sector. In studying the formation of the Board and its major interlocutors, this chapter shows how these agrarian experts were situated within organizations in the FCV tobacco sector as collaborators and competitors, or what I call 'frenemies' in the introduction. In the latter sense, this chapter situates several of the experts and their parent institutions vis-a-vis each other in the sector.

Though the chapter began with Singaiah Garu's substantive accusations against the Tobacco Board's corruption and his pleas for market transparency, I do not extensively discuss public sector corruption, broadly understood as a problem of state accountability[55], or transparency in this chapter (Wedel 2012). I examine the contents of Singaiah Garu's interview in the next chapter on mediation. Before addressing corruption and transparency, I would like to focus more on why Singaiah Garu perceived the Board as apathetic to the problems of the trade in the first place. This situation, I argue, is the product of a particular history of market commercialization or the process of expansion and diversification of production and marketing in the Indian FCV tobacco sector (Duvvury 1985, 9). The consolidation of disparate government institutions to form the Tobacco Board was the result of the commercialization of FCV tobacco markets. In this sense, the Tobacco Board, as a governing body of the state was a continuation of existing rural power relations. However, in its organizational and accountability structure, the state marked itself as a neutral intermediary in the markets for FCV tobacco, acting against the interests of its main interlocutors, the farmers and the traders, when needed to fulfill its larger

[55] See Jane R. Wedel, *Rethinking Corruption in an Age of Ambiguity* (2012). Drawing from the works of political scientists and economists like Rose-Ackerman and other leading anti-corruption economists, she shows how corruption became a problem of the Other (developing nations) in the post-Cold War era that required remedial actions. Nation-state was the unit of analysis and public sector officials were the prime subjects of corruption discourse. One can read a similar vein in Singaiah Garu's assessment, whereby even as he spoke of infractions by farmers and traders, the Tobacco Board was the primary target of the corruption accusations. Elliot (2016) adds that corruption among political leaders in Andhra Pradesh occurs predominantly in the form of rent-seeking for preferential access to state land, resources, and tenders, especially for entrepreneurs and business enterprises.

role as market mediator. In this sense, my argument does not show how the state was born or how it became a unit of scholarly analysis (Polanyi 2001; Mitchell 1991). Instead, this chapter shows how the state inserted itself as the regulator, the rent-seeker, and the protector of farmers in the FCV tobacco marketing system and how this location affected their relationship to their primary interlocutors in the decades after its institution.

In the first section of this chapter, I chart out two historical trajectories running parallel to each other. First, I use the history of the marketing of FCV tobacco to show how the state and interest groups are effects of an embedded process of diversification of the FCV tobacco commodity chains, dubbed as the formation of market society (Polanyi 2001). Secondly, I will use this history to show how, at the time of its institution, the Tobacco Board was a response to the needs of the marketing system. In particular, the Tobacco Board was the result of the Central Government's decision to respond to demands of one particular interest group, farmers, to intervene on their behalf and mitigate against the abuses of intermediaries like traders and dealers[56]. In responding to the demands of farmers as an interest group, the government consolidated earlier, older state functionaries working in the sector, that were dispersed and sometimes unrelated or overlapping in their regulation of the FCV tobacco sector, under one umbrella organization, the Tobacco Board.

The first section of this chapter also traces the history of agriculture in Guntur as a history of changing intermediaries. Here, it is essential to discuss the figure of the mediator -the broker, the middle-man, or the contractor- that the Board sought to replace and modify. In scholarly literature on the state, a broker is a person who crosses between boundaries of state institutions

[56]My argument is more modest than the claim Polanyi makes and Mitchell substantiates in his essay, the Limits of a Statist approach, where state is result or effect of market or an economics based worldview. I do not show how the state is borne out of the needs of the markets but rather how the formation of Tobacco Board is a consolidation of earlier institutions and arbitrating figures moderating the FCV tobacco market.

and the public sphere of citizens to provide a service at a price. They are the mode of accessing the state for the everyday citizen, especially if the citizen's lack of access to state institutions is compounded by various other problems like illiteracy, poverty, or other infrastructural limitations. Brokers in these cases can be well-connected village or city residents, state officials, or members of the local political system of an area. In this chapter, I use the term **intermediaries,** instead of brokers or middle-men, drawing from Nata Duvvury's classic study of the FCV tobacco marketing system (1985; 1986) to show continuity between this earlier figure of the broker and the Tobacco Board in its present role. However, unlike earlier brokers or intermediaries who profited from farmers' access to markets, the Board differentiated itself from earlier intermediaries in that they did not draw profits from the markets. The Board came into being to replace existing brokers/ private intermediaries in the markets, thereby continuing patron-client ties on which earlier brokerage relied. However, the state body's organizational and accountability structure masked any connection to local, clientelist powers. I refer to the Tobacco Board mediation of FCV tobacco markets as *neutral* for the state's capacity to mask its origins in local patron-client networks.

In arguing thus, I carry forward Witsoe's (2011) point that there is a continuity between the intermediaries of the colonial government and the postcolonial Indian state. The introduction of FCV tobacco in the 1920s was marked by the replacement of earlier intermediaries with a new kind of 'translocal' intermediary, ILTD, the subsidiary of the transnational tobacco conglomerate British American Tobacco Co. (BAT Co.). For a while, ILTD monopolized the position of the intermediary. Even so, ILTD's presence in the region led to the enrichment of already capital-rich farmers, who became liaisons for other smaller farmers in the region. After the end of colonial rule in the 1940s, international buyers expanded to include non-UK buyers. Diverse

international buyers further contributed to the democratization of tobacco farming and trading, with the practice extending to smaller and lower caste farmers and local traders. Here, affluent farmers became the trader intermediaries for other farmers by expanding their agri-portfolio with tobacco-related agri-businesses in the region. The diversification of the entire marketing chain from buyers to sellers, in turn, led to a proliferation of various types of intermediaries providing various services to farmers seeking to sell their agricultural produce.

The second section of this chapter reveals how the diversification of buyers eventually led to the rise of trade and farmers' interest groups. In terms of their interest in the marketing of FCV tobacco, these groups were in opposition to each other, leading to agitations and clashes. Belonging to the same milieu of affluent peasant agriculturalists, these groups, especially the farmers' groups, played a significant role in creating the pressures that directly led to the creation of the Tobacco Board. The third section of this chapter explores the preliminary structure the Board took once it was instituted. I show how the accountability structure of the Board was oriented to the Central government rather than its major interlocutors, the farmers and traders. That is, they could not individually or as an institution make profits in the markets. Yet, when the state situated itself as a neutral intermediary in the market, it began earning rent and revenue for infrastructure and services provided to regulate the FCV tobacco market.

In conclusion, I show that while the Tobacco Board believes itself to be a neutral intermediary, it is inherently politicized. This politicization stems not only from its mandate to act as custodians of farmers' interests but also from its situated continuity with the figure of the broker. Whether they benefit farmers or traders or add new forms of unequal distribution, the Board's conviction in the neutrality of their position and in their mandate to protect farmers

created rifts between the Board and their major interlocutors, which I elaborate in the next chapter.

Diversifying Intermediaries

Before I delve into the history of markets and intermediaries, I note why I use the history of marketing in Guntur district, though my fieldwork was mostly situated in Prakasam district in Andhra Pradesh. Firstly, I use Guntur as the unit of analysis because FCV tobacco was first introduced in the Black soils of Guntur in, what was then, the Madras Presidency in the 1920s. During this period, the regions I worked in in Prakasam were part of the Guntur district. The state of Andhra Pradesh was formed in 1956 when Telugu-speaking districts of the erstwhile Madras Presidency merged with the Nizam's Hyderabad state to form Andhra Pradesh[57]. Prakasam district only became a separate district, made by joining parts of early Guntur, Kurnool, and Nellore together, in 1970. While Guntur stopped producing tobacco in the 1990s, Prakasam remains one of the last bastions of FCV tobacco cultivation in the black soil regions of Andhra Pradesh.

Now, I explore the land tenure system and state of commercial agriculture in Guntur at the time of FCV tobacco's introduction in the region to show how private intermediaries formed in the marketing of FCV tobacco, whose activities the Tobacco Board sought to stem and replace. In relating this history, I do two things, I show how the FCV marketing system expanded and changed over many decades of commercialization. Secondly, I try to trace a continuity between earlier intermediaries in the region, beginning with the British land taxation

[57]Andhra Pradesh further divided into Telegana and Andhra Pradesh in 2014. Both Prakasam and Guntur districts remain in Andhra Pradesh.

system, and the Tobacco Board formed to stem the abuses of these intermediaries. Thus, the state, in instituting itself as a market regulator and arbitrator, continued to perpetuate the patron-client and dominant caste relations that existed in the region.

The *zamindari* system of land taxation introduced by Governor-General Lord Cornwallis in 1793 was premised on local mediation. Under its Permanent Settlement of Land Revenue, an upper-caste landlord (*zamindar*) was appointed by the East India Company, as the proprietor of an agricultural estate on behalf of the Raj, to collect the revenue taxes. The agricultural taxation was calculated and fixed for perpetuity, the administration of agricultural development was left to the whims of the *zamindar* (Reddy 1986; Mukherjee 1962). The atrocities of the zamindari system are well documented, and its effects continue to ripple through the agrarian landscape of postcolonial India (see Bagchi 1976, Chatterjee 1982, Guha 1995)[58]. The *Zamindari* system compounded the weight of heavy land taxes imposed by the British administration on rural peasants and tenant farmers by situating *zamindars* as intermediaries who profited from their access to both farmers and the colonial administration of the EIC.

To stem the flow of revenue lost to intermediary *zamindars*, in 1827, the colonial administration introduced the *ryotwari* system in place of the *zamindari* system (Mukherjee 1962; Elangovan 2018)[59]. Coastal Andhra Pradesh was part of Madras Presidency, where the

[58]See also Stokes 1978 and Bose 1994.

[59]The ryotwari system was tentatively surveyed and instituted by Alexander Reed, the Superintendent and Collector, and his assistant Thomas Munro as early as 1792 in the Deccan. These districts were ceded to the British Administration by Nizams in 1796. Though this experimental introduction of new land revenue system continued till 1807, the Board of Revenue accepted the village lease system in lieu of the earlier zamindari system and Munros ryotwari system. In the village lease system, the village headman served as the intermediary, replacing the zamindar. The shift to the ryotwari system occurred in Madras districts after 1921, though it was incomplete. The purpose of the ryotwari system was to cut off profiting intermediaries and to improve the plight of ryots (tenants). The ryots in association with local administration decided on annual revenues depending on the quality of land with the option to renew contracts unlike in the Permanent Settlement. However, in the reintroduction of the ryotwari system, the old landlords were given hereditary rights to their estates while colonial administration purchased the rest, unlike the first introduction, which aimed to divest zamindars of their estates (Mukherjee 1962; Elangovan 2018).

British experimented with and implemented this land revenue system.[60] Though the shift was sporadic in Coastal Andhra Pradesh and the region reflected a mixed land tenure system till the turn of the 20th century, it shifted *cultivator peasants* or *ryots* to the land [61]. When I refer to peasant castes and peasant farmers in this chapter, the terms draw their lineage from this history of land tenancy. The implementation of *ryotwari* systems of land revenue was also a response to several famines that occurred in the Madras Presidency in the 1790s (Rao 1958). Guntur was a part of the Deccan regions frequented by famines and droughts[62] that regularly wiped out half of the agricultural population and led to widespread rural migration out of the region (Frykenberg 1965). The colonial administration[63] began public work projects to supplement the sporadic change in land revenue systems and to prevent peasant farmers from abandoning agriculture in the region (Rao 1958).

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[60]In these regions, by the turn of mid-19 CE, the ryotwari and zamindari system co-existed with other systems. The abolishing of Permanent Settlement and the introduction of colonial public work projects to improve roads and irrigation, led to the improvement of the plight of ryots, who paid taxes to zamindars or directly to the Raj. The earlier intermediaries and zamindars who owned estates and profited from the earlier revenue system were now absorbed into the colonial bureaucracy or had become landowners. Many of them leased their land to peasants and migrated to urban centers. Thus, in many areas, the shift in land revenue system led to the concentration of land in the hands of peasants and peasant collectives. According to Raman Rao, the zamindari system co-existed with the ryotwari in the Guntur region, which created significant financial losses to the Province by 1939 and led to the underdevelopment of the agrarian sector (Rao 1958).

[61] Talking of the colonial land revenue system in Guntur in Frykenberg's study of Guntur district in Madras, Eric Stokes summarizes,*"the British reigned but did not rule. The shifting district officer danced unwittingly to the tune called by the local official service class….Already at the colonial take-over India possessed a sophisticated economy and a complex, articulated society that could readily accommodate itself to the increased volume of commercial activity under colonial rule without undergoing fundamental internal alteration."* (1976, 98). Thus, in the earlier colonial system of taxation, the upper-caste landlords became tax collectors over feudal peasants working against an erratic weather pattern and burdening agrarian taxes.

[62]The implementation of other systems of land revenue, though highly sporadic, was also a response to several famines that occurred in the 1840s to 60s (Rao 1958). The prevalent form of agriculture was subsistence, rain-fed agriculture of dryland crops such as millets, maize, and red gram (Sivaiah 1985, 23).

[63]The colonial administration by this period moved from East India Company to the Crown. The English Industrial Revolution and the French Revolution resulted in both commercial capitalists and liberals clamoring to remove East India Company and its monopoly over the resources in South Asia (Gidwani 2004; Reddy 2019).

By the time cigarette tobacco was introduced in the 1920s, the infrastructural and policy change had already shifted the tides of Guntur's local economy towards prosperity. The construction of the Krishna Dam in 1855 provided the Guntur region, on the banks of the Krishna river, the irrigation facilities it needed to shift from subsistence to commercial agriculture. The change in land taxation system also had a strong effect on the production dynamics in the region, and in conjunction with public works projects and regional trade, it improved the plight of *ryots*. In many cases, this led to the concentration of land in the hands of affluent farmers *ryots* farmers from dominant castes in the region, also popularly referred to as peasant castes. By the time FCV tobacco was introduced, Guntur was already exporting paddy, a highly water-consuming food crop, to other regions and cultivating other commercial cash crops like cotton.

I now make a note on the caste affiliations of the peasant farmers, who were tenants or ryots. The Kamma and Reddy castes and, to a lesser extent, the Kapus represent the group of farmers who transitioned from being tenants to owners of fertile land in the region. While Reddys are dominant in central and southern Andhra Pradesh, Guntur is a stronghold of the Kammas. These owner cultivators, according to Upadhya (1998), went on to become rural capitalists with a distinct political presence and culture. Having received the land titles to many early zamindar estates as well as the benefits of irrigated land during post-independence agrarian reform, the fortunes of affluent ryots compounded. The commercialization of the FCV tobacco markets as well as other structural changes like the Green Revolution in the 1980s and the rise of the Telugu Desam Party (TDP) in the 1980s, the regional party that represented the interests of

the Kammas, further established their dominance in regional politics and business[64]. The electoral politics of Andhra Pradesh even today can be defined as the rivalries between Reddy and Kammas, who vie for the support of other prominent caste groups in forming political alliances in the Andhra state government. For now, suffice it to say, Kammas, Reddys, and to a lesser extent Kapus, were among the peasant ryots that became the affluent ryots at a later stage (see chapter four for more on affluent peasant farmers). Thus, while the farmers who benefitted from the *ryotwari* system went on to become liaisons of BAT co.'s Indian subsidiary, ILTD. The Dalit communities like Malas and Madigas, on the other hand, went on to become small farmers and owners of wasteland or landless laborers in the agrarian sector.

When cigarette tobacco was first introduced in Andhra Pradesh in 1924-25[65], the Indian Leaf Tobacco Development Co. (ILTD), a subsidiary of British American Tobacco (BAT Co.)[66], was placed in charge of leaf development and procurement in the region (Chikkala 2014; Sinha-Kerkhoff 2014). Supported by the infrastructural and monetary capacity of one of the largest cigarette manufacturers of the time, BAT Co., ILTD already owned around 750 acres in the region by 1923 (Duvvury 1985). It used its extensive resources to import scientists and technology to develop the flue-cured strain of Virginia tobacco. These colonial and tobacco industry scientists helped showcase farm trials of new varieties and offered agri-extension services to farmers. By 1937, the first research station was established in Guntur to develop the American leaf in the region (Sivaiah 1985).

[64]Formed in resistance to the Indian National Congress and Indira Gandhi's interference in (United) Andhra's regional politics in the 1980s, the TDP ruled over Andhra Pradesh consecutively for almost two decades. Under the leadership of Chief Minister, Chandrababu Naidu. During this period, Andhra Pradesh was transformed into the technological hub of India (Pingle 2011; Elliott 2012, 2016).

[65]Note that here cigarette tobacco is not the same as Flue-cured Virginia tobacco. The American leaf replaced indigenous cigarette tobacco in the years after its introduction in Guntur. The flue-curing method of curing came in afterwards to replace the earlier forms of sun-curing or rack curing.

[66] ILTD opened a branch in Guntur in 1908.

Thus, in the initial few decades of the introduction of cigarette tobacco in Guntur, ILTD played the role of market, intermediary, and state. It directly purchased FCV tobacco from farmers in a marketing system referred to as the direct purchasing system, acting as 'trans-local' intermediary in a manner that superseded the regional translocality of the earlier *zamindars*. ILTD was the beginning and end of the FCV tobacco supply chain. It entered into contracts with farmers, providing inputs, including seeds and fertilizers to grow the crop on the farmers' field. The harvested green tobacco was purchased directly from farmers for an agreed-upon rate, depending on the quality of the leaves. ILTD also took care of the curing and grading of the leaves sold to them by farmers. The cost of inputs and credits were directly subtracted from the sales prices. There were two outcomes to this system. First, it created a guaranteed international market for Indian FCV tobacco monopolized by ILTD with its extensive administrative support and infrastructural resources, which also meant that farmers were dependent on ILTD's grading scheme for adequate pricing. Secondly, since purchases were conducted by ILTD personnel in villages, farmers did not have to transport their crop to distant markets. In this way, ILTD controlled 70-80 percent of the cultivation of tobacco through a contractual relationship with cultivators well into the 1930s. (Duvvury 1986 PE 49-51).

ILTD's direct purchase system was targeted at the affluent *ryots*, who were willing and capable of investing in the production of the capital and labor-intensive cash crop. The cash returns from tobacco and the support of ILTD gradually enticed several affluent farmers to FCV tobacco cultivation. As I discuss in Chapter 4, the ILTD refers to these farmers then and now as "progressive farmers". These "progressive farmers" would go on to become conduits for the diffusion of tobacco cultivation in the villages of Guntur (see Chapter 4 for more on 'progressive farmers'). While initially, ILTD purchased green leaves to be cured in company-owned barns,

before long, the company provided inputs (roofing, furnaces) for these progressive farmers to construct their own barns to cure tobacco. Since constructing barns required capital, to earn a return on this capital investment, farmers needed to ensure a minimum yield to optimum efficiency. That is, a farmer had to cultivate a minimum acreage of tobacco crop to feed each barn. Thus, barn-owners soon became providers of curing services for other/ smaller farmers. These steps in the diversification of cultivating practices of FCV tobacco marked the beginning of the formation of the "progressive farmer" as the 'cultivator-intermediary' in the sector (Duvvury 1986).

Diversification of international buyers post-independence in 1947 reduced the UK's share in purchases of Indian tobacco from 80% to 30-45% (ibid PE-52)[67] as buyers from countries in Europe, the Middle East, Japan, the USSR and China now entered into competition with ILTD[68]. According to Sivaiah (1985), author and Virginia Tobacco Grower, this period between 1940 and 50s marked a "take off" period for FCV tobacco, following from the diversification of buyers and leading on to greater democratization in tobacco farming.

The period after independence was also when local traders emerged from the class of affluent peasant farmers in the region. As mentioned earlier, even with ILTD's monopoly, the market for commercial agriculture in Guntur had expanded with peasant cultivators extending into agri-related businesses and agri-services. In the post-independence era, these services further extended to connect farmers to the international and national tobacco markets. The peasant who once produced and traded in rice, *desi* tobacco, and other dryland crops, now also engaged as an

[67]According to Duvvury, in the '60s and '70s, Western Europe bought 55% of the tobacco exported from India while USA and USSR shared 10% each of the total share. Similarly, India rose from a minor producer of tobacco to the third largest producer of FCV tobacco in 1964-1965. Apart from export, Indian cigarette industry demand for FCV tobacco increased four-fold between 1950-51 and 1969-70 (Duvvury 1985 124-5).

[68] Countries like China and Japan frequently entered and exited the Indian market in the decades after independence. USSR became a large buyer in the 1950-60s.

intermediary in the FCV tobacco sector (Duvvury 1986 PE-47). Intermediaries now derived profits from selling services to other farmers at a cost. These low-level intermediaries existed alongside ILTD as local curers, moneylenders, and wholesale traders. To reiterate, there existed in the commercialized agricultural sector in Guntur at the turn of the 20 century a new group of peasants, enriched by the commercialization of agriculture, who, by mid-century, became local traders liaising between farmers and larger tobacco companies and international buyers (Frykenberg 1965, Upadhyay 1988, 1997). These local traders became instrumental in breaking the monopoly that ILTD had held since the inception of FCV tobacco cultivation in the region, further democratizing FCV tobacco agriculture beyond the "progressive farmer."

In the post-independence period (after 1947), though ILTD sought to retain its monopoly by strengthening its ties to farmers, the rise of local traders formed a firm wedge between ILTD and its monopoly over farmers. Although ILTD remained the hegemonic voice of the FCV tobacco trade in the region, it was no longer the only voice. Although the trade had diversified into manufacturers-exporters and exporters, ILTD continued to be the largest buyer. It controlled 70% of the FCV tobacco cleared for domestic consumption and also exported to BAT Co, UK. Along with manufacturing and export, ILTD owned extensive infrastructure in the region, including redrying factories, storage houses, as well as its own rail wagons, etc.

According to Nata Duvvury, at the turn of the sixties, there existed at least 21 companies selling to the USSR alone. In the decade between 1960 and 1970, domestic manufacturing companies expanded to include Golden Tobacco Company (GTC), National Tobacco Company (NTC) and British India Tobacco Corporation Ltd (BITC). Together, manufacturing companies accounted for up to 35% of the FCV tobacco purchase (Duvvury 1985, 151-152). Exporters had a 10% share in the markets. By the 1980s, a new category of dealers and traders had also entered

the market as intermediaries or buffers. These new dealers and traders bought FCV tobacco on behalf of large manufacturing companies, and their share comprised 5% of the market.

Of note here is that before the clear separation of state from the market, during colonial administration, ILTD interests were often in opposition to local traders and exporters, whom ILTD sought to suppress. ILTD's alliance with local traders occurred only in the next phase of FCV tobacco marketing when farmers started uniting against abuses of the intermediaries and 'the trade' in general. With the entry of more impoverished farmers into tobacco cultivation and more affluent farmers into trade and farm services, diversification of FCV tobacco production and marketing led to the formation of the infamous depot system.

Unlike ILTD's direct purchase system where buyers came to tobacco growing villages, in the depot system, farmers were required to transport their produce to a company's depot. Depots were temporary or permanent buying points opened by traders and manufacturers during the post-harvest season (Duvvury 1985, PE-52). Larger companies like ILTD owned permanent buying depots with depot managers and experts in leaf grading, functioning as agri-extension services in the off-market season. Local traders mostly formed temporary depots near tobacco-growing villages.

By the 1980s, the new crop of wholesale dealers and traders also entered the fray. They were local merchants who bought tobacco and sold it to manufacturing companies or bought tobacco on behalf of these companies. The ILTD established the direct system of purchase so they could guarantee they received their required grades at lower prices. By the '80s, larger companies like ILTD safeguarded themselves against market fluctuation by purchasing from these buffer traders and dealers, who speculated on market prices. By 1983, the local traders and dealers bought 50% of the FCV tobacco brought to the markets (ibid 1985). Sivaiah (1985)

relates stories of how the buffer trader had a contact man in the villages who advertised to and enabled farmers to sell to these new traders. According to the farmer, these traders produced pseudo-experts to grade the farmers' bales, lowering the grade and price of the bales. Many such traders disappeared from the region and the sector after a couple of years of bad speculative calls in the markets, taking the 'naïve' farmer's payments with them.

Under the depot system, farmers were dependent on buyers to grade their produce. These buying points were where farmers faced most abuse, such as in the downgrading of leaves or the wrongful recording of bale weights. Moreover, since farmers only received an IOU chit from traders as vouchers for future payment, traders sometimes disappeared or reneged on payments to farmers without legal retribution. The added infrastructural hindrance- the cost of transportation and the possible rotting of the tobacco crop in storage- meant that farmers acquiesced to selling their tobacco at lower prices or were forced to resort to distress sales[69]. Thus, the increase in the supply of FCV tobacco in the depot system combined with the lack of regulations at the depots to create a buyer's market, with ILTD mostly continuing to determine the value of tobacco for sale in the region. In this period, market gluts started becoming a standard part of FCV tobacco markets.

It is under these circumstances that the Tobacco Board was instituted, to stem the abuses faced by farmers in the depot system at the hands of various private intermediaries. Some of the private intermediaries charged farmers for various services and inputs in the production of FCV tobacco, while others cheated farmers of their payment and profits, speculating on market prices

[69]The unchecked nature of grading, based on the judgments of depot managers and graders, the lack of regulation regarding minimum prices for farmers, and the voucher system of payment resulted in affluent farmers forming personal 'patron-client ' relations with ILTD and other larger buyers to avoid payment abuses. While this form of patron-client relations in depots favored affluent farmers, the diversification of buyers and traders also decreased the entry barrier to cultivating the capital-intensive crop (Sivaiah 1985).

as they bought FCV tobacco for larger national manufacturing or export companies and foreign companies. In regulating and stemming the proliferation of private intermediaries, the state instituted itself as an intermediary between farmers and the markets. Before I discuss the ramifications of this continuity further, I will show how the Board was formed vis-à-vis its main interlocutors, supporters, and critics, the traders and farmers.

Interest Groups and the Board

This section traces the formation of the various interest groups in the sector that today stand as opposing groups. As has been described in the earlier section, it is the antagonism and agitation between the interest groups of farmers and traders that led to the consolidation of the Tobacco Board as the overarching regulatory institution in the FCV tobacco sector.

'The Trade' or 'The Cartel'

As mentioned earlier, a significant development in the post-independence period was the increased engagement of small farmers in tobacco farming. These farmers often supplemented food crop cultivation with tobacco cultivation, despite the significant structural barriers, by drawing on agri-services provided by affluent farmers. As a result of this greater participation and democratization of farming, farmers started agitating against the various abuses they faced under the depot system. Apart from injustices suffered at the hand of individual traders, they charged the trade as a whole with disseminating false information regarding market demand. Farmers' claimed that market gluts furthered the interests of the trade at the cost of farmers. Having produced excess tobacco speculating on a good market for their crop, based on the trade's unofficial reports, farmers would discover to their dismay that buyers reacted to the excess supply by reducing prices or changing their estimate of the extent of the market demand

anticipated earlier. The farmers' persistent protests against the traders led to the merging of trade interests to determine markets in their favor and to the formation of the Indian Tobacco Association (ITA). Though I cannot determine the exact date of its origin, by the 1960s, the ITA was publishing documents and statistics regarding their buying practices and interests.

Singaiah Garu, whose complaints I report in the introduction to this chapter, is a licensed employee of ITA, monitoring the function of Board led auctions. During my fieldwork, farmers and state officials often referred to traders as 'the trade' and the ITA as 'the cartel', the latter moniker represented their opaque functioning and slippery rhetoric. There are various ways in which the functioning of the trade creates this impression. Firstly, their ability to lower overall costs of production has made more prominent national manufacturing companies better liaisons for international buyers. Private traders and exporters frequently follow the standards set by these companies and feel compelled to lower their rates to remain competitive in international markets, giving large companies disproportionate command over pricing power in the market.

Tobacco traders were heavily guarded concerning whom their company traded with and what their preferred grade profiles were. They kept to themselves until prolonged auctions forced them to disclose buying patterns. That is, on the ground, in spite of the opacity of trade secrets, by the end of the first month, the informality and cautious camaraderie among traders on the auction floor meant that everyone knew which trader preferred what grades at what prices. The most closely guarded secrets were their ongoing negotiations with new international buyers and the associated quantities, grades, and prices. Though several companies had long-term relations with international buyers that were common knowledge, information on new buyers and orders floated around the auction floor only in the form of rumors or hearsay. While I was never included in the tea-and-cigarette banter of the middle-aged male traders, even I was aware, by

the end of a couple of auction sessions, of the grades sought out by individual traders and the prices proffered by their parent companies. I could only rarely get seasoned traders to deny or confirm rumors about their international liaisons or the nature of the export agreements made with these liaisons. In any case, as everyone acknowledged, the traders we met on the auction floor were only employees of companies and were themselves not privy to higher-level negotiations.

Thirdly, the Board referred to ITA or 'the trade' as 'the cartel' because individual companies and exporters pre-agreed on the highest price they would pay for their preferred grades every year. The traders neither disclosed these prices, nor did they break rank during auctions. This aspect of ITA's hold (which stems from the leading manufacturers' control over private exporters and traders) over individual companies became evident to me one day when a local trader bid a higher price for a particular grade of tobacco than he 'should' have. A buyer from another local company immediately questioned his bid. Instead of clarifying or rectifying his price, the first trader got agitated and started hurling abuses at his colleague and interlocutor. Since many of these expletives were beyond my Telugu expertise, I remember asking Board officials next to me to translate, which they stubbornly refused to, asking me not to pay attention to trivial fights. Suffice it to say, the usually friendly auctions turned bitter that day with the first trader bursting into tears and the second storming off the auction floor to complain to his boss over the phone. Within minutes, the trader who had 'overbid' was contacted by his boss, asking him to explain the fight. Watching the bizarre scene unfold, it took me a while to realize that their bosses had to have talked to one another within a span of ten-twenty minutes, even though they belonged to rival companies, before they called their employees to get them to work out a

truce. This ratting out of a colleague was the only visible signal I got that the traders had agreed on price caps before auctions.

'The Trade' had also regularly closed ranks to agitate against government policies in its early stages. They opposed the implementation of the Tobacco Leaf Purchase Voucher (TLPV) system in 1978 and the institution of auctions in 1985. The TLPV system was put into practice at the behest of farmers. It replaced the IOU chits of the earlier depot system, whereby the Board mandated the traders to pay 50% of the price of purchased bales within ten days of purchase, and the remainder in 90 days. This measure was put in place to rectify the previously mentioned abuses of payment of the depot system. According to Sivaiah, the trade agitated against the system using the slogan "resistance to reform" (1985, 65), even filing a case against the ordinance in the Andhra Pradesh High Court. On the ground, they then followed this up by refusing to purchase tobacco from farmers. Without payments or purchase from the trade, farmers protested, eventually leading to the institution of TLPV in 1984, after the High Court verdict permitted the Board to implement the system.

The litigious nature of the trade, especially in the operating tactics of national manufacturers, continues to this day. In 2016, when I was participating in auctions, the major manufacturing companies called off auctions for several days to protest the government proposed anti-tobacco policy to increase the size of the pictorial health warnings on cigarettes packs to 85% of the area, on both sides, of the packaging material (The Economic Times 2016). Thus, the trade not only closed ranks to form an interest group, but they were also popularly characterized by other stakeholders in the tobacco economy as 'the cartel' for their alleged capacity to be duplicitous and opaque.

Farmers' Interest Groups and Protests

As mentioned earlier, in this section, I delineate the formation of interest groups that were under the Board's administrative purview, and its major interlocutors in the decades after its institution. Like 'the trade' interest group formed to protect the buyers from the state, one can trace the trajectory of farmers'' interest groups from the '60s, when depot system abuses and market gluts became a common occurrence[70]. To protect farmers from the abuse of middle-men traders, farmers' representatives formed a cooperative society in 1960, headquartered in Ongole, Prakasam district. Farmers could volunteer their bales to be graded and checked by experts employed by the society before taking them to depots. In 1971, this form of interest-based mediation by farmers became a social fact. To further "the common good of tobacco farmers in production" and to aid in the marketing of all forms of tobacco, a group of 'progressive farmers' convened to form and register, the Indian Tobacco Grower's Association (ITGA) (Sivaiah 1984, 47). The ITGA was also integral to the formation of government disaster funds and a source of steady credit facilities for farmers, as well as in the introduction of the TLPV system on Board auction floors and the removal of the heavy excise restrictions then in place. Apart from urging existing state institutions to directly purchase FCV tobacco during market gluts as a temporary relief measure, farmers also took more immediate action by forming their own cooperative society, The Andhra Pradesh State Tobacco Growers Co-op Union (APSTGC), to directly purchase FCV tobacco with the aid of loans from the AP state government. Thus, farmers also formed various organizations that lobbied on their behalf with state and trade representatives.

[70]Market gluts were recorded for 1956, 1964, 1972, 1978, 1979, 1983, and 1984 because they were exceptionally bad for farmers. These early gluts were the result of excess supply of FCV tobacco or the withdrawal of a large international buyer (USSR, China, Japan) from the Indian tobacco markets (Sivaiah 1984; Tobacco Board Annual Report 1978;1979; 1984).

Farmers' interest groups also played a more direct role in the formation of the state as an intermediary in the FCV tobacco sector. When the market glut of 1972 significantly changed the pricing trend of tobacco in the region, from rupees 430-500/ 100 kg to 250-500 / 100 kg[71], it led to angry agitations by farmers against traders, whom they claimed had once again misinformed them into surplus production. At this stage, farmers' representatives of the ITGA produced a memorandum that they presented to the Government of India expressing the need for a state institution, which could play a role extending beyond export promotion, research, and development to include all aspects of tobacco production and marketing. That is, the farmers' organization urged the Government of India to form an institution that both farmers and traders would be subordinated to. It is important to note here that several farmers' representatives were not only integral to deciding the nature of this state institution but would later go on to become chairmen and vice-chairmen of the newly formed state intermediary, the Tobacco Board.

Even today, farmers' groups in the region are known for their vociferous and regular protests against the government and trade. They, too, call off auctions during market gluts; a tradition I witnessed in 2016. Much like the tobacco trade, farmers too mobilize ranks during crises. They used their political standing as a vote-bank[72] to urge the state government of Andhra Pradesh and the Central Government of India to respond to their demands and to intercede in the tobacco markets on their behalf as purchasers or to put pressure on traders. Today, every

[71]This is also the period when international buyers started to pull out of the Indian markets as a result of publicity given to anti-tobacco programs worldwide that subsequently lead to a decrease in consumers world over. European Economic Community, which was once an importer of Indian tobacco now promoted domestic tobacco production in countries like Greece with subsidy schemes for domestic farmers.

[72]The politically connected castes in Andhra Pradesh are the peasant caste of Kammas and Reddys. In the 1980s, Andhra Pradesh voted in the Telugu Desam Party, the regional party that represented mainly Kamma interests in the region. Many of the affluent tobacco farmers I met during my field work were members of this caste group or affiliated caste that formed the TDP base in Andhra Pradesh. While FCV farmers represent all spectrums of the caste hierarchy, as mentioned earlier, the capital intensive nature of the crop has enticed mostly the affluent peasant castes like Kammas and Reddys.

Tobacco Auction Platform has a farmers' representatives' organization in charge of the farmers under its cluster. Similar to the hierarchy of the Board's organizational structure (see below), farmers' organizations also have regional and state chapters. Most farmers' representatives from the Auction Platform I observed worked closely with Tobacco Board officials to facilitate the smooth functioning of the auction every year.

Thus, over a tumultuous history, changes in the marketing system of FCV tobacco led to the creation of two separate and opposing groups, the traders and the farmers, who developed as interest groups with separate and often opposed agendas. However, as highlighted earlier, aside from the major manufacturers, most exporters and traders were also of the lineage of farmers of a previous generation who had diversified from production into agri-related businesses. Affluent peasant farmers with capital to invest had begun by serving as intermediaries facilitating the diversification of FCV tobacco production, opening services like grading halls and barns before going on to become traders themselves. In the post-independence era, these affluent farmers also joined the ranks of exporters and dealers.

There existed a vibrant group of intermediaries that came from the rural capitalist classes that mediated between the cultivator and buyers in the FCV tobacco marketing system. However, by the 1980s, with the rising number of abuses in the depot system and the frequent market gluts, the trades' interests had not only separated from cultivators' interests but had become opposed to farmers as a faction. The farmers pushed for state intervention to mediate between local and international buyers, while the trade rejected state intervention. However, by the 1980s, both factions regularly approached the state to mediate their disputes or agitated against state policies adverse to their interests.

The Formation of Tobacco Board

Finally, I turn to the parallel development of state institutions in the sector. In the first decades of its introduction, FCV tobacco was under the direct care of colonial merchants and scientists. At independence, several diverse organizations worked in the sector, without a single consolidated state institution to monitor them all. By 1943, the central government, recognizing the export potential of FCV tobacco, had passed the Excise Act to regulate the production and transport of tobacco by registering tobacco farmers and providing excise licenses for the production, transport, and sale of the regulated substance. In 1945, the government formed the Indian Central Tobacco Committee (ICTC) to take care of marketing systems and the Tobacco Export Promotion Council instituted in 1956 to oversee the export of the cash crop. Their functions were dispersed, and each organization answered to a different state or central ministry (Sivaiah 1985; Nata Duvvury 1985).

Central Tobacco Research Institute (CTRI), instituted to research and develop FCV tobacco, was the exception to the rule in the sector. By 1937, ILTD, with the aid of colonial scientists, had established a research station in Guntur, dedicated to the development of FCV tobacco. In 1947, this research station was taken over by the Central Tobacco Research Institute (CTRI), under the agri-research unit of the Ministry of Agriculture, which then expanded its reach to other parts of Andhra growing FCV tobacco. When I speak of state scientists in this dissertation, I refer to employees of this institution. CTRI was the first institution to be consolidated to work concertedly on the research and development of FCV tobacco and continues to function as an independent agri-research institute in the sector.

The consolidation of the disparate state bodies to form an umbrella organization to regulate production and marketing of FCV tobacco came about when the depot system was at its

highest point. During the period between the 60s and the ‘80s, the Indian government responded to turbulent markets and farmers’ protests by instituting the State Trading Corporation (STC) to directly purchase FCV tobacco from the markets during times of glut. While the STC’s interventions were frequent in the ‘70s and ‘80s (even after the institution of Tobacco Board), the corporation stopped purchasing tobacco by the late 80s. One of its limitations was that the state corporation had to sell purchased tobacco to the same buyers who were responsible for the market glut in the first place. Since then, the state has removed itself from the position of a buyer (ibid 1984) .

The final push to institute the Tobacco Board came about in the aftermath of farmers’ agitations demanding the institution of Minimum Support Prices (MSP) during the sale of tobacco as protection from the vagaries of the market in 1971-72. As mentioned earlier, by 1972 farmers’ representatives from the ITGA had presented a case for the Tobacco Board to the Government of India. In 1975, the Andhra Pradesh government formed a one-man commission to study the problem faced by the sector. Based on the recommendation of this commission, the Tobacco Board Act of 1975 mandated the Board to regulate the production of FCV tobacco and to develop markets for it, both in India and abroad. The Board was formed to resolve the twin problems of delayed payments and wrongful pricing of FCV tobacco. The main goal of the Board was to “assist growers in every way” through field offices and personnel and extension services. (Babu 1982, 277-78).

Thus, the Tobacco Board was instituted as a tailored response to an earlier problem in mediation- the profit-seeking behavior of local and translocal intermediaries, which was detrimental to farmers’ profits. Towards this end, the state instituted itself in a pivotal position in the market as an intermediary between buyers and sellers. Today, all service providers, whether

in production or trading, have to register with the Tobacco Board to be recognized as legitimate sources of inputs and services. The conclusion looks at the nature of the organization that was formed as this neutral intermediary in the market. In order to protect farmers and to regulate the market, the Board charged traders and farmers fees, for their regulatory services and for the infrastructure they provided, which functioned as the neutral ground where buyers and sellers could convene.

The State: A Neutral Intermediary

The Tobacco Board, as the name suggests, consists of a board of members, who are supported by bureaucrats. Tobacco Board members meet regularly to make decisions like authorizing acreage and production limits every year, and the suggested prices for each grade produced that season. Approximately 30 members, chosen from stakeholders in the sector, including farmers, exporters, manufacturers, members of parliament, ministers from tobacco-growing states, and senior civil servants, participate in the Board's decision-making processes. These Board members are, in turn, supported by a staff of bureaucrats, in charge of various aspects of the production, marketing, and sale of FCV tobacco in the region. While the Board functions as a quasi-independent organization producing its own revenue, its functions are subsumed under the Ministry of Commerce and Trade, Union of India. The Tobacco Board officials and staff are accountable to the Ministry, probably a hint that in the end, in spite of its stated dedication to protecting farmers, the Board is oriented more towards the commercial marketing of FCV tobacco.

According to veteran Tobacco Board official, Mahesh Rao Garu, one of the first employees to be inducted into the newly formed Board at its institution, the Board began the process of consolidation by first mapping soil types across the tobacco regions. They began

registering farmers in each region and recording their acreage and acreage to barn ratios. These were important beginning points in the historical process of standardization, disciplining the landscape toward the commercial cultivation of FCV tobacco (see chapter one). Following the Board's survey of its jurisdiction, it built the organizational structure of its auction platforms. Each tobacco-growing soil region was sub-divided into auction platforms. Each Auction Platform was headed by an Auction Superintendent and covered around 4-5 thousand hectares or about 3000 farmers. These blocks were broken down into clusters, under the administration of individual Field Officers. The farmers in each cluster bought their bales to the Tobacco Board's auction floor over stipulated cycles of 8-10 days in the post-harvest season, when the bales were weighed and set in rows on the auction floor in readiness for auction (Reddy 1986). Thus, the Board-mediated auctions had forced traders and farmers to gather at a neutral platform.

Next, the Board began regulating the production and sale of FCV tobacco through manual auctions (see chapter three). Though traders were not required to divulge their orders, they were required to produce projections for the upcoming auction season each year. Taking the trade projections into consideration, the Tobacco Board determined crop size and apportioned production targets regionally depending on acreage and demand. From 1984, the Board also began researching the cost of production of FCV tobacco in the different soil regions at the behest of farmers' lobbies. The Board manually maintained the records for grades and sale prices. Thus, the Board was also the central archive for aggregated information on the sector, especially regarding markets. They used the statistics and data that they collected to suggest market prices for the FCV tobacco produced every year. However, the Board could not ever fully employ Minimum Support Prices (MSPs) or Minimum Guarantee Prices for farmers in the market, and the suggested prices were merely intended to set a social standard for buyers.

As an intermediary and rent-seeker,[73] during manual auctions, the Board enforced the rule that traders pay the amount they owed farmers in two installments within a fortnight of purchase, after which the Board would levy a fine on them. Traders also paid for storing purchased tobacco bales in the Board's storage facility, which the traders emptied on a fortnightly basis. The Tobacco Board, in turn, earned its annual revenue from the 1% service charge and registration charges levied on farmers and traders for participating in auctions. Apart from this, The Board levied penalty charges on farmers for any excess tobacco sold at auctions, and, as mentioned above, from traders for delayed payments to farmers. The Board deducted loans, subsidies, and input payments incurred by farmers from the final vouchers (Tobacco Board Annual Reports 1976-1985; Subrahmanyam 2000, 278). Apart from functioning as the primary node between buyers and sellers in market processes, the Board was also a lessor and revenue-seeker. These avenues for rent-seeking later became potential areas for bribes and pilfering by Board officials, some of the consequences of which are discussed in more detail in the next chapter.

In the course of its internal research of the industry, the Board recognized the importance of mid-ribs (of the tobacco leaf) and scrap in the production of tobacco products, especially for traders and manufacturers of lower-cost tobacco products. As a consequence, it monetized the sale of scrap and split the revenue from it with the trade. In another significant development, the Board also standardized grading and instituted farm grades across Black Soils in 1977 and plant position grading across Light Soils in 1980[74]. However, this also meant that grading was now

[73]I differentiate this aspect from my earlier characterization of the broker as someone who profits from their service of providing access to state or to state resources. Though the state's role as rent-seeker has structural similarities with this definition of the broker, the profit in case of the state was legitimized in its conversion to rent.
[74]Soon after, field offices across tobacco growing districts were instituted "to serve as information, guidance, demonstration and service centers for successful production, curing, grading and marketing of tobacco" (Babu 278).

done at the farm level and not at the company's facilities as earlier[75]. Of course, Board officials rechecked the grades and, on the auction floor, recorded them. The shifting of processes like curing, grading, and baling to the farm-level, in turn, necessitated creating occasions to disseminate best practices to farmers and the hiring and training of personnel to disseminate skills such as grading to farmers on the ground. Today, there are independent contractors and entrepreneurs registered with the Board who sell various inputs like fertilizers and pesticides. The Board has tied up with National Banks to formalize the routing of subsidies, credit, and payments. As of today, there are also registered sapling nurseries, run mostly by poor or Dalit farmers with small landholdings. Thus, the Board's intervention in the tobacco market formalized and further diversified the production process.

So far, I have drawn out several aspects critical to the formation of the Tobacco Board as the overarching regulatory body on the FCV tobacco sector. Firstly, the Tobacco Board was a response to several agitations in the market to address abuses against farmers. Second, the Tobacco Board and interest groups were the outcomes of the commercialization and diversification of the marketing system. Thirdly, when the Tobacco Board took the place of earlier intermediaries (traders and agri-businesses) in the sector, it adopted the role of neutral intermediary, with a mandate to develop crop quality for exports intended to supplement state coffers, all the while ensuring that farmers' interests were taken care of. Fourthly, farmers and traders were now nominated to represent their respective interest groups on the board of the Tobacco Board that came together to regulate the production, marketing, and sale of FCV

[75]This move by traders to close grading facilities began in the 1940s with the first introduction of auctions. This cost cutting method cost thousands of laborers in the region a vital source of seasonal income. Interestingly, in the early farmer agitations, labor unions were often farmers' allies in their protests (Sivaiah 1985).

tobacco. Finally, The organizational structure of the Tobacco Board was designed to reflect its perception of itself as an impartial arbitrator.

The accountability structure for government officials that prevents them from profiting from markets made the state the perfect intermediary for the highly commercialized tobacco sector. I believe that Ismail Garu's role in organizing my interview with Singaiah Garu, knowing fully well that it might lead to conversations surrounding Board accountability and corruptibility, is a sign of his perception of himself as an independent, neutral arbitrator whose institutional accountability structure enables him to ignore the demands of traders, unless passed on via his bosses at the Ministry of Commerce and Industry.

Board officials also consider themselves the guardian of all other stakeholders. Ismail Garu's act of benevolence (of letting me talk in private to the traders) was also part of most Board officials' response to my research project. Here, even as Board officials engaged as participants in my research they also considered themselves to be my surrogate supervisors in the absence of my actual advisors. This positioning meant that, in spite of the differences and agitations between the Board, the traders, and farmers, several Board officials deemed my interaction with these interest groups, even ones that explicitly critiqued and mocked them, my (and their) ethical responsibility to ensure impartiality in my research. More often than not, Board officials urged and insisted that I meet farmers and traders even when I was reluctant to engage. I mention this because this was also how the Tobacco Board envisaged themselves vis-à-vis other stakeholders, as the impartial arbitrator or the paternal figure, whose accountability structure did not interfere in their work as market arbitrators and who could ignore the mockery of interest groups as well as their unreasonable demands.

Conclusion: Masking Continuity

Writing on the bureaucratic machinery in Mexico, Nuijten argues that social relations and personal favors play an important role in socio-political life in rural, agrarian villages. She argues that even state corruption is a form of mediation similar in its operation to the actions of the figure of the broker. However, she cautions against theorizing the state through 'mediation mechanisms' like corruption or through 'mighty actors', which she claims teeters on the verge of attributing backwardness to dysfunctional systems of governance and weak states in developing countries (2003 2,3). Gupta echoes this view and adds that low-level bureaucrats from subaltern classes residing and working in rural areas bear the brunt of the anti-corruption discourse, in terms of remedial action against receiving bribes for services performed (Gupta 1995; 2012). Both authors, however, agree that mediating, whether as performed by the broker or on receipt of illicit payment for services provided, is never simple or straightforward in its effects or in its process.

The figure of the middleman crossing boundaries to bridge the state for citizens is morally ambivalent. They are the everyday citizen's only means of accessing the state, a complex labyrinth of bureaucratic machinery with a monopoly over resources (Bardhan 1997)[76]. For development economists, brokers are indicators of a weak state that is the result of the incomplete integration of developing countries into markets. Brokers are also considered a hindrance to further economic growth in these countries (Rose-Ackerman 1997). According to F. G. Bailey, the broker functions to subvert the integrity of the village community but as an agent of change he transcends "the narrow parochialism of village life". They have accepted the

[76]Raj theorists claim that abolishing the zamindari system and the limited administration under the British led to the materialization of concepts like "corruption" (Yang 1989) "license Raj" (coined by Chakravarthi Rajagopalachari in the late 50s, it refers to the planned economy of post-independence India, whereby the private sector was highly regulated by bureaucratic institutions until liberalization in 1991), and the "government of paper" (Hull 2012).

responsibility of belonging to a wider community (Bailey 1963, 101 in Gupta 1995). For more recent scholars of the state, brokers are intermediaries who profit from structural inequality and the inaccessibility of state infrastructure for the ordinary citizen (ibid 1995; 2012). Craig Jeffrey (2002) claims that a broker is a patron or a member of an intermediate class who benefits from a form of fragmented patron-clientelism (that extends between villages and state officials). Here, patron-clientelism refers to class-caste networks between villages and state institutions whereby certain groups are given preferential treatment at a cost, or they benefit from the inequitable distribution of state resources. Though patron-client linkages shift with shifting political regimes, breaking with older, existing networks (Hetherington 2018), in most cases in India, they predominantly serve the upper caste in the village economy.

The figure of the politically-aligned broker representing a political party or caste group in a region is also crucially linked to current understandings of corruption. While corruption has been an age-old problem among the Indian public, scholars like Jeffrey suggest that anti-corruption movements are expressions of upper-caste or urban middle-class citizens' angst at the redistribution of power that benefits lower caste or class groups through egalitarian reform or the rise to political power of lower caste movements[77] (ibid 2002, Witsoe 2011). Anti-corruption activism, in this literature, is a response to changes in existing patron-client networks[78]. In order

[77]Also See Jaffrelot 1998; 2003, Guha 2011, and Jaffrelot and Vernier 2012; 2014 for caste-based regional politics in Uttar Pradesh, the rise of Dalits as a political voice, the formation of the Bahujan Samaj Party (BSP) and its transformation from a Dalit party to a multiethnic one. The importance of this sort of public culture in the discursive construction of the state have also been developed by scholars of the state elsewhere (Nuijten 1995, 392).

[78]Studying upper-caste peasant farmers navigating sugarcane markets in Uttar Pradesh, Jeffrey claims that anti-corruption activism is the upper-caste Jat farmers response to the rise of lower caste to political power in the region and to their own loss of local control of local resources. These affluent peasant farmers participate in corrupt actions even as they mobilize against the corruption of the state. According to Jeffrey, in India the public culture of anti-corruption is also spearheaded by the same groups that engage in and benefit most from forms of state clientelism and corruption. Gupta (1998, 1995) shows a similar relationship between upwardly mobile, peasant farmers' movement in Uttar Pradesh and their consolidation as an electoral voice in their opposition to the corrupt state. Their public (often violent) display of their "disaffection with state institutions" enabled them to become political

for anti-corruption narratives to come about, the state needs to first move from being simply representatives of the dominant political class to take on the role of independent institutions representing the needs of a democratic nation. Here, the state requires civil society to monitor its neutrality. That is, the historical memory of the state's derivative status as middle-man guarding the interests of landed classes must be masked or forgotten for anti-corruption narratives to take hold. I claim that, consistent with other such narratives, in replacing brokers, the Board also continues its old networks of patron-clientelism while disguising its relationship to old networks of rural, agrarian patronage.

In a similar vein, Hetherington cautions us that prioritizing expertise over patron-client linkages in bureaucratic reform "disrupts clientelist redistribution mechanisms in favor of consolidating a new set of exclusionary class interest" (Hetherington 2018 S172, S172-3). Writing about the 2008 elections that brought down 61 years of dictatorship in Paraguay, Hetherington points out how bureaucratic reform disrupted the patron-client relations of inequality of an earlier era, but also gave rise to new exclusionary class politics. In Hetherington's study, bureaucratic reform in Paraguay led to the delegitimization of the agrarian politics of the *campesinos*, the benefactors of the earlier patron-client networks, as 'populist'. Unlike Hetherington's reading of Paraguay, where patron-client networks were disrupted, the Tobacco Board as an institution continued the existing patron-client relations prevalent in the FCV tobacco growing regions in Andhra Pradesh, even as it claimed allegiance to the state's developmental mandate and the cause of egalitarian reform in the agrarian sector.

By drawing a continuity between earlier brokers and the Tobacco Board, I further develop Witsoe's understanding of brokers as political mediators by applying it to the marketing

representatives of farmers in general, and particularly dominant peasant caste groups. But they were also the response of the upper-caste farmers who felt threatened by the turn in the political mood in the state (1995, 383).

of FCV tobacco. Witsoe suggests that brokers are an integral part of the political economy of the state rather than its outside. Alluding to brokers and the problem of state corruption in India, Witsoe claims that "*it was often the same families who had acted as intermediaries within the zamindari system who became brokers of the postcolonial developmental state. This reminds us that the Indian state has always been - to various degrees - politically mediated and thinking in terms of the politicisation of the state after independence requires invoking a state idea that has always been more idea than reality*" (2012, 51). Using this logic, I study both brokers and the state as part of the same continuity of political mediation in the diversifying market for FCV tobacco.

In Witsoe's study, brokers are political representatives or state officials located firmly in patron-client networks of local power. In my case, brokers are the result of the commercialization of tobacco markets and integral in connecting farmers to markets. However, their role as market mediators does not prevent them from being political mediators. Market mediators in the FCV tobacco sector are often also upper-caste peasants who represent regional political parties. Thus, tracing the genealogy of brokers in the FCV tobacco markets is crucial to understanding the formation of the Tobacco Board itself. By viewing the state as a continuity of brokerage, I reveal a continuity between local power dynamics of patron-clientelism that defines the state, even as the state projects neutrality. I claim that the state, here the Tobacco Board, organized its role and function to become the intermediary par excellence between the market and farmers in an attempt to replace brokers. The Tobacco Board's organizational and accountability structures reflect a neutral stance in that bureaucratic officials working in the Board do not profit individually from the market. They are not directly answerable or accountable to farmers or 'the trade', but report to the Central Government of India. However, in

organizing itself in this fashion, the Board also masks a continuity in local networks of power within which the state is legitimized. The market-oriented nature of the broker might also show why the Tobacco Board, in spite of being mandated to protect farmers, intermittently and inadvertently acted in favor of markets.

Taking up Nuijten's and Gupta's reservations against studying mediation in developing nations, I argue that brokers and the state are both figures of political mediation and products of the diversification of the FCV tobacco commodity chain. While I argue that the broker is a precursor to the Tobacco Board, I do not suggest that brokers existed before all earlier forms of state intervention or that the Board replaced all brokers. As arbitrator of market transactions and custodian of the crop and farmers' interests, I point out that the Board effectively situates itself as rent-seeker in the marketplace, drawing revenue from both farmers and traders. But, in seeking rent and charging both farmers and traders penalties, the state still maintains its neutrality to the market by re-aligning the accountability structure of the Board officials to the Central government rather than traders or farmers. During the off-market season, the Tobacco Board plays a more protective role, managing and standardizing the production of FCV tobacco by regularizing cultivation, grading, and the transport of FCV tobacco. However, I argue that in taking up the position of neutral intermediary with this accountability structure, the state masks the constitutive role that affluent peasant farmers played in its formation in more than one way.

As I mentioned in the first section, the Kamma and Reddys are the dominant, peasant castes in the region, followed by the Kapus. Incidentally, a lot of the senior Tobacco Board officials I encountered were also from Kamma and Reddy castes, though they were neither local to Prakasam nor participants in the local politics. Central government posting for state officials is not determined based on the regional or political affiliations of farmers and traders. Even so, the

people who applied to the Tobacco Board happened to be Telugu speaking and from dominant castes in the state. Most of the farmer representatives working in independent farmers organizations like the ITGA and in the farmers' chapters on the Board platforms belonged to these two caste groups too (and were often political representatives of their respective villages and the major regional parties in the region as well). Mr. Sivaiah, whose definitive biography on the FCV tobacco growers I use extensively in this chapter, was a member of several overlapping institutions. Highlighting the role of the affluent peasant farmers in the Board, Mr Sivaiah was, at different times, an FCV tobacco farmer, Board Vice Chairman, Member of the Andhra Pradesh Assembly, and the General Secretary of the Indian Tobacco Grower's Association (ITGA). Thus, the state, in this sense, continues to serve the existing local patron-client affiliations even as its accountability structure situates itself as a regulatory body that does not profit from market services.

Drawing on the history of mediation in the commercialization of FCV tobacco and agriculture in general in the Guntur area, I have shown how state responses and public demands are in an iterative relationship. Farmer agitation against abuses of market intermediaries in the depot system had earlier determined that state response. Thus, the particular form that the Tobacco Board took was a response to the demands of the interest groups at its institution. The demands of these interest groups then become 'force fields' that shape the state as an organization and continue to do so today.

Finally, the responses of interest groups have also varied with respect to their stakes within the commercialization process of FCV tobacco markets. For example, as mentioned in section one, ILTD opposed state mediation in the '50s when it acted as the translocal intermediary to monopolize markets. But by the '80s, due to the proliferation of local

intermediaries who competed with ILTD in the region, ILTD started supporting the case for state intervention. For many stakeholders in the industry, including ILTD, auctions and the implementation of grades and standards also had the additional benefit of facilitating cost-cutting. Since the industry no longer needed to provide services like grading or depot facilities and personnel, with the institution of the Tobacco Board and Board facilitated auctions, the cost of producing a standardized crop fell increasingly upon the shoulders of farmers, who now also had to be trained in the formal grading system, and on the state.

I began with my interview with Singaiah Garu, whose duties as the auditor of Tobacco Board auctions on behalf of the trade are premised upon anti-corruption narratives popular amongst regional traders and farmers, that state officials are corruptible intermediaries without accountability. The next chapter delves into how the demands for state arbitration of markets described above have become narratives of state interference and corruption in the present historic moment in India. Singaiah Garu's statements on the Board's lack of accountability is shown to be motivated by a different logic, one of unregulated markets, free of human mediation, that allow for competition and price optimization for all parties involved. The interest groups with their political affiliations and infrastructural might mean that they can now take their narratives beyond the village square into the mainstream media and judiciary (Gupta 1995).

Chapter 3: Transparency Via Opacity: Digital Mediation to Remedy State Corruption in FCV Tobacco Auctions

This chapter scrutinizes the current operations of the Tobacco Board (TB) as a mediator in the FCV tobacco marketing system. When the Government of India instituted the Tobacco Board as a neutral intermediary to buffer farmers from market fluctuations and the abuses of earlier intermediaries, as chapter two shows, the Board's institutional accountability structure was made such that the officials were not directly answerable to either trader or farmer representatives. The Board's ability to regulate and seek rent without being answerable to any party has since altered their relationship with farmers' and traders' interest groups. This chapter explores the shift in the relational dynamics between the state and interest groups. In doing so, I highlight the role of state corruption in articulating the resentment of interest groups. Secondly, I highlight the effects of digital technology, implemented by the Board to rectify the problem of state corruption, on the everyday functioning of Board officials at the FCV tobacco auctions. The dialectic of resentment and response, this chapter argues, inalterably changed the status of legitimate state authority in the FCV tobacco markets.

Unable to control the functioning of the Tobacco Board, the interest groups (particularly the traders) took recourse to anti-corruption narratives to provoke reactions from the Board. During my fieldwork, several traders and farmers' representatives brought up the issue of Board corruption and its lack of accountability to markets and farmers. Singaiah Garu was one such person. I use his interview because he made concrete allegations against the state's lack of accountability as we chatted in the Board's private offices in Prakasam. His interview

exemplifies the role of anti-corruption narratives in how citizens and civil society groups imagined and interacted with the state.

As described in the introduction of chapter two, Singaiah Garu was a representative of the Indian Tobacco Association (ITA), the umbrella organization representing all buyers in the FCV tobacco market. Singaiah Garu's conversation with me was representative of the anti-corruption narratives rampant in the tobacco sector and India at large. The first section of this chapter studies the importance of anti-corruption narratives as an expression of resentment of interest groups, but more importantly, the chapter shows how interest groups used anti-corruption narratives to provoke a response from the Board. Drawing on the logic that there exists a dialectic relationship between corruption and anti-corruption narratives (Muir and Gupta 2018), I claim instead that anti-corruption narratives shaped more than just newer forms of corruption. Anti-corruption narratives played a role in shaping the Board's authority and function in the FCV tobacco markets. While I cannot confirm or deny any of Singaiah Garu's allegations, in 2011, the Board responded to similar critiques by modifying one of its most significant technical interventions in the FCV tobacco sector, the auctions, which inalterably changed its authority as market arbitrator in the sector.

The second section of this chapter is a historical reconstruction using interviews, biographies, and Board publications to show how the Tobacco Board instituted manual auctions in the FCV tobacco sector upon establishing itself as a neutral intermediary in the FCV tobacco markets. The manual auctions were established in 1985 in Andhra Pradesh, allowing the Board to efficiently regulate traders and farmers, reduce the abuses of earlier intermediaries between farmers and markets, and earn revenue in the process (see chapter two). The Tobacco Board had

complete control over the manual auctions, which meant that the Board could spur competition between buyers. However, over time, manual auctions gave rise to corruption, and consequently, anti-corruption narratives among interest groups. They argued against 'human mediation' in the markets and the need for market transparency. Here, human mediation is presumed to be prone to fallibility, something I point out in chapter one vis-à-vis the Board's grading process using visual-tactile techniques in chapter one. I have co-opted and adapted the term human fallibility from a CTRI scientist's use of the term. Dr. Lakshmi (see the introduction for Dr. Lakshmi's definition) used the term human fallibility when referring to Board officials mediating the tobacco auctions. I repeat and modify her usage because it also captures how state actors distance themselves from corruption by rendering issues technical.

To remedy Board officials' corrupt practices in the manual auctions, in 2011, the Ministry of Commerce and Industry instituted e-auctions of FCV tobacco to curb significant infractions in the Tobacco Board's ranks. The third section of this chapter is an ethnography of digital mediation in the market during e-auctions. E-auctions use digital technology to track live auctions and record information regarding transactions. Despite the myriad technological glitches during auctions and the initial push backs against implementing digital technology, most stakeholders I worked with agreed that e-auctions have been an excellent addition to the marketing of FCV tobacco. The Board hoped that digital technology as a mediator would stymie, if not fully rectify, the corrupt practices of fallible state actors. In the case of e-auctions of FCV tobacco, transparency through digital mediation was enacted through opacity. This enhancing of transparency via opacity approach inadvertently slows down the auctions and locks out not only farmers but also the Tobacco Board from market transactions.

I conclude this chapter with an examination of the effects of digital mediation on the Board's authority. Relying on technology to enact market transparency had some inadvertent consequences that affected the authority of state mediation in the sector. In the broad scheme of things, these changes were minor, but it contributed to the farmers' demands to privatize the market, a structural change that will re-orient the entire tobacco sector. In some ways, it will be returning to the direct purchase system that existed at the time of FCV tobacco introduction in the 1920s (see chapter two) but under very different circumstances. I discuss the privatization of the sector more in the conclusion of this dissertation, for now, suffice it to say that while digital mediation curbed some acts of corruption, it created new dilemmas for the Board officials and inalterably changed their relational authority in the sector.

I end this chapter with a postscript vignette on my encounter with bribery on the auction floor to highlight the frequency with which bribes are exchanged between farmers and traders to smooth market transactions.

Anti-corruption Narratives

In this section, I parse through Singaiah Garu's anti-corruption narrative as it pertains to FCV tobacco auctions. Singaiah Garu's allegations represent a common strain against public sector corruption prevalent in India, and ways to curb the problem. Within this common strain, Singaiah Garu's allegations presuppose a pro-market narrative, a view that has gained prevalence in 'post-liberalisation' India. This market-oriented, anti-corruption narrative is usually the stance taken by private corporations against state interference. In this narrative, public sector corruption is seen as compounding the existing bureaucratic mire of red tape that obstructs the smooth functioning of the markets (Mehta and Walton 2018; Gupta 2012). Thus, Singaiah Garu's narrative is specific to the way traders define state corruption, but his anti-corruption allegations

are also representative of the general 'back-talk' about the Tobacco Board's inefficiency that floats around the sector among both farmers and traders.

In this chapter, I adhere to the most popular definition of corruption as a lack of accountability in the public sector in line with most of my interlocutors in the field. The use of the phrase corruption to indicate state's lack of accountability issues also shows its continuation and break with earlier forms of accountability issues of private intermediaries in the marketing of FCV tobacco, elaborated in chapter two. Jane R. Wedel (2012), "*Rethinking Corruption in an Age of Ambiguity,"* claims that, in the 1990s, there was an academic consensus on corruption among leading economists working with the anti-corruption industry (e.g., the World Bank) and those working independently. Drawing on the work of leading anti-corruption political scientists and economists like Rose-Ackerman (1979), Wedel shows how corruption became a problem of the Other in the post-Cold War era, one that required remedial action. Here, the nation-state was the unit of analysis, and public sector officials were the prime subjects of corruption discourse. She quotes Michael Johnston when she reiterates the consensus among scholar, which "treats corruption mostly as bribery, and as both effect and cause of incomplete, uneven, or ineffective economic liberalization, with the state judged primarily in terms of the extent to which it aids or impedes market progress" (Johnston 2005, 6 in ibid, 463).

During the interview in Ismail Garu's private office at the Tobacco Board Auction Platform, Singaiah Garu detailed how the Board's lack of accountability panned out on the auction floors (see also chapter two, introduction)[79]. He explained how grade inflation and

[79]I began chapter two with Singaiah Garu's interview with me in 2016 at the Tobacco Board offices. I start with some of Singaiah Garu's claim, quoted below. Talking of his duties as the team leader and supervisor working on behalf of "the trade" [1], Singaiah Garu explained that his team had to "checkup the floor grade-wise [*sic*]". He went on to explain why this was one of the major tasks during the auction season, "sometimes, farmers will influence the Tobacco Board officials…[the farmer will say] sir, put better grade….but they [Tobacco Board] will not accept our [grade] recommendation or policy…we are well-versed in grades, F1-F10....but we cannot influence Tobacco

deflation occurred on the auction floor and how it worked in the Board's and farmers' favor. For example, one of his tasks was to prevent Tobacco Board officials from purposely grading down tobacco bales. According to him, when the Tobacco Board graded down a bale of high-grade FCV tobacco[80], the annual FCV tobacco price statistics would show that the Tobacco Board had sold a lower grade bale for higher prices at auction. The Board could then present yearly reports based on these inflated statistics to the Ministry of Commerce and Industry of the Government of India. Since ensuring reasonable market prices for Indian FCV tobacco and profits to farmers were a prime aspect of the Board's mandate, the statistics could spuriously enhance the Board's annual performance with respect to their targets for tobacco prices.

On the other hand, if FCV tobacco bales were graded upwards, farmers might receive higher profits, fulfilling another critical aspect of the Board's mandate, and the Tobacco Board could also use such fudged figures to lay blame on the trade for lowering average prices of high-grade tobacco, diverting the focus away from their accountability once more. Singaiah Garu's goal was to prevent such forms of inflation and deflation of prices in annual statistics by reducing the fudging of information on the auction floor. However, since the FCV tobacco

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Board….[the Board says] let them buy, what is it? [sic]". That is, one of the tasks for Singaiah Garu's team was to recheck the Tobacco Board assigned grades on tobacco bales at the auction to prevent inflation or deflation of grades because: 1. farmers influenced Tobacco Board officials' judgment and record of grades, 2. while the farmers could persuade the Board, the trade could not influence the Board's judgments on grades, and 3. The Board officials brushed off the cost to traders with the alleged glib quip, "let them buy, what is it?" [This phrase can loosely be translated as *what is the big deal if the trader loses money*]

[80] The farm grades F1-F10 are also classified into high (F1-F3, F6-F7), medium (F4, F8), and low (F5, F9, F10) grades that are directly proportional to the prices of those tobacco bales. When a high grade like F1 is marked down, that is an F1 became F3, the price of the bales will be higher than the average F3 bales. This is because, the buyers make grade judgements of their own, over and above Board's assigned grade, since the Board officials were also prone to make errors in judgement during the visual tactile process of grading. The annual averages show that the Board has sold F3s at a higher average price. This was the case because traders made grading judgments of their own during auctions in spite of Board assigned grades and bid according to their judgment of grades. Seeing the lower quality of a bale marked F1, they could either point out the error in Board classification or make a judgment call and decrease the bidding price of the bale. The statistics would then record a lower price for a bale marked F1 by the Tobacco Board. On the other hand, if a lower grade like F3 is marked up as F1, there is not only an increase in price for the actual F3 bales but the annual statistics would reflect low prices for F1 bales in general.

grading process was based on visual-tactile grading, the trade could never fully confirm whether the mistakes made were genuine or indicated Board complicity.

Singaiah Garu also elaborated on how his team of supervisors monitored the process of tobacco leaf scrap collection on the auction floor. Every year, the Tobacco Board opened public tenders for scrap collection. The independent contractors employed scrap collectors to gather the fallen tobacco leaves every day after the auctions, who accumulated scraps and bundled them separately. These bundles were then sold on the last day of the FCV tobacco auction season every year. The trade association and the Tobacco Board split the income from the sale of tobacco leaf scraps between themselves as revenue.[81] The trade monitored this process because there had in the past been issues with the pilferage of leaves from sold bales stored in the Tobacco Board warehouse and the addition of pilfered leaves to scrap bales. There were also accountability issues like inflation in the recorded weights of the scrap bales themselves, which also increased the prices paid by buyers. These actions, he claimed, were done with the implicit permission of or by colluding with Tobacco Board officials. Holding the Board accountable and thereby safeguarding the interest of traders was the goal of Singaiah Garu's team.

According to Singaiah Garu, examples of grade inflation and deflation and scrap collection were only the tip of the iceberg, and among many such infractions occurring daily on the auction floors. He also claimed, these infractions and the Board's collusion in them adversely affected traders the most. That is, the artificial inflation and deflation of prices skewed the market's understanding of actual tobacco prices or the price determination process of FCV tobacco. Thus, corruption negatively affected the transparency of free markets. On the other hand, if international buyers exposed the Board's misdemeanors, that would adversely affect the

[81] According to Singaiah Garu, the percentage of the split between trade association and the Board is 70:30.

reputation of the entire Indian FCV tobacco market. In the case of scrap collection, Board's corrupt practices tampered with the revenue of the trade association as well as the profits of buyers[82]. According to Singaiah Garu, his work as the trade supervisor was constant through the auction season, for at every stage, there were accountability issues to address. Singaiah Garu was not only guarding tobacco traders' profits but also solving a more extensive problem he believed was plaguing the Indian markets.

Unlike economists and political scientists Wedel (2012) discusses, "most anthropologists get to corruption by accident (Muir and Gupta 2018, S5). However, scholars studying the state in India are bombarded by these accidents[83]. It is almost impossible to evade narratives of corruption when interacting with people and groups that regularly work with state bodies or with state officials in India, so much so that state officials recognize themselves as subjects of these narratives of corruption (see Akhil Gupta 1995, 2005; Witsoe 2011; Sharma 2018). On my part, I diligently avoided the topic of corruption due to its developmental origin in discourses of the 'non-West,' until it became necessary to my understanding of the formation of the Tobacco Board and its stance with interest groups in the sector. The Indian public sphere is rife with narratives of corruption and civil society organization frequently rally against the state over the

[82]When leaves are pilfered from already sold bales, the buyers of the bale suffer a loss since the net price of a bale is calculated to the net weight recorded during auctions.

[83]Several scholars of the state in South Asia write on a variety of topics related to corruption; in terms of brokerage or informal influences based on community affiliation (Gupta 1998; Witsoe 2011; Jeffrey 2002)), or in terms of imaginaries of the (ideal) state especially among the urban middle class (Parry 2000; Fernandes 2004)or in relation to legal, state or city infrastructure building (legal infrastructure as in the case of (Sharma 2018); state infrastructure as in the case of Hull 2018 and city infrastructure in case of Anand 2015). Corruption has also been studied as integral to understanding the everyday interaction of citizens with the corrupt state (Akhil Gupta 1995; Corbridge and Kumar 2002; Visvanathan 2018; Anjaria 2011). But anthropologists of corruption also understand corruption understood as mode of embodiment and citzen's subjectivity, which can limit one's understanding of one's own capacity to act ethically (Khan 2015; Muir 2016; Hornberger 2018), and that which exacerbates structural inequalities (Gupta 2012)

issue of corruption[84]. The interest groups in the FCV tobacco sector was also part of this larger movement against state corruption. As I suggest in this chapter, these groups went beyond 'grappling' to pressure the Board to enact changes in its functions.

Anti-corruption policies were one of the primary platforms on which the current government in India campaigned in 2014. Though the "crescendo of public energy" against corruption may have ebbed in India recently, the 'technomoral' laws and policies passed at its height continues to shape the narratives of interest groups and the responses of state bodies (Sharma 2018; Bornstein and Sharma 2016). The anti-corruption narratives ended up generating remedial state action, creating new avenues of corruption and other problems (Muir and Gupta 2018). Today, in the post-truth India, the fear is that corrupt public sector actors will co-opt anti-corruption narratives to avenge political rivals is now more pronounced than the confidence that these sectors can be rid of corruption (Mehta 2018).

Gupta (1995) states that citizens grapple with the idea of the state through the narratives of corruption. Here, narratives of corruption in circulation are "relatively autonomous" to the

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84 Movements against corruption have been frequent in the Indian public sphere in past decade or so, beginning with the enactment of the Right to Information Act as a national law in 2005, whereby citizens could demand information on the inner workings and decision-making processes of the public sector. The movement was spearheaded by the social activists like Aruna Roy, Anna Hazare, and Arvind Kejriwal. Anna Hazare took his regional fight against corruption into the national frame with his hunger strike in April 2006, using of Gandhian ethics of non-violent resistance to enact the Jan Lokpal Bill (People's Ombudsman Bill) in Maharashtra in 2011. It resulted in Parliament review of the bill, the formation of people's movement against corruption in several other India cities, and gave rise to the political career of Arvind Kejriwal, the current Chief Minister of Delhi and an activist against corruption (see Sharma 2018 on Kejriwal's take on corruption in the public sector). Furor around corruption also shaped Modi's 2014 election campaign against the reign of Congress, where he instituted himself as the "watchman" against corruption among bureaucrats and government officials (NDTV.com on May 16, 2014). Though several crackdowns followed in the wake of Modi's leadership like the demonetization and crackdowns of major leaders of the opposition in the Center and State government, whether this trend will continue in Modi's BJP party's second term as the ruling part in India in 2019 remains an open question (Yan and Alfred 2019)

actual act of corruption. That is, despite the lack of hard evidence or eyewitnesses, narratives of corruption develop a life of their own through their repetition and circulation. However, narratives of corruption play a crucial formative role in the state in its everyday avatar (ibid 1995; 2005). The anti-corruption narratives of the traders also had a more marked effect on the Tobacco Board. While several of the officials at the Board itself were native to Andhra Pradesh, their professional accountability was to the Central government of India in Delhi rather than to the state government of Andhra Pradesh or local or trans-local traders[85]. Both farmers and trade had to mobilize or persuade the Central government to pass ordinances to make Board officials to act according to their desires. Since Singaiah Garu's ability to directly influence the functioning of the Tobacco Board was limited, informal narratives on corruption played a significant role in garnering the support to pressure the Tobacco Board officials to act according to the wishes of particular interest groups on the ground.

Despite their accountability structure, there is ample evidence that Board officials are not immune to the narratives circulating about them. In my presence, officials were as likely to voice opinions about their peers' lack of accountability as that of traders and farmers. For instance, on one occasion, during a casual chat with a senior tobacco Board official, I happened to marvel at the skill of Board officials who ran auctions. Having watched their different styles of conducting auctions[86], I compared officials from different platforms and unofficially ranked a favorite. On hearing me praise one particular official, the senior official, I was in conversation with, smirked.

[85] This structure of accountability is important to understand two things. Unlike, Block/ district level bureaucrats studied by many scholars of corruption and/or the Indian state, Tobacco Board officials are less embroiled in local political structures that influenced state elections. Though most of the board members hailed from Andhra, they were rarely, if ever, residents of the local villages they administered. Hence their professional demeanor varied significantly from the political brokers or local middle-men, who addressed the state on behalf of rural citizens and patron-client lineages (Gupta 1995a, Witsoe 2012, Jeffrey 2016)

[86]I elaborate on the personal styles of officials during auctions further in the second section

He then proceeded to launch into a story of the official's collusion in high-level corruption with the tobacco industry, which ended with the central government scrutinizing the official's alleged participation in bribe-taking. Noting my astonishment at his lack of allegiance to a colleague, the senior Board official rationalized his allegations by adding that no government official could otherwise have organized such an extravagant wedding for their daughter as that man recently had. Similarly, there were meetings organized and memos circulated, reminding Board officials that they were part of a 'clean government' (Yan and Alfred 2019).

The state's responses, however, did not stop at internal critiques or maintaining an objective distance from allegations of corruption. Anti-corruption measures are ongoing within bureaucratic institutions, and the Ministry of Commerce and Industry now supervises the accountability of a bureaucrat's daily functioning. The added zeal of the Modi government to prevent corruption and institute accountability in the bureaucratic system means that the Central government takes measures to remedy and forestall the charges of corruption among Tobacco Board officials that are deemed endemic to Indian bureaucracy. Suffice it to say that anti-corruption narratives perform a crucial function in Indian and in the sector of provoking the government into responding to civil society demands. Anti-corruption narratives were premised on the idea that the government needed to disclose their actions to citizen's and civil society's, who in turn monitored the government was hinged on globally circulating governance ideals of accountability and transparency. Before I get to the Board's response to allegations of corruption to enact market transparency, I delve a bit deeper into how corruption became a concern for the interest groups, especially in the Board-led manual auctions of FCV tobacco.

Human Mediation of Auctions

Auctions for FCV tobacco were first introduced in India in the 1940s. At the time, farmers had been urging the Central Governmental institution in charge of marketing the Indian Central Tobacco Committee (ICTC) to make auctions mandatory in all the tobacco growing geographies. ILTDC (Indian Leaf Tobacco Development Corporation), the leaf development and procurement division and intermediary of British American Tobacco Company (BAT Co.), on the other hand, was not favorably inclined to the proposal. It recommended building the necessary infrastructure before proceeding with the implementation of auctions. In the end, the ICTC, in association with the then regional government's local marketing institution, the Guntur District Marketing Cooperative, experimented with implementing auctions in six villages in the Guntur region. During the ensuing auction season, however, the traders, and especially those of ILTD, made every effort to scuttle the experiment. By paying lower prices at auction, while simultaneously striking up lucrative private deals with farmers outside the auction, they actively discouraged farmers' participation. Still, while the experiment was a failure, it did sow the seed for the eventual reintroduction of the auction process in 1985 (Duvvury 1984, Sivaiah 1985)

As described in detail in chapter two, problems at the root of farmer's complaints in the 1940s exacerbated with the introduction of the depot system of marketing in the ensuing decades. So, in an effort to regulate the trade on behalf of farmers, augmenting state coffers in the process, the Tobacco Board reintroduced auctions of FCV tobacco in 1984 in Karnataka and 1985 in Andhra Pradesh[87]. Manual auctions were put in place to stem the abuses of private

[87] As has been stated earlier, by 1976, the Tobacco Board was already arbitrating both traders' and farmers' entry into the market by registering and numbering both groups. The Board also ensured that traders were credit-worthy, and farmers were provided with subsidized credits and farm inputs promptly.

intermediaries, particularly those working in the depots. Thus, manual auctions were an earlier response to farmers demands to regularize the markets through state mediation.

The reintroduction of FCV tobacco auctions as part of the Board's standardization process was one of its most significant technical interventions. Here, the Board had the authority to regulate both farmers and traders as well as to ensure parity in the markets. The Board provided the neutral grounds, literally and figuratively, where buyers and sellers could meet, sell, and buy FCV tobacco. On the auction floor, every trader and manufacturing company had a unique tag number that represented them in the Tobacco Board records. After the reintroduction of auctions, traders and farmers also had to travel to the Tobacco Board Auction Platforms (TAPs) nearest to them to conduct their business in the Board-supervised process (Subrahmanyam 2000). Though several traders resisted these changes, by the time I began fieldwork in 2015, the processes had become second nature to all of the stakeholders at the auctions system.

Towards implementing the manual auctions, the Board reviewed studies of tobacco-marketing worldwide alongside Indian farmers' ground realities like agro-climatic limitations, landholding size, and cost of production before the Board implemented the auctions. Drawing on the Zimbabwean model of auctions, the Board introduced manual auctions in India. Manual auctions entailed bidding on bales one after the other with the Board initiating the bidding prices, based on their understanding of the current cost of production for farmers as well as the current demand for FCV tobacco in the market. The Board's intiating bids moved from higher to lower based on buyer's interest in a bale (J. B. Reddy 1986).

During manual auctions, the Auction Superintendent (AS) manually set the auction in motion by suggesting a starting bid higher than the market price of the bale, based on the Board's

estimated cost of production for each grade for the annual cycle in question. A seasonal employee called the *chanter* announces the AS's opening prices to traders gathered on the auction floor. Bidding occurs through a show of hands. If a trader expressed interest and the AS accepted the bid, two additional seasonal employees wrote down final bid prices and traders' names in the Board's record books (ibid, 1986). Otherwise, the AS suggest a new lower price; the process continued until a trader successfully purchased a bale or until the AS declared a 'no-bid.'

The manual auctions required Board officials to initiate bidding, as well as to visually recognize the first verbal bid and each subsequent challenging bids, resulting in a final price. During an interview, Mahesh Rao, the veteran official and Area Manager of the Tobacco Board, claimed that there were pros and cons to the manual auction process. Nevertheless, as an old Auction Superintendent, he expressed nostalgia for manual auctions. *"A manual system has its own catalyst effect on trade,"* he said conspiratorially. The urgency of live human-mediated verbal bidding spurred competition among traders on the auction floor. For example, an Auction Superintendent could create a competitive environment by increasing the urgency of the chant. The Auction Superintendent could spur competition by enticing particular buyers with bales of their preference or by creating mock competition by visually identifying stand-in/imaginary bidders whose bids were higher than the currently prevailing bids. In these situations, the fear of losing a coveted bale sometimes prompted traders to outbid and secure their purchase before a conflicting bid materialized, even at the cost of breaking trade rules. Veteran Tobacco Board officials were nostalgic for an earlier time when the Board had the authority to encourage competition and maneuver prices a bit more. However, Mahesh Rao Garu he admitted that the manual process had to be "controlled" (for corrupt officials).

Since, to begin with, manual chanting was based on state actors' recognition of the participating bidders, it gave state actors a significant degree of control over the process. Bids made by traders after the chanter declared the opening bid had to be visually recognized and confirmed by the Auction Superintendent. It was only then that the highest bidders could have their names and respective bids physically entered into the Board's records. These factors meant that there were several ways in which state actors could take advantage of the system and profit from the service they provided. For example, the Auction Superintendent could decrease starting prices of individual bales or choose to only recognize the bids of their favorite traders (for a price). The staff could make mistakes in their record of prices, weights, or grades of bids recorded, thereby favoring farmers' or traders' profits in the process. That is, the seasonal employees colluded with traders or farmers, who were their neighbors, friends, or relatives, to fudge the records. Thus, the manual auction granted Board officials control over the bidding process. Their location as the market intermediary between farmers and traders lent Tobacco Board officials the opportunity to take advantage of their authority through methods particular to the sector.

In Mahesh Rao Garu's words, the manual auction had to be a "controlled" process. Human mediation, as most Board officials and traders believed, is fallible. That is, apart from making subjective errors of judgment, the state actors are also susceptible to corrupt practices such as bribery and misuse of authority. The corruptibility of state actors stems from the fact that Board officials can draw personal benefits from their position as the neutral intermediaries in the market. In the years after 1985, Board officials became implicated in the stories of state corruption that were rife on the auction floors. To complicate matters, the Tobacco Board was not directly answerable to any of the market actors. Board members and bureaucrats came from

the same communities as farmers and traders, but as central government bureaucrats, they worked independently of the political influence of local/regional institutions of power. That is, the Board could take advantage of their position of authority; in return, they did not have to answer farmers or traders directly. This factor further exacerbates the traders' and farmers' existing grievances against the Board's regulation and rent-seeking and the Board's inability to protect farmers against market gluts and fluctuations.

Interestingly, this is where the nature of grievances against the Tobacco Board between farmers' and trader's interest groups begins to diverge. As Singaiah Garu's narrative in the introduction tells us, traders did not restrict their stories of corruption to auctions. Narratives about Board corruption extends to every part of their administrative purview. Over the course of his interview, Singaiah Garu proceeded to tell more about how the Board would fudge information on farmers or traders to benefit one or the other at various stages: processing registrations, provisioning subsidies and credits, assessing grades, recording final sales, and fixing the duration for which sold bales could be stored at the Tobacco Board storage space. Moreover, the traders also used their influence with the board of representatives of the Tobacco Board, the Central Government Ministries, and the media to enact several legal and non-legal codes of conduct as checks and balances on the Board's functions over the years. In taking this route, the trade's anti-corruption narratives existed alongside "the crescendo of public energy" in anti-corruption narratives on the national front[88].

[88]Here, it is important to note that while local traders were politically influential in Andhra Pradesh, national manufacturers, like Indian Tobacco Company Limited (ITC Ltd), mobilized resources against the Central Government Ministries. Their role as large industries meant that they shared the major concerns of corporate India in the post-liberalization era. These groups are most aligned with the urban middle-class in their fight against state corruption.

While most farmers agreed with the trade in laying blame on the Board for adversely affecting market transparency, they stressed that the major problem with the Board was that it had no teeth in their implementation of rules and regulations. As I have shown earlier, farmers were integral to the process of conceptualizing and in the institution of the Tobacco Board as the neutral intermediary. However, the farmers' hope that the Board would intervene with trade on their behalf was shattered in the post-80s era, when there was a drastic decrease in the demand for tobacco and tobacco products. In this phase of market gluts as a result of anti-tobacco policies worldwide, another major factor changed in the FCV tobacco markets. Private deals between transnational conglomerates and traders almost entirely replaced national treaties between India and the previously socialist countries of Eastern Europe and Russia. Even if the Government of India or Andhra Pradesh stepped in to purchase tobacco during market gluts in their role as protector of farmers' interests, they would have to sell it on to the very same people- traders and manufacturers- effectively amounting to increased subsidy expenditure without returns. For farmers, the Board was failing in fulfilling its mandate (see more in the dissertation conclusion).

During an interview with Chinnaiah Garu, a senior farmer representative of several local chapters of farmers associations, in 2015, listed all the misgivings farmers with the Board that had accumulated over the years, including their fear that Board officials, despite their mandate, favored local traders and national manufacturers over farmers (see more in dissertation conclusion). Many farmers were defiant of the Board and their stipulations, for they knew the Board could not and would not penalize farmers, who were influential in both local politics and national development policies. For example, in actual practice, Board officials could not penalize or litigate against farmers who had unregistered barns. The Board could not prevent farmers

from raising tobacco excess of their stipulated crop size. The Board anticipated excess production since farmers hedged their bets against both the market and weather by producing excess tobacco. The Board only penalized the *sale* of the excess crop on the Board's auction floor premises. For the same reasons, there were rumors that farmers continued to strike private deals with traders and manufacturers outside Board premises[89]. The Board's hesitation to litigate against farmers was most noticeable in the unchecked illegal land-leasing practices among affluent farmers[90]. Thus, as a neutral intermediary, the Board had minimal capacity to litigate against farmers or traders, and, when they could, they avoided actively pursuing infractions[91] [92]. Farmers were wary of the Tobacco Board's promises to protect their livelihoods.

Thus, by the 2000s, the Board had become known for being complicit in profiting from their position of authority, despite their ability to earn revenue from farmers, traders, and the sale and export of tobacco. Their ability to take advantage of their role as public sector officials and inability to take action against most infractions outside the premises of their offices made their

[89]Though the act of striking private deals between farmers and traders could be penalized because it came under the Excise clause surrounding the sale and transport of a regulated substance like tobacco. However, since most state officials had no way of surveying villages, except through its residents, the Excise department of the Board could not intervene unless they could catch either parties in action.

[90]Affluent farmers reversed leased their lands to poorer tenants, who then cultivated on their behalf. The lessor, the affluent farmers, would be the registered farmers with the Tobacco Board. These affluent farmers earned rent as well as a portion of any state subsidy, which was routed through his bank account to the tenant. The resulting unequal relation between farmers and tenants depended on the affluent farmers' benevolence. Board officials were aware of this practice and have tried several times in the past decades to regulate the illegal renting of tobacco-growing lands but to no avail. Most farmers' representatives whose voices prevailed are part of the landowner section of farmers. In the same interview with the farmers' representative, mentioned earlier, the representative declared that if the state wanted to reduce tobacco farming, they could do so if they reimbursed barn owners for the infrastructure. To his mind, only barn and land-owning farmers like himself were worthy of state reparations in the event of a total shutdown of tobacco production

[91]The Excise department is the exception to this case. Movement and outside sale of tobacco is highly regulated but even here the officials have to be notified of its occurrence.

[92]The Board reacted to farmers complaints by reminding themselves and me that most farmers representatives and political leaders we met were not active tobacco-growers. According to the Board, active growers don't have the time between cultivation and marketing of FCV tobacco to pick a fight with state officials, the government, or the trade.

position as rent-seekers tenuous and even illegitimate in the eyes of many farmers. The 2000's was also when liberalization of the Indian economy had accelerated the shift in discourse of state mediation in corporate India in favor of free markets. In corporate circles, state mediation was increasingly viewed only as red tape or the license Raj, inhibiting the smooth functioning of free markets (see Chatterjee 2015). The traders and several farmers demanded market transparency to ensure the FCV tobacco markets functioned without hindrance. Together, these groups lobbied the Central government to force the Tobacco Board to increase transparency in the state mediation of the market[93]. In 2011, the Tobacco Board took action to mitigate the Tobacco Board's misuse of authority by introducing e-auctions.

Thus, anti-corruption narratives had the effect of making the state respond to the demands of interest groups. Though anti-corruption narratives continue to plague Board officials, the Board took action to curb at least some of the major infractions occurring during real-time market transactions enabled by the manual mediation of auctions. They were proud of their newest intervention, the e-auction, which used digital technology to mediate in the markets. Yet, older officials showed a slight preference for the earlier system that gave them control over the traders and the auction process. The next section studies the nature of this digital mediation in the markets and its effects of the Board authority as neutral intermediaries in the FCV tobacco markets.

Digital Mediation of Auctions

"What does a number mean to you? Each year we score countries on how corrupt their public sectors are seen to be. Our Corruption Perceptions Index sends a powerful message and governments have been forced to take notice and act……. How does your country score?"

*(*Transparency International on the *Corruption Perception Index* introduced in 1995)

Transparency, like corruption, is also derived from accountability. Transparency as a term of governance came about in response to the problem of government accountability in the international development circuits (organizations like the World Bank, IMF, and Transparency International), whereby politicians and bureaucratic officials were personally profiting from the misuse of international loans. However, the term transparency went on to accrue meanings in its circulation within these circuits of international development, policy design, and development debates within nation-states. Today, according to Ball (2009), transparency means not just accountability but a display of accountability via disclosure. In policy-making circuits, transparency has gone from being instrumental in curbing a lack of accountability among state actors to a fundamental goal, towards which policy-makers plan and design. Public participation is key to this understanding of good governance via transparency as witnesses to state disclosures. Organizations like Transparency International (quoted above), instituted under the World Bank, now have a comprehensive index, which allows citizens to rate their countries on their perception of the nation's corruptibility. The iterative relationship between anti-corruption narrative, public participation in governance, and remedial actions is institutionalized in the circulation of transparency. Birchall (2011) suggests that transparency as disclosure is always tied to its opposite, secrecy and opacity. Thus, while transparency gains positive moral valency, secrecy and opacity attain negative valence as their opposites. Instituting e-auctions was one of the Board's technical interventions in response to allegations of corruption within its ranks. The digital mediation of FCV tobacco auctions took opacity that goes hand in hand with transparency and made it the governing principle. I refer to this process as transparency via opacity.

Transparency has become naturalized in India over the years. Writing about the everyday life of the Right to Information (RTI) Act of 2005, Sharma (2013) states that transparency in India is a checkered terrain due to the merging of this transnational logic of neoliberal "good governance" within the needs of local movements in India. Within this checkered logic, good governance responds to political demands with technical solutions. In turn, democratic governance becomes 'technical and instrumentalist,' pushing politics to the realm of populism (Bornstein and Sharma 2016; Elliott 2012). Moreover, governance based on transparency prioritizes individual redressal over structural changes with a simultaneous bureaucratization of politics[94]. *"Transparency is a technocratic language built on the exclusion of the political from governance…"* **(**Hetherington 2011, 190). While this was indeed the case with e-auctions, which locked out farmers from the system to prevent agitations, I argue that e-auctions, partially if not fully, locked out its implementers, the Tobacco Board officials.

E-auctions of FCV tobacco, enabled by handheld technology and wireless connectivity to a centralized system, were instituted in 1984 & 1985 to fulfill the desire for transparency in market transactions. In the process, stakeholders hoped that the technology would mitigate the Board's corruption. I was unable to disentangle whether e-bidding curbed corruption in actuality or if the introduction of e-bidding resulted in a conscious realization among Board bureaucrats and newly admitted officials that corruption would no longer be publicly tolerated as it once was. Nevertheless, both Board officials and traders agreed that the introduction of e-auctions had indeed increased the transparency of market transactions by increasing the opacity of the bidding process. The e-auction system of the Tobacco Board won an award in 2013 for 'Fortune at the

[94]See James Fergusion on the international development initiatives as the 'antipolitics' machine in his ethnography in Lesotho (1990). Also see Tanyi Li (2005)on rendering politics of environment into technical conservation solutions in Indonesia.

Bottom of the Pyramid' category. In 2014, the Tobacco Board won the 'Most Impressive Public Service Initiative in the Tobacco Sector" at an international tobacco conference in Virginia, USA (Indian Tobacco New Bulletin 2014). I will now elaborate on how the e-auction system ensures the transparency of markets by facilitating increased opacity. This section is based on my observations on the auction floor from March to August 2016.

The Tobacco Board collaborated with an IT company in New Delhi to design and implement digital technology in the e-auctions of FCV tobacco (Tobacco Board Newsletter Vol III & IV 2013). The e-auction technology they initiated consists of a centrally controlled system of computers attached to print machines, Wi-Fi, and remote hand-held devices. Every tobacco bale on the auction floor has a tag with a barcode, corresponding to its grade and weight in the system. These bar codes also contain the farmers' registration number called Tobacco Board Grower Registration Number (TBGRN) but not the farmers' names. Similarly, traders are assigned numbers that remain their code for the duration of the auction season. In this way, the network of machines record information regarding every buyer and seller and standardize it to a series of fixed numbers.

The remote handheld devices are divided into two sets. Board administrators carry one set of devices, which displays necessary details of the bale, buyers' names, and numbers, and trader names, numbers, and bids as and when the traders bid for a bale on auction. The traders' hand-held devices, on the other hand, only list bidding trader's unique numbers and bid prices and a signal indexing whether that was successful or unsuccessful in the ongoing sale. Bidding machines are also set to time out ten seconds after the Auction Superintendent initiates a bid. In just ten seconds, traders have to bid the original bid price or decrease it by a 10^{th} of a rupee (10 paise). If no one bids in the ten seconds, the auctioneer/ Auction Superintendent (AS) manually

enters a lower bidding price. Thus, the Auction Superintendent can initiate bidding at a higher to trigger higher prices or Auctioneers might, on the other hand, save time by pricing bales closer to an understanding of the interested trader's target price range, especially if the purchase is guaranteed at that range.

When the bids were successful, only the concluding bids and trader numbers flash across the traders' device screen for just a second. Unless one is thoroughly focused on the bidding machines rather than on the bidding process (as I sometimes could as a passive observer), it is difficult for traders to memorize or keep track of the purchases made by another company. In order to keep track of another trader's bids, the traders have to memorize other company names and watch the machines closely to figure out the final bidder names and their preferred grades and prices. This feature enhances transparency through opacity. Board officials can view the successful trader's names, unique numbers, and their bid as it flashes on their screen for a second. The speed of transactions prevents officials from actively tracking details. More importantly, the Board officials cannot intervene in the digital recording of the details and unofficially favor farmers or traders. Here, opacity prevents humans from corrupting the transaction, thereby enhancing transparency.

The hand-held devices removed the problem of manual chanting and visual recognition by relaying information in real-time to the trader's and Board's handheld devices. When the AS entered a bid, everyone on the auction floor with a handheld device received alerts on their screens. Though the bidding machines are timed to only ten seconds, it does not persuade traders to bid despite themselves. This removed the Board's capacity to intervene and spur competition by acknowledging the bids of imaginary proxy bidders.

The traders had the luxury of bidding without the Board officials distracting them. The Auction Superintendent now has to urge or scold traders into bidding within the time frame. Unlike the urgency of loud chanting and proxy bidders in manual auctions, the short period between bid entries allows bidders time to wait long enough to bid after prices drop and before any other trader picks up the bids. Incrementally, this minuscule change in the bidding process decreases the overall prices of bales. The fractional decrease of 10 paise per kilogram multiplies when total prices are determined to the actual weight of the bale, which the Board caps at 150 kilograms. The traders could wait long enough to decrease the average prices of the bales, the Auction Superintendent had to urge them to bid faster (The protracted version of this phenomenon is what I refer to in chapter one as "foot-dragging").

Bids and final sale prices were relayed in real-time on a giant television screen in one corner of the auction floor. This corner was sequestered from the main auction area, with chairs facing the television rather than the auction process. This spot was meant for farmers to view the live auction stream. However, here too, transparency was hinged on opacity. The farmers can no longer view the live auction but were encouraged to view from a sequestered spot separate from the auction process. The television relays initial and final bids and trader numbers but not trader names. Thus, the e-auction was a double-blind live mediation whereby neither traders nor farmers could discern which trader's bid for which farmer's bale was being marketed during the live stream (at least, not without some effort). In implementing this form of transparency qua opacity, the Board hoped to eliminate fallible humans, aka Board officials, from favoring individual stakeholders or engaging in corrupt activities, thereby facilitating smooth market competition.

As pointed out earlier, the Board kept a statistical record of all transactions and used the statistical data in the following years' decision-making processes. There were statistics on numbers of bales sold or not sold, traders and farmers rejections after auctions, grade distributions, price distribution, and the percentage of sales and average prices for every grade of tobacco and participating manufacturer and trader. In distilled form, the statistics became the substantive material for the Board's Annual Reports to the Central Government and the public. Since digitization in 2011, Tobacco Board Annual Reports are available on their website. Apart from being an act of disclosure, these statistics also helped senior officials, especially the individual Auction Superintendents, keep abreast of market trends on their auction platforms. That is, Auction Superintendents regularly studied the data to try and figure out traders' preferred grades and the corresponding prices for such grades in an attempt to tailor auctions.

Thus, while the e-auction bidding process resembled the earlier manual auction system, digital technology has replaced some of the Board official's functions by mediating between 'fallible' state officials and the market. The Board could no longer visually track bidders or prompt bidding by physically signifying a proxy or imaginary bidder. Neither could Board officials change or fudge the record of such transactions. When a trader bids a price close to the AS's bidding price, the machine recorded it without mediation from officials, which were relayed and archived in the central system. The information was processed in the central system as statistics and payment vouchers for everyone's perusal after the auctions transpired.

The bids were also not visible to the public (farmers) during auctions, unlike in manual auctions. The traders did not have to worry about breaking the Board's social code of fair pricing

in public[95]. During manual auctions, farmers, Board officials, and his trader-colleagues could witness the trader's bids. Neither farmers nor officials could influence their bidding process or fudge the details of the final sale bids. The machines printed this information as a TLPV voucher, which farmers could then choose to accept or reject based on their satisfaction with the price offered. Thus, digital technology allayed corruption through timed auctions and automatically recording information of market transactions. Secondly, neither farmers nor traders were privy to actual bids and bidders until the auctions were over. Though the Board was privy to the information, Board officials could not observe patterns as quickly using the handheld devices as they could when they visually recognize bids and bidders and manually entered the information. Transparency via digital mediation was hinged on the opacity of live auctions.

On the auction floor, however, the activities around this form of mediation differed somewhat from the idealized picture of transparency implied by a double-blind process of bidding supported by machines described thus far.. Mid-auction, the system sometimes suffered from occasional connectivity issues or was temporarily suspended due to electricity outages.[96] On these occasions, the technical staff from the IT company bore the brunt of the Auction Superintendent's outbursts at the sudden interruption of auctions. These occasions were often followed by a flurry of technical personnel troubleshooting both the technical glitch and the official's wrath. At other times, traders used such glitches as a welcome break from the tedious process of bidding. Prolonged disruptions lead to impromptu tea-breaks, during which time,

[95]Since the Tobacco Board cannot institute Minimum Support Prices in the FCV tobacco markets, it encourages traders to provide verbal guarantees, which they are expected to honor during auctions. However, traders are not legally liable to pay the guaranteed rates. The anonymity allows traders to break this social code by bidding without witnesses, except the Auction Superintendent.

[96]Like most regions in India, Andhra Pradesh also suffers from mandatory, often arbitrary, electricity outages, popularly referred to as "power-cuts", implemented by the Electricity Board. These were particularly on the rise during the summer season when water levels in dams that generate hydroelectricity were on low.

benevolent traders or farmers treated everyone around with a cup of tea and biscuits to dunk in them. Once the system was rebooted, and after having drawn energy from the sweet milky drink, all of us would get back to continue with the auctions.

On the auction floor, I was often too polite to demand a machine, as I felt like an outsider prying into state and trade secrets. However, I never spent an entire day on the auction floor without a machine in my hands, and traders, more so than administrators, often handed their machines to me for "safekeeping" or to explicitly facilitate my education[97]. In spite of aura of secrecy surrounding traders, acts of generosity were quite frequent at auctions; people were always willing to explain the technicalities of grading and bidding to me. In a matter of a month or two, I learned to bye-pass the double-blind process. Any participant could rote memorize the unique trader numbers to know who had bought a particular bale at auction. By memorizing trader numbers and watching for buyers' giveaway gestures, I began to figure out who was buying what for how much, even when I only had access to traders' devices. The quick passing of information on the handheld devices made rote memorizing them very difficult unless one could focus on the machines instead of the bales, which I could do as a bystander. I mention this to illustrate that while double-blind bidding was encouraged and instituted, its enforcement in practice worked mainly to prevent the Board from showing preferential treatment to individual traders and farmers, rather than as a means to curb the Board's access to information. But, even so, tracking information was difficult without a record of the information to track patterns. Moreover, most Board officials in the auction train had pre-assigned tasks that made following every bid difficult. For example, the AS had to recheck grades to assess prices and then intiate

[97]Acts of generosity meant to aid my education also worked to position me as a naive student who could access technical details but had to be protected from the grit of trading.

and re-enter bids on the machines. Their assistants helped them by reading assigned grades on the bale tags.

Sure enough, during my fieldwork, farmers too, despite multiple warnings and admonishments, regularly broke the protocols of the blind auctions by following the auction trains in the hope of learning their bale prices. They watched the auctions to gauge general trends for particular grades on which to scale their profits and losses. Though final sale (TLPV) slips attached to bales divulged this information in any case, but some farmers preferred to watch the live auction rather than the prescribed television screen. Following the auction train at a safe distance allowed for immediate knowledge that the real-time television and payment vouchers could not provide. Therefore, maintaining the double-blindness of the live auction process was a gargantuan task for Board officials. In theory, only Board personnel administered devices could view the names of traders in real-time, but farmers sought out soft targets, myself included, in their attempts to figure out the bidding trends. Even though I felt conflicted in my loyalties in these situations, in retrospect I realize that the Board was not merely protecting the sanctity of the auctions or the double-blind process, it was also trying to shield farmers from agitating over potential losses of money and traders from bearing the brunt of the resulting backlash. The Board's honoring of these market regulations over farmers' welfare probably is one example as to why farmers believed the Board favored traders over farmers, despite their welfare being encoded in the Board's mandate.

Tobacco auctions were physically strenuous for both Board officials and traders. Within the first couple of days of auctions, there were up to 600 bales on the floor. The auction train snaked from one bale to the next. Unlike the auction of tea in India described by Besky (2016) where tasters were required to taste the tea prior to bidding and where bidding occurred on state-

funded computers, or Çalişkan's (2007) description of the time-limited auctions of cotton in Turkey, tobacco auctions required long hours of alertness on your feet. The auctions lasted for as long as there were bales to be bid off. Often this meant standing from 9 AM to 3 PM with a single tea break in between. After the first week of participation, I gave up on "field appropriate outfits" and opted instead for running shoes and a safety mask. Traders and the Board officials rarely used safety masks though they helped prevent particulate tobacco dust from entering the nasal tract. In peak summers, when FCV tobacco auction was ongoing in Andhra Pradesh and when temperatures hit 45-50° C[98], the safety masks often felt like asphyxiating sweat traps. Several Board officials later confessed to me that e-bidding has added to the arduous nature of FCV tobacco auctions by slowing the bidding process, thus increasing the net time taken to finish a day's work.

Maybe as an adaptive technique to local contingencies, the Auction Superintendents across floors were stylistically different. The Auction Superintendent (AS) on my floor was expressive in style, often joking and admonishing in the same breath. He would call out individual traders by their names, shame them or even scream at those among them who were foot-dragging over a potentially buyable bale. While intimidated at first, I soon realized that these theatrics were an attempt to spur competition and also create a sense of belonging that relaxed the physical strain of auction. The intended result was a 'never a dull moment' environment that eased the strain of the process in the long haul. The theatrics also kept all of us alert to the bidding process at hand. Despite his theatrics, AS Garu, took his role as mediator of auctions seriously, something he told me on several occasions. He could not let traders dictate prices or bring prices down as per their desires. According to him, fetching a reasonable price

[98]50°Celsius= 122°Fahrenheit

was necessary, even if there was compromise involved, and especially so for the lower grade or saline bales, as these notably ran the risk of rot for their quality deteriorated faster on storage. When not organizing auctions, AS Garu was in his office chatting with senior traders and officials on the purchasing trends and exchanging tips. At other times, he was chatting with farmers explaining market trends- the loss of export orders, market slumps, the potential need for a restricted agitation. As if to deny allegations like the ones Singaiah Garu makes in the introduction, the Auction Superintendent worked harder to keep abreast of the markets and to spur competition. However, no amount of screaming and jokes could force traders anonymously entering prices from budging from their predetermined rates.

While e-auctions have increased the transparency of the auction process by making it opaquer and have been effective in breaking the trader-Board official and farmer-Board official corruption nexus, it has also had other unanticipated effects. E-bidding also slowed down the 'frenzy' of manual bidding where the auction Superintendent's techniques of chanting and visually recognizing bids in full view of everyone around created a sense of urgency among buyers to bid, exacerbating market gluts.. E-auctions have resulted in prolonged and drawn-out auctions and increased the storage time of the perishable crop for farmers. The slowing down of the auction process has increased not only the collective strain of auctions but the Auction superintendent's workload. He not only initiates but also ends up urging, begging, and admonishing traders into the bidding. Officials have also had to work harder to figure out information essential to fulfilling their roles on the ground. For example, most Auction Superintendents figured out who was interested in what bales through sustained contact with traders, analysis of statistics, and negotiations with the "bosses" of traders. Thus, digital technology not only slowed auctions but also slowed the Board officials, who had to work harder

to catch up to market trends. Technological mediation introduced to discipline the state and reinforce its legitimacy as mediators in the FCV tobacco markets has also resulted in the loss of control of the state in its ability to spur competition manually, in several ways undermining the benefits it purported to deliver in terms of efficiency.

Conclusion: Slowing Down

In instituting the state between farmers and traders, the only consciously partisan stance of the Tobacco Board Act of 1975 was in encoding the protection of farmers' welfare into the Tobacco Board's mandate. This partisan nature was only aimed at shielding farmers from the abuses of earlier intermediaries and from gluts in the global tobacco markets. But, apart from this encoded leniency, which traders' resented, the Central government hoped that the accountability structure of the Board[99] would prevent them from being either partisan or profit-motivated. Neither farmers nor traders could directly intervene in the functioning of the Board as it was conceived. However, as time passed, the Board officials began gaining profits from the markets for various services they provided.

The traders' anti-corruption narratives are symptomatic of the resentment brewing in the sector and of a larger national trend toward anti-corruption. In line with other market actors, the traders also espoused the partial or complete removal of the state from market transactions. Economic Liberalization in the 1990s further accelerated the spread of pro-market view that state mediation was state interference in the markets that affect the transparency of market transactions. However, I have shown that allegations against Board corruption also conveyed the

[99]The Tobacco Board was a commodity board and a bureaucratic institution under the Ministry of Commerce and Industry under the Union Government of India. The Board comprised of bureaucrats like Ismail Garu and member representatives on the Board, the latter consisted of representatives from the state and central government, scientists, farmers, traders, and manufacturers. Bureaucratic officials who interacted with farmers and traders in the everyday functioning of the Board were salaried administrative experts who were accountable only to their senior officials, the Board, and the Ministry of Commerce and Industry. Neither farmers nor traders could directly intervene in the functioning of the Board

longer resentment of traders who either felt the state had no legitimate reason to seek rent from markets or to protect farmers or to profit from their location as neutral intermediaries. The anti-corruption narratives were how traders negotiated with the state to change its functions in their favor.

While farmers' interest groups also engaged in anti-corruption narratives, their resentment against the Board stemmed mostly from the fact that the state had failed in its mandate to protect farmers. Farmers were aware of the larger structural changes that had occurred after the Tobacco Board instituted auctions. State-led auctions have coincided with severe market gluts since the 80s as a result of the global decrease in tobacco consumption. At the same time, with the decline of socialism, there rose an oligopoly of transnational conglomerates in international tobacco markets. The tobacco exports were now based more on private deals rather than on national treaties and barters. These factors have all ended up weakening the Board's capacity to intervene in markets directly. Yet, there was a disappointment among farmers that the state could not prevent market gluts or even purchase farmers' produce during market gluts. That is, the Board lost some of its legitimacy with both farmers and traders within a decade of its institution as a regulatory body and authority in the sector. In the face of this reality, corrupt practices among Board officials added to their resentment.

However, the Board attempted to re-establish its legitimacy by addressing corruption in its ranks and changing the format of its greatest technical intervention in the sector, the manual auctions of FCV tobacco. Mazzarella (2006)claims that the politics of transparency is not merely a free-market narrative; it can also be a public project of state legitimation. The belief in the incorruptibility of technology makes governance via technology a sought-after ideal by state actors facing relentless allegations of corruption. *"Hypermediated governmentality"* and *"the*

fantasy of immediation, of frictionless social mechanisms where the term politics comes to stand pejoratively for the imperfections and impurities that mediation necessarily involve"(500). Rather than privatizing FCV tobacco markets, the Board responded to corruption allegations by relying on technical intervention to realize their dreams of legitimacy.

Transparency in governance, which attained global currency in the 1990s[100], is also a term that draws its lineage from the self-reflexive modernity (Sanders and West 2003). In its global circulation in the post-Cold War era, transparency has acquired various meanings and values. Concerns around transparent governance now included questions of accountability in governance, the earlier developmental term to address problems in governance, and the added connotation of disclosure (Aarti Gupta 2008; Ball 2009). According to Birchall (2011), "transparency is the absence of concealment" that has become a competitive goal in global governance. One crucial aspect of transparency is the public's participation in the acts of disclosure, which adds a democratic hue to its implementation. The evolving meaning of transparency means that its opposite has also changed over time. Transparency as disclosure has become morally opposed to secrecy and opacity (ibid 2009). Secrecy and opacity attain negative connotations that go hand-in-hand with positive connotations of transparency. However, Mazzarella cautions us that *"transparency pushed to its limit presumably means perfect perspicacity, or, in other words, invisibility"* (2006, 49)**.**

However, in case of FCV tobacco auctions, opacity was not simply transparency pushed to its limit, rather opacity was heralded as being integral to the process of making markets transparent. Opacity on the auction floor translated to a double-blind process intended to prevent

[100] According to Birchall, 'transparency is an 18 century concept used by Kant and Bentham, which is also underpins Foucault's analysis of 'History of Sexuality' as a characteristic feature of modernity (Birchall 2011, 10-11)

traders and farmers from recognizing the names of bidders as well as to prevent the Board from fudging the documentation of bids and information in the form of statistics. *"Technology, as well as bureaucracy, drives this standardized 'transparent' record. It not only has profound effects on which knowledges are deemed legitimate, but also shapes our relationship to state power"* (Ball 2009, 15). Here, technological mediation was instituted to replace corrupt Board officials, to eliminate or rectify human fallibility inherent in state mediation of auctions. Instead, I argue in this chapter, that technology created newer dilemmas like slow auctions and a sense of loss of control among state actors[101].

As I show in section two of this chapter, transparency through digital mediation locked out not only farmers but also the Tobacco Board from market transactions and its concomitant networks of tacit institutional knowledge. Digital technology had its own built-in 'knowledge economy' (Birchall 2011) that buried state officials in inert statistics. While statistics generated after auctions made market transactions transparent to all participants through publicly available TLPV payment vouchers to individual buyers and sellers, daily statistics, and annual reports, this delayed transparency buried the Board with static information. Even though bids were visible to auctioneers, its turnover speed and its disembodied appearance as a blip on the screen made keeping track taxing. The Auction Superintendent had to observe bids, plead traders, and supplement it with statistical data and conversation with traders. State officials worked harder to acquire knowledge, through the generation of objective statistics and persistent networking that was outside the purview of their bureaucratic accountability structure. Their successes and failures depended on the personal charisma, contacts, and motivations of the state officials involved. Thus transparency via opacity negatively impacted the state. E-auctions eroded certain

[101] State loss of control is also the result of increased privatization of companies and the influx of transnational corporation situated in different continent in lieu of nation-states themselves ordering bulk FCV tobacco from India.

tacit forms of knowledge that gave the Auction Superintendents the authority to catalyze market competition (Elyachar 2010; Hansen and Flyverbom 2015). It slowed the Auction Superintendents.

'Data smog', the bombarding of users with information, is the internet's new idea of freedom, even as it buries critical knowledge in a haystack of information. Similarly, the auction superintendents found themselves buried in statistics that required further unofficial discussions with traders regarding their buying trends. The freedom in this kind of knowledge economy of delayed availability of bulk information lay in knowing that both the state and citizens could now surveil one another (Shenk 1997; Birchall 2011). In this case, transparency via mediating technology created a 'knowledge economy' from which the state itself was locked out or buried under. The function of the Board was further restricted, adding to its illegitimacy as a neutral intermediary and custodian of farmers' welfare. In the end, digital technology implemented to enhance the transparency of market transactions for the sake of India's reputation in international markets has further undermined the Board's authority as a legitimate market intermediary.

At the same time, the opacity of the e-auction technology has benefitted traders the most, for it eliminated the public witnessing of bids. Even though bidding machines timed out within 10 seconds, the traders could now wait longer to bid for their favorite bales without witnesses or persistent chanters. The double-blind nature of bidding ensured that there were no public witnesses to the trade's bids other than Board officials. Without witnesses, the outcries of the Auction Superintendents were less active (even if I thought otherwise) in shaming traders into bidding better prices. Finally, the double-blind process also protected traders from farmers' ire. Incrementally, e-auction slowed down FCV tobacco auctions. The slowing down of auctions increased the risk for farmers whose produce remained in storage longer, prone to rot. The Board

could only persuade traders to do the right thing to balance out the production economy. Thus, the Board had further lost their capacity to protect farmers from market gluts.

The next chapter studies another major technical intervention in the FCV tobacco markets. The implementation of standards based on the quality and uniformity requirements of the international market. In this chapter, I take the example of the newest standard in the making in the sector, Non-Tobacco Related Materials (NTRMS), as a rubric to study how standardization, espoused slightly differently by the state and tobacco companies, effected the relationship between farmers and their relationship to the state and the market. I also use NTRMs as a rubric to understand how farmers strategically used these standards in pursuing their own goals. But before I do that, I relate a short vignette of my experience with bribery on the Tobacco Board Auction Platform in Prakasam.

Postscript: An Anecdote on Mediation

As the auction train snaked its way through the rows of tobacco bales behind the grading officials and eager farmers, a swarm of people representing different companies swooped in to inspect purchased bales. A dedicated task force was needed to sustain standardization and transparency through technology. Traders employed temporary staff to inspect and record purchases. Purchased bales were opened and inspected to check for hitherto unseen defects or faulty grading. Like Singaiah Garu of the Indian Tobacco Association (ITA) mentioned in the introduction, these contract laborers and officials were assigned the task of re-grading, re-checking, and re-assessing Board issued grades and bids. Several mid-level Board officials stood around like sentries during the post-auction inspections, ready to break up a fight or negotiate a price or to explain a rejection and sign rejection slips. Post-auctions were the time to settle disputes that arose between farmers and traders over the price, grade, or over the alleged faulty

grading or baling of leaves.

Both traders and farmers were allowed to reject bales or the final price assigned to bales. Each knew the risks involved, though trader rejections were harder to initiate with the Board. If a trader rejected a bale post-bidding, the board assigned a tag to the bale with the acronym C.R. (company rejection). Similarly, a farmer could reject trader prices and decide to re-sell his bales on another occasion (marked as RR for *Raitu* Rejection). However, traders required the Board's approval and signature to reject a bale, which entailed negotiation with Board officials. The Board worked as the arbitrator and was the final word on company rejections.

Though set up in favor of farmers, the farmers still bore the responsibility of transporting rejected bales back and awaiting another chance at the auctions, whether they rejected the prices or the trade rejected the bale. For the same reasons, post-auction inspections were rife with fights, arguments, negotiations, and arbitrations (on rare occasions fights required physical arbitration to prevent escalation). Board officials were often in a tight spot of having to choose between protecting the interests of a farmer versus those of a trader. Here, it is important to note that farmers were perceived as self-employed, entrepreneurs. However, a trader could represent the wishes of his company (in case of faulty grading or baling) and himself (when the prices offered for a bale was higher than the company stipulated limits). In some cases, the Board was choosing between a farmer, who could ideally re-auction his bale, and a trader who, in the worst-case scenario, could lose his job. Here, the scales often tipped in favor of the salaried employee with whom Board officials inadvertently empathized.

These post-auction inspections were also when people avoided me the most. Initially, this sudden aversion to my presence was intriguing to me. Board officials, traders, and otherwise friendly farmers steered clear off me. In time, I realized that my presence made traders and

officials conscious of their "gritty" negotiations. More importantly, the movement of petty cash between hands, in my presence, went from everyday haggling to risk-laden, even shameful acts. Emboldened by the familiarity of our bus rides together and several joint tea breaks, a temporary trading staff member confided to me that post-auction was the only time they could make a few extra bucks to support their meager salaries as temporary trading staff, and that more often than not, this involved threatening farmers with the potential rejection of a bale. Farmers were obliged to rush these transactions along by volunteering a few rupee notes to avoid the risk of having Board officials re-inspecting and rejecting their bales.

I learned my lesson during a gritty negotiation between my farmer friend, Krishna Garu's dad, and an export company staff regarding the grade and price of the former's bale. The company staff used the technique of questioning the accuracy of grading and, therefore, the prices proffered, baiting the farmer into greasing the wheels of post-auction processing. In this particular case, I made the mistake of standing up for the older man by playing arbitrator on his behalf. I insisted that he should get a Board official to intervene in this negotiation and confirm the grades on his behalf, confident that the grade assigned by the Board was the right one. Krishna's dad seemed reluctant, but he agreed. Our collective reaction to the technique only worked to irk the company staff who now threatened to reject the bale on multiple grounds. By intervening, I had compounded the farmer's risk of having his bale rejected. Recognizing the risk involved, I remembered to turn away just in time for the farmer to grease the cogs of the giant auction machine. That day, I learned to keep my distance, watching arbitration from afar, engaging only when talked to or when I was sure there were no negotiations underway.

Chapter 4: Non-Tobacco Related Materials: Contaminants in the Politics of Standardization

I began this dissertation describing my introduction to the FCV tobacco sector in Guntur in 2015. One of the first interviews I arranged after relocating to Guntur was with a senior official of a major tobacco company, ITC Ltd. Mr. Mohan was in-charge of the FCV tobacco leaf procurement and development division for the Andhra Region at ILTD, ITC's subsidiary. In this chapter, I draw on as aspect that Mr. Mohan talked about in his interview, NTRMs or Non-Tobacco Related Materials. Part of Mr. Mohan's responsibility at the leaf procurement division was to ensure that FCV tobacco bales produced in India met the standards set by their international buyers. The problem plaguing Indian tobacco companies and exporters in India at the time was excess NTRMs in the packed tobacco bales sold in the Indian FCV tobacco market.

Before I go into the details of Mr. Mohan's interview, I will situate the problem of NTRMs a bit more. NTRM is one among several standards used to assess the quality of tobacco bales in the market. Non-Tobacco Related Materials, as the name suggests, are foreign materials present in baled tobacco. NTRMs could be organic or inorganic foreign materials like grass, animal refuse, plastic, stones, and metals in the tobacco bales sold at auctions. These materials are contaminants that, when unchecked, could find their way into the final manufactured product, cigarettes (see *Tobacco Asia* 2017). Foreign materials gather in the tobacco bales predominantly during the long duration between the harvest of the green tobacco leaf and its auction when farmers hire laborers to cure, bulk, grade, and bale harvested tobacco. Contaminants can also accumulate in the farmers' storage spaces. Since the primary location of contamination is in the farmers' barns and grading halls, where post-harvest processes occur, officials like Mohan focus on improving the practices at these premises. Here, the farmer is the locus of responsibility for disseminating standardizing practices to the laborers he has hired.

Non-grade standards and grade standards together regularize auctions. Yet standards and standardization oppose one another in meaning. Standards, like quality, mean distinction, while standardization requires the equalizing or suppressing of individuality (Timmerman and Epstein 2010). That is, in order to be distinct, it is required to first be equivalent. Standardization on the Tobacco Board auction floor follows the same logic. In order to become a niche market for certain styles of Flue-Cured Virginia (FCV) tobacco, and to be distinct and competitive, Indian FCV tobacco had to become equivalent - with itself as well as in alignment with world standards. That is, the product must be uniform as well as distinct. Though non-grade standards and grade standards together regularize auctions, they also determine the desirability of an FCV tobacco bale.

As I explain in chapter one, desirability can broadly be defined as market demand for FCV tobacco produced in India. With food and environment advocacy in the ’70s-’80s, consumers had become more conscious about the ingredients in the products they consumed (Murphy 2013; Proctor 2011; Harris et al. 2001). For the same reasons, grades and standards had become ubiquitous in agri-commodity exchange. In the case of FCV tobacco, the length, color, texture, and plant position of the leaf determines its (farm) grade, the sorting and packing of uniform grades, some morphological characteristics of the leaf, and the presence of foreign matter (NTRMs) and pesticides traces (CPAs) on the leaves are non-grade standards. Some of these non-grade standards appear as acronyms alongside grades on tobacco bale tags (see chapter one). Together, they can positively or negatively impact the price of the FCV tobacco bale. Since farmers depend on adequate prices to recover their cost of production and make a profit, the state and the tobacco companies emphasized the importance of standards to farmers.

NTRM is an international market standard that is still in the making in India. Neither the Board nor the tobacco companies stringently apply them yet. The other reason I claim that the increase in scrutiny of NTRMs is still standardization in the making is that, during field research, I never once heard of a company or trader rejecting an FCV tobacco bale post-auctions because it contained Non-Tobacco Related Materials. Quite to the contrary, once a local trader and I were trailing behind the auction train when we came across a sold tobacco bale that smelt strongly of kerosene. Instead of crying wolf, the local trader shushed me. Shaking his head vehemently, he reminded me quietly that pointing out the contaminant would adversely affect the farmer's prices and his reputation. I relate this anecdote because the same trader would not have been as generous if there was a similar omission in assigning grades to his purchased bale. However, as contaminants, NTRMs were gaining notoriety among tobacco companies and exporters, more so than local traders. They emphasized the carcinogenic effects of NTRMs when burned along with tobacco in cigarettes. The increased scrutiny also treaded dangerously close to a rhetorical slippery slope. The scrutiny of NTRMs propagated the suggestion that if it were not for the organic and inorganic contaminants in tobacco bales, smoking tobacco *could* be less carcinogenic (Benson 2008).

In this chapter, I show how standards, both grade and non-grade, applied to tobacco bales during the grading process on the auction floors become rubrics to measure not just tobacco bales sold at auctions but also their owners, the farmers. According to scholars of standardization, standards' ubiquity in our lives and its technical nature often prevents people from studying the processes of standardization (Busch 2000; M Lampland and Star 2009; Timmermans and Epstein 2010). However, standardization is crucial to understanding how the globalized market demands uniform commodities from all over the world. In homogenizing

commodities, standards often homogenize the producers. Scholars of agriculture and development have also shown the effects of homogenization in deskilling farmers worldwide.

However, scholars of standardization have also shown how standardization is not only contrived but requires labor to enact uniformity and homogeneity (Lampland). The contrived nature of standards only came to light when system errors forced implementers to pay attention to the process of standardization. As I have shown thus far, the experts who worked in this sector had to labor intensively to maintain the system. According to Hankins and Yeh, "standards provide a ready-made frame of reference that welds the authorities in question more firmly to the interaction, at the same time providing an evident avenue for flouting those same authorities. They tend to build the renvoi in, and thus to make commensuration overtly an act in which authority is at stake. But like the authorities implicated in them, standards are finally but infinitely receding ideals towards which actors may, given constraints, orient—in different ways, to different extents, or not at all" (2016, 20). Thus, the hegemony of the state and the market marks the standardization process, creating equivalence on the ground that does not map easily on to farmers' strategic use of those standards to different ends. That is, ranking farmers does not always pan out in ways those who enforced these standards hoped.

Standardization of tobacco bales and grading standards are complex processes of creating equivalence at the tobacco auction markets in Andhra Pradesh. The scrutiny of NTRMs were the newest tool in this arsenal of standards. As a standard in the making, NTRMs did not determine the scale but added to and worked alongside other standards, grades, and other development ideals to orient farmers towards the market. Here, I consider NTRMs as an entry point into a larger, accumulated and transforming process of classification. I use the genealogy of the idea of the 'progressive farmer' and 'improvement' as it was articulated in the Indian state's promotion

of commercial agriculture to show how earlier standards merged with newer standards in the sector. When newer standards like NTRMs merged with older ideals of progressive farming, they created dominant meanings and residual meaning.

In this chapter, I argue that standardization is a cumulative process in which farmers are called upon by the state and the tobacco companies to orient themselves to the goals of producing to market standards by modifying their cultivating practices accordingly. Hierarchies created out of market-oriented standards fostered already existing differences amongst farmers in the region. But even as standards came to act as rubrics of assessment of farmers, they also situated the farmers as political and developmental subjects, and agents of egalitarian reform, that gave farmers the choices as to what aspects of the state and company regulations they implemented and what they did not. This dynamic between globalized standards and how individuals choose to implement them on the ground is the crux of the larger dynamic of market capitalism. Thus, in this chapter, I only use NTRM as a rubric to situate the FCV tobacco farmers I met in the course of field research, and illustrate how farmers related to one another and the state and market officials by drawing on earlier and current projects of improvement.

The sections of this chapter are structured to imitate the form of the tobacco company official, Mr. Mohan's, technical lecture, whereby he sprinkled the mundane details of technical interventions made in the FCV tobacco sector with illustrative anecdotes about farmers' cultural and cultivating practices. Mr. Mohan's conversation style, I would realize later, was one of two characteristic formats that domestic tobacco industry officials employed when they interacted with me[102]. In the first method, the interviewee systematically hedged their answers with "talking points," typically characteristic of people who interact with the media in India. I call this format

[102]Indian tobacco companies are less familiar with certain practices of "brown-bagging" or "cloaking and veiling" that international tobacco conglomerates resort to (Kohrman 2015, 907-908).

the ‘sound byte.’ Though intriguing as a discursive strategy, these interviews provide very little content for analysis. Mr. Mohan also premised his interview on hedging, but it took the format of a ‘technical lecture,’ of a style typically used by large companies to train recruits. I employ a similar technique in this chapter, whereby I use Mr. Mohan’s depiction of a standard and problems in its implication to show how standards were rubrics used to assess and grade FCV tobacco and farmers, but I then situate these rubrics with anecdotal profiles of farmers I met during fieldwork to show how they employed these standards towards other social and economic calculations. I use this technique because it helps me highlight how heterogeneity and the residual meaning of earlier standardization projects impinged upon newer standards in the ongoing homogenization process, even as they loomed over the sector as a hegemonic tendency that reproduced existing hierarchies.

The first section of this chapter looks at how Mr. Mohan expressed the problem of NTRMs. I use NTRM as an example to show how these newer standards merge with existing forms of hierarchies in the region. Together, these shape everyone’s understanding of the good farmer in the FCV tobacco sector. In the second section, I relate how farmers I spent time with responded very differently to the company's projects of articulating and enacting standards in the production of FCV tobacco. Farmers, depending on their class and caste lineage, plugged into aspects of this discourse to define themselves in relation to the market and the state. Finally, I come back full circle to analyze an NTRM village-meeting where farmers used the platform of standardization to agitate against the tobacco companies representing the markets. Thus, farmers often thwarted the market’s attempt to discipline them, even as they used those standards to define themselves. Finally, I take a glance at what is masked in the standardization process. The iterative process of standardizing by eliminating NTRMs masked the infrastructural changes that

were the conditions that made NTRMs a standard and the farmers' premises the object of market scrutiny.

"Vulnerability-Sustainability-Vulnerability"

In this section, I relate Mr. Mohan's characterization of the problem of NTRMs to show how standards were used to gauge and classify farmers as much as their tobacco bales. However, his characterization was also peculiar to his location in the FCV tobacco sector. As an official engaging with one of the most highly politicized and yet vulnerable groups in India's nationalist and developmental discourse, 'the farmers,' when speaking to me, he carefully threaded the line between developmental paternalism and profit-seeking. As an official of a highly commercialized industry that transacted directly with the farmers, he was cautious of the public perception of his company as one that profited from farmers. Finally, as a senior official of the infamous tobacco industry, he had to constantly justify why his company manufactured a product that was harmful to its consumers. For the same reasons, his rendering of the problem of NTRMs skirted over all these potential pitfalls.

As soon as the interview commenced, Mr. Mohan requested that I switch off my recorder. To help me keep track of his lecture, he turned to the whiteboard behind his table and wrote "vulnerability-sustainability-vulnerability" in a circular loop. The loop for Mr. Mohan characterized farmers' plight in the FCV tobacco-growing region. The farmers' history in the region, according to him, was a cyclical history of vulnerability, sustainability, and vulnerability. The region's farmers had faced vulnerability before the introduction of FCV tobacco, when famines recurrently occurred in the region. The period after the introduction of FCV tobacco was one of sustainability, up until the depleting market for tobacco and the resultant anti-tobacco policies returned the once-sustainable tobacco farmers to vulnerability. We then meandered

through this cyclical history until we reached the present day to segue into Mr. Mohan's responsibility as the Vice President of the tobacco leaf development and procurement division of his company.

The leaf procurement department of the tobacco company is also in-charge of agri-extension services provided to farmers, in which the tobacco industry's services complement the services provided by the Tobacco Board to farmers. As I mentioned in the introduction, the farmers' barns and grading halls come under most scrutiny as the point of origin for NTRMs. Hence, Mr. Mohan was also in charge of ensuring that farmers sold standardized bales using the correct packing material and grading technique. Mr. Mohan worked with the company's field officers to disseminate these practices at the farm level. In the case of NTRMs, Mr. Mohan's department held village-level presentations and trials and distributed gloves and waste bins that farmers were supposed to use in the grading halls.

Most FCV tobacco farmers I met in the field owned or hired large rooms or constructed a makeshift shed within walking distance of their barns and houses for purposes of grading or temporary storage. They also employed laborers to sort and stitch tobacco before curing and to grade and bale the tobacco after curing. In many villages, farmers hired contract labor gangs from other regions to harvest tobacco from the farms. In such cases, the labor gang lived in or adjacent to grading and storage halls for the entire harvest season. Farmers, who grew tobacco, also often offset their revenue by raising cattle or by growing other crops. Thus, during the FCV tobacco season, everyday life continued to thrive on the premises around the barns. However, for Mr. Mohan, these practices indicated something more than just the economy of farm-based activities; they were potential sources of contamination that also reflected the farmers' negligence.

Figure 4.1: Women Grading Cured Tobacco

Mr. Mohan remarked that Indian farmers had a peculiar habit of recycling. This remark did not amount to a story lauding indigenous customs of recycling or another anecdote on the much-touted notion of the Indian bricolage or "jugaad," commented on by international and national journalists when talking of the peculiarly Indian habit of making things work despite severe limitations[103]. Since the agri-extension officers advised farmers to cover the surface where laborers stitched green leaves for curing, farmers often used cheap plastic mats that they had lying around to cover the workspaces near the barn. Sometimes, farmers stitched together empty fertilizer bags to pack graded FCV tobacco into bales. These practices, for Mr. Mohan, were signifiers of the farmers' laziness and their unwillingness to spend money[104]. Moreover, when

[103]For example, the successful launch at first attempt of Mangalyaan, the satellite to orbit Mars for the meager budget of $74 million compared to NASA's $ 2.5 billion was discussed considerably in the media as an exemplar of the unique Indian capacity to work with limited resources (Gopal 2014; Amos 2014).

[104]These standards set by traders and corporate experts are not particular to tobacco exported from India. Peter Benson argues based on his ethnographic research of tobacco cultivation in the United States that the tobacco industries' insistence on good, "clean" tobacco was a way of assuring consumers of the industry's dedication to

these fertilizer-contaminated bales were sold in the market, they could be rejected for the presence of excessive chemical residues. In the long-run, these habits led to a decrease in market desirability for FCV tobacco produced in India. According to Mr. Mohan, the Indian farmers' inability to standardize their produce had already adversely affected India's reputation in the international markets.

Tobacco company officials talked more vehemently about the problem of negligence, laziness, and the ensuing ill reputation of the Indian agricultural sector and farmers. They were not alone in speaking thus, just more vehement. These behavioral attributes of farmers became associated with the pollutants that made cigarettes more carcinogenic. One reason for this association were the stringent rules of international buyers. For example, traders, farmers, and Board officials often related the story of Japan Tobacco Inc (JTI), wherein JTI had chemically tested the samples taken from their trading partners in India for pesticide residue. The CPAs present in Indian FCV tobacco residue were found to be above JTI's standards, resulting in JTI dropping off their contract mid-auction. In the case of FCV tobacco exported from India, local traders stood to lose in the immediate aftermath of international rejections such as the above anecdote, but everyone was aware that in the long term, the effects would trickle down to farmers. Board officials often repeated this story in their drive to decrease the indiscriminate use of pesticides.

Similarly, during my fieldwork on the auction floor, exporters and the Board often engaged in heated discussions over Philip Morris's new proposal for tobacco export from India. The exporter who traded with Philip Morris International related how they felt threatened by the

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providing a less deadly consumer product while using the same rhetoric to discipline farmers and to negotiate the market price of FCV tobacco. The trickle down effect of the standards, in turn, affected the farmers' relationship to their migrant agrarian laborers (in the case of the United States), often taking on predetermined racialized valence.

transnational corporation's insistence on working directly with farmers and laborers to improve the sourcing of raw materials and to ensure tobacco sourced from India was the product of sustainable cultivating and labor practices. Such a move would also violate the prevailing Foreign Direct Investment (FDI) regulations in the FCV tobacco sector, where the Government of India has enforced barriers to the entry of foreign tobacco companies in the commercial agriculture of tobacco (and more generally in the agrarian sector). In effect, such a proposal also strung the threat of export cancellation if their rules were made mandatory. However, the industry and the Board related these stories to remind farmers of the importance of implementing standards. It was for their well-being in the long term.

As with the arc of most stories narrated by Mr. Mohan on technical interventions and the problem farmers faced as the result of international markets, his tobacco company stepped in in the nick of time to resolve the issue. In this case, they sold high-quality tarpaulin sheet to farmers at cost price to cover the surfaces where laborers worked on the leaves. Similarly, the company aided farmers with building materials and credits to build makeshift sheds for post-harvest sorting and post-curing bulking. The tobacco company also distributed approved, packing materials for the graded tobacco bales to farmers[105]. Though Mr. Mohan never mentioned it, most of their services complemented the services provided by the Tobacco Board.

This narrative arc of problem-solving took an untoward turn when I quipped too hastily, "Are there subsidies for these additional inputs?" Though I did not realize it at the time, the cost of production was the tobacco industry's Achilles heel concerning their relationship to Indian FCV tobacco farmers. FCV tobacco was a sturdy crop in that it could withstand harsh climatic

[105]Providing these farm inputs were also an integral part of the Tobacco Board's activities. The state also employed lottery systems to distribute subsidies and offset the costs of inputs for farmers.

conditions. The plant required low irrigation, but more importantly, it had a devoted market. Mr. Mohan refers to this confluence of agro-climatic and market conditions as ‘a civilizational impetus’ for the tobacco-growing region (see introduction). However, cultivating FCV tobacco was also capital and labor-intensive. The barn infrastructure required to cure tobacco, the grading, and storage spaces required to sort, bale, and store FCV tobacco, and the hiring of a dedicated labor force all increased the cost of production of tobacco for farmers. If, as Mr. Mohan had claimed earlier, FCV tobacco markets were stagnating due to decreasing demand for tobacco products returning farmers to a state of ‘vulnerability’, then increasing input cost without the assurance of higher return for this new brand of “clean” tobacco was not economically viable for many farmers.

In this way, the livelihood of tobacco farmers, a complex metric derived from input costs and debts incurred to the sale and profits proffered, was simultaneously a source of strength and an Achilles heel for tobacco companies. As mentioned earlier, farmers are a politically volatile group in India’s development debates. Aligning with farmers has helped the tobacco industry to override its bad publicity. In the face of adverse publicity by health and environmental advocates, the companies lauded themselves as dedicated buyers of the tobacco farmers' produce and, therefore, essential to the farmers' livelihoods. The tobacco company used this discourse to stymie the demands of health activists. However, when farmers and state officials accused the tobacco industry of profiteering at the expense of farmers’ livelihoods, it further exacerbated the industry’s notoriety. Thus, the tobacco industry's relationship to and alliance with farmers was crucial to their public image. Though a quick quip, my question brought the weight of this history to the forefront.

Mr. Mohan was caught off-guard by that question; he defensively added that farmers never kept the premises of their houses and barns clean. Farmers graded their tobacco where household activities took place and where cattle ate, which made for an unhygienic environment for grading and baling tobacco. To make things worse, according to Mr. Mohan, women laborers who graded the tobacco, threw their chewing-tobacco wrappers on the floor along with the graded tobacco. The tobacco company now issued gloves, waste bins at cost price to farmers, who were strongly encouraged to purchase these additional inputs. Mr. Mohan declared that farmers needed to be educated. His company had a solution to that problem too. They conducted village-level programs to educate farmers and distribute these new inputs for good agronomic practices (see section two).

Here, the non-grade standard of NTRM becomes the rubric for differentiating between farmers based on their cultivating practices, the cleanliness of their grading halls, and their capacity to monitor the laborer's activity. These hierarchies are built on top of existing discourses regarding a central figure in the modern imaginary of India, the 'progressive farmer'. The tobacco company uses the term 'progressive farmer' to refer to farmers who find the resources and the time to implement these newer standards, more generally speaking, the farmer who has the wherewithal to invest in the newest technology and inputs required to produce a quality agri-commodity for national and international buyers. For the purposes of the elimination of NTRMs, such a farmer has to possess enough space to ensure the separation of farm-based activities. Effectively, a 'progressive farmer' has to be resource-rich. The confluence of these newer standards with qualities of the 'progressive farmer' in Andhra Pradesh translates into privileging the affluent ryot or peasant caste farmers.

However, neither this term nor Mr. Mohan's reiteration of the importance of educating tobacco farmers to improve the agri-commodities exported from India was unique to the tobacco industry or Mr. Mohan's parent tobacco company. These terms harken back to the developmental projects implemented by colonial and postcolonial state institutions. According to Chakrabarty, the everyday practices of institutional governance in India continue to be characterized by historicism. Historicism for Chakrabarty conjures the image of Europe as a unity while relegating the non-West to the "waiting room" of history. The nationalist gesture of granting the status of citizenship to the masses when India became independent was a denial of European historicism that once denied India autonomy. Thereby, this gesture was geared towards abolishing the imaginary waiting room designated to Indians by colonial administrators like John Stuart Mill (Chakrabarty 2000, 9). Laudable as it is, this universal franchise was also conditional, premised on education to enable the masses to transform into the ideal modern citizen. The underbelly of universal franchise manifests most in the development projects of the Indian state. Even today, such historicist projects of development continue to engage with the colonial legacy of instituting progressive capitalism projects of 'improvement' in agriculture through the scientific mastery of nature and natives (see Drayton 2005; Arnold 2005).

In *Modernizing Peasants and "Master Farmers,"* Benjamin Siegel (2017) claims that the valorization of "progressive farmers," a term used by colonial administrators and scientists, began in the early 19th century. For colonial administrators and scientists, 'progressive farmers' were not only the locus of experimentation to develop new crops but also the locus of information dissemination of new cultivating practices in their villages (Kerkhoff 2014). These farmers were often the more affluent class of farmers who could loan a portion of their land for farm trials, unlike subsistence farmers. As I show in chapter two, in Andhra Pradesh, this class of

rural capitalists was the affluent ryots/peasants farmers who were the intermediaries between ILTD (Indian Leaf Tobacco Development Co.), the colonial scientists, and other farmers. They helped in the dissemination of knowledge and services that enabled the spread of tobacco products in the region (Upadhya 1988; 1997; Elliott 2016).

Farmers were also the central figure in early nationalist and development discourse in postcolonial India. Improvement projects tailored to improve agriculture targeted a more streamlined set of people from among the generic group of farmers, the 'progressive farmers.' The ideal of progressive farming continued in the crop competitions organized by Nehru's nascent government in postcolonial India. The 'progressive farmer' was referred to as *Krishi Pandits* (Agricultural Experts) in the Nehruvian era of the planned economy. Having inherited an impoverished nation characterized by frequent famines, Nehru posited the 'progressive farmer' as the warrior in the battle against hunger and malnutrition. "The notion of the progressive farmer would prioritize experimentation and eschew blind custom. He would participate eagerly in the market economy — accumulating profit without hoarding produce and would follow exuberantly, if dutifully, the advice proffered by the relevant extension officer. He would make use of better inputs and resources, from chemical fertilizers and improved seeds to new irrigation and plowing techniques." (Siegel 2017, 66).

Krishi Pandits were also ‘natural leaders’ in charge of uplifting rural areas. That is, apart from being conduits for disseminating cultivating practices, these farmers were also conduits for the state's development programs geared toward redistribution and egalitarianism. Thus, Krishi Pandits were "progressive farmers" and "natural leaders." In order to accomplish this goal, the government set up programs for crop improvement like agri-extension services,subsidized credit, and crop competitions to honor the progressive farmers with most yield and quality. The state

also channeled resources through the farmer for community development. Progressive farmers as ‘natural leaders’ were to lead their villages out of the rigid mindset of existing rural hierarchies (ibid 75). While, community development was a conceit of the historicist governance of the Western bourgeoisie, by the 1970s, it dovetailed with the requirements of neoliberal structural adjustments that allowed a particular faction of the upper class and caste farmers to accumulate subsidies, resources, and land (ibid 2018).

These Krishi Pandits or progressive farmers were also rural elites- "rich peasant and enterprising landlords" who embraced the goal of self-reliance and the market (Shalendra Sharma in Siegel 2017, 65). However, they eschewed the developmental programs and land reform to redistribute resources and land to its tillers. That is, even as they transformed to transact with the capitalist markets as progressive farmers, they stymied the process of the redistribution for which they were the primary channels as ‘natural leaders.’ As capital begat capital, in Andhra Pradesh, these rural elite farmers also rose to become rural capitalists and a political bloc after the Green Revolution in the 1980s (Prasad 2015; Upadhya 1997). Though some of the connotations from the above definitions continue to this day, the progressive farmer is no longer in charge of directly redistributing resources to his village. However, within the tobacco-growing communities, ‘progressive farmers’ play a variety of political and technical roles, which I will discuss in some detail in the next section.

The term ‘progressive farmer’ came up frequently in interviews with tobacco company officials and seldom in my interviews with farmers. Tobacco Board officials, as state officials in charge of the redistributive program as well as pro-market programs, used the term sparingly, probably because they could not ignore the gaping difference in resources between progressive farmers and other farmers. However, even the Tobacco Board, in their agrarian seminars,

promotional literature, and annual day celebrations, lauded the progressive farmer as the goal of standardization practices. Their efforts to shift farming practices and farmers' attitudes were not restricted to publicity or technical advice. Every year, the Tobacco Board nominated and selected a 'progressive farmer' from every tobacco-growing soil region. During the annual celebrations of the founding of the Tobacco Board in January 1976, the Board honored three farmers from different tobacco-growing soil belts in the presence of all stakeholders. The state bestowed medals and a cash prize to the farmers chosen that year.

Incidentally, the year I was working with the Board, the annual celebration was canceled due to a tobacco farmers' alleged suicide, previously unheard of in the FCV tobacco sector. Instead, the Board officials, traders, and farmers celebrated the end of auctions in their respective auction platforms. I was also awarded one of these accolades at my local Auction Platform as an acknowledgment of my work in the field. The trophy made of wood had a picture of tobacco plants flanked on either side by the prize-winning oxen breed raised in Prakasam. The trophy is a prized possession and souvenir that I cherish.

Thus, the process of standardization in the FCV tobacco sector was an accumulated process that re-purposed old ideals of scientific improvement like the figure of the "progressive farmer" with newer market concerns like NTRM. This classification of farmers based on standards has created three outcomes. Firstly, the process not only established a hierarchy among farmers, but, in doing so, it reproduced older caste and class leanings of rural Andhra Pradesh. Secondly, though several of the standards, like the problem of NTRMs, applied in the auctions are non-mandatory, the state lent standardization a hegemonic status by rewarding farmers who reproduce the exacting standards with prizes and accolades. In the case of FCV tobacco farming, producing the exacting standards requires hiring laborers and packing material that increases the

cost of production. Thus, standards reinforce the difference between resource-rich farmers and more impoverished farmers, for the former has the wherewithal to invest in the implementation of the standard at farm-level. Such farmers are rewarded by the state and tobacco companies with the title of the "progressive farmer" and bestowed prizes and subsidized inputs that furthers the differences between farmers. Finally, this iterative process, apart from reifying hierarchies, masks infrastructural changes that are the conditions of production of the non-grade standard in question, as I will show in the conclusion to this chapter.

Though an international standard, NTRM had become a problem when infrastructural changes shifted the onus of producing “clean” tobacco from traders to farmers. Today, with the depleting tobacco market, the internal hierarchy amongst farmers created as a result of standardization has become a form of gate-keeping. Thus, it is not just the decrease of demand for tobacco and tobacco products alone that creates vulnerability, but also the staggering burdens of standardization and input costs that have also pushed the farmers further into penury and debt. As I experienced it in the field in 2015, this was also marked by alleged farmers’ suicides, rare events in the tobacco sector.

By rendering farmers the subjects of development projects and free markets, the state also depoliticized the internal difference between farmers. Agricultural improvement projects target affluent farmers to become intermediaries in the dissemination of cultivating practices, while developmental projects of egalitarian reform target affluent farmers to become natural leaders of community development. However, these differences between affluent and poor farmers and upper-caste and lower-caste farmers were homogenized with the cultural and subaltern turn in scholarly literature. As subjects of scholarly discourse in anthropological and historical literature, all farmers were defined under one heading, the peasant farmer (see Scott 2008; Guha 1999;

Brass 1991). Thus, standardization sought to homogenize farmers by assessing them on a hierarchy, unlike the standards and standardization of commodities that Timmerman and Epstein talk about, and which I refer to in the introduction, where standards and standardization sought to create equivalence by maintaining hierarchies.

Although there were farmers of all hues in the FCV tobacco sector in Andhra Pradesh, in coastal Andhra Pradesh, progressive farmers who reinvested their profits towards improving agriculture and educating their children tended to belong to distinct caste groups, consisting of erstwhile *ryots*/ peasant farmers, some of whom went on to become affluent ryots and entrepreneurs towards the end of the colonial era.

Prakasam and Guntur districts, where my study is situated in Andhra Pradesh, were Kamma strongholds. The rise of Kammas to rural elites and entrepreneurs began in the late 19th century with the growth of the irrigation (see Chapter 2) and commercial agriculture of food crops like paddy and non-food crops like peanuts, palm oil, cotton, and tobacco (Rao 1958; Satyanarayana 1991; Thorner 2009). Today, the Kammas have created distinct cultural forms of consumerism (Upadhya 1997, 171) and make up the political base that supports a former ruling party of Andhra Pradesh, The Telugu Desam Party (TDP). The TDP provided Kammas the space for cultural, linguistic hegemony without the egalitarianism of the communist party that Kammas had earlier aligned with (Kohli 2012; Suri 2002). The TDP not only enjoyed the allegiance of Kammas but also of many Kapus, one of the less dominant peasant castes in the region. Together, they form the main opposition to the ruling YSR Congress, a splinter group of the regional Congress party, currently headed by another charismatic leader and orator, Jagan Reddy, that had the support of the other dominant rival caste group of Reddys as well as of Dalits in coastal Andhra (Vernier et al., 2019).

As I mention in chapter two, this caste-based stronghold on the commercial cultivation of FCV tobacco continued in Prakasam too. Thus, market standards reinforced a hierarchy that tap into and reinforce local power networks dominated by the affluent peasant farmers. However, the use of terms like 'the progressive farmer', while attempting to homogenize farmers, also has other residual meanings that manifest in how farmers relate to and implement market standards. The term 'progressive farmer' also contains within it an understanding of political leadership and ideals of democratization.

Farmers, as a heterogenous group of communities and individuals with differing interests and alliances tap into hegemonic and residual meanings of "progressive farming" to relate to one another, the state, and the market. Apart from the distinctions between large, middle, and poor farmers, affluent farmers themselves are divided based on caste affiliations and factional party politics. In the following section, I sketch some of my closest associates, friends, and interlocutors in the field who could be classified as affluent farmers or as large farmers; the latter is the official terms according to the Indian government's classification[106]. I use my impressions of them to illustrate how farmers situate themselves differently in relation to the industry and the state that stipulates these rubrics. Within these sketches, we see how global rubrics of standardization are digested, interpreted, and critiqued by individual farmers.

[106]According to the Agriculture Census, there are five classes of farmers: marginal, small, semi-medium, medium, and large. Marginal Farmer= below 1 hectare (2.47 acres), Small farmers- 1-2 hectares, semi-medium farmers= 2-4 hectares , medium farmers= 4- 10 hectares, large farmers= above 10 hectares (All India Report on Agriculture Census 2010-11 2015). See also pib.gov. in.

“Progressive Farmers” and “Natural Leaders”

Farmers occupy a complicated position in India’s history and are an integral part of its political modernity. The granting of universal franchise, conditional upon the educational development of the masses, renders farmers the representatives of the population in rural India, where the majority of the Indian population resides and formed them into a political voting bloc. As recipients of developmental and redistribution programs and as the subjects of development in scholarly literature, farmers as peasants are rendered homogenous. Bureaucratic and egalitarian reforms and technical governance geared towards improvement relegate the politics of rural and agrarian actors to the realm of the irrational (Hetherington 2018). That is, the universal franchise and the developmental framework together politicize farmers as a voting bloc while delegitimizing their politics in relation to civil society, characterized by the urban middle-class (Chatterjee 2008, Elliot 2011). However, in the case of Indian farmers, their politics in service of mass democracy push back against the hegemonic tide of regularization and standardization. Chatterjee, discussing the formation of political and civil society, states that farmers can suspend historicist projects of 'improvement' in service of mass democracy or political mobilizations. "Those in political society make their claims on government, and in turn are governed, not within the framework of stable constitutionally defined rights and laws, but rather through temporary, contextual and unstable arrangements arrived at through direct political negotiations" (Chatterjee 2008, 10). In this section, I explore how agrarian and rural politics, born from earlier understandings of ‘progressive farmers’ complicate hierarchies that standardization processes seek to enforce.

After my first interview with Mr. Mohan, I met several other tobacco company officials and exporters in Guntur and nearby areas. When they realized that I was undecided as to where I would settle for the cultivating season, they began recommending the ideal tobacco-region to settle in and study. Their greatest disappointment was that I picked an arid, drought-prone region in central South Andhra Pradesh for my study. Both state and company officials urged me to visit and stay in Karnataka, where the climate was mild, and tobacco leaves were “as long as my arm.” The tobacco companies even courteously volunteered to take me on a field visit to Mysore in the adjacent state of Karnataka, where they grew FCV tobacco in the summer. Laborers also insisted that Karnataka's pleasant monsoons would be preferable to the harsh summers in Andhra Pradesh. In spite of this, I finally decided to settle in Prakasam, the last bastion of black soils growing FCV tobacco under rainfed conditions, for reasons I elaborate in chapter one.

Several other company officials I met with also arranged for me to meet farmers in nearby tobacco-growing regions in Andhra Pradesh. My first such company-organized visit was with Mr. Mohan's company to West Godavari, where farmers grew FCV tobacco on the loamy soil of the Godavari river delta. This region was one of the most affluent tobacco-growing regions in Andhra Pradesh and had ample irrigating water and pliable soils. As I mentioned in chapter one, several European and national manufacturers currently preferred this region's low-nicotine, bright FCV tobacco. These trips, characteristic of most official trips in India, were arranged for me to meet with the best farmers i.e. "progressive farmers", to ensure I saw how tobacco farming benefited farmers.

The local company official working in the West Godavari region took me to meet two brothers who owned and leased over 100 acres of land. As I walked through the farm to the barns, where we had scheduled the farmers' meeting, I noticed that the brothers deployed the

latest drip-irrigation technology to irrigate their tobacco. The plants were meticulously planted, equidistant from each other (23-26 cm). There were pakka sheds and halls for grading, baling, and storing FCV tobacco. We sat at their barn to talk to their neighbors, many of whom were also large farmers from nearby villages. After a short chat about the duration and processes of cultivating FCV tobacco in the region, the farmer duo invited me to their house for tea, as was generally the custom when state or tobacco company officials visited villages. Sitting in their palatial home amidst several strangers, who had turned up to show support, I realized that my own image of the Indian farmer, gleaned from popular discourse and from pouring over old political economy texts, differed considerably from what I was experiencing while drinking tea with the brothers.

My second visit with the tobacco company was to Prakasam, where I met Lakshman Garu during a similar impromptu farmers' meet at Lakshman Garu's village. Unlike farmers in the Godavari districts (West and East), farmers in Prakasam had a more diverse pattern of cultivation that included raising crops like lentils and chilies growing on smaller landholdings, leased and owned. Farmers growing FCV tobacco in black soils under mostly rainfed conditions were relatively more deprived than their colleagues in West Godavari. The FCV tobacco produced in black soils did not share the same marketability of light soil FCV tobaccos produced in West Godavari. The government now had crop diversification schemes to dissuade tobacco in black soil regions.

Lakshman Garu was the exception to the norm. He was a dedicated FCV tobacco farmer and liked to think of himself as a self-made farmer. In a decade, Lakshman Garu had expanded his owned land from a meager 20 acres to over 100 acres. Lakshman Garu and his brother and their families lived together and shared farm and domestic work. Together, the siblings had

inherited 20 acres from their father. He had single-handedly, as the older brother, in charge of farm operations, bought out most of the barns and arable land in his village and nearby villages. Lakshman Garu was insistent, as was the company's official accompanying me, that I join his extended family in the village during my fieldwork. Lakshman Garu, like the sibling duo in West Godavari, was the industry's choice of 'progressive farmer'. For the tobacco company, these farmers were exemplars of market savvy and technical prowess that they hoped my study would reflect. True to that belief, the bright yellow of Lakshman Garu's tobacco bales lit up the auction halls. Later, during the auction season, I would stand beside Lakshman Garu's bales admiring the bright lemon color of his bales while talking about the chemical composition that produced the sweet aroma in cured tobacco leaves. In the end, the tobacco companies succeeded in their mission to present the best of the FCV tobacco region. Though I did not take up Lakshman Garu's offer to stay in his house, Lakshman Garu and I remained friends during my fieldwork in Prakasam.

The farmer I chose to work with was another affluent farmer, Venkat Garu, from a nearby village. He was the president of the farmers' committee in the local Tobacco Board Auction Platform in Prakasam. He had been the elected representative or the headman of his village in the previous Panchayat elections. However, his political career and social work rendered him as mostly an absentee farmer. An absentee farmer is a registered FCV tobacco farmer who does not actively grow tobacco but rather leases their Board-registered, tobacco-growing agricultural land to tenants. Though this form of leasing is based on inegalitarian contracts between absentee farmers and tenants, the Board condones it due to its widespread occurrence in the region. However, in Venkat Garu's case, his brother cultivated their family's land in the village on behalf of five siblings. Together, they had around 75 acres of land under

tobacco cultivation. In my first couple of weeks in Prakasam, I stayed with his extended family in the village. Venkat Garu commanded the respect of both state and company officials. He was a member of the Telugu Desam Party (TDP), the ruling party in Andhra Pradesh, in 2015. Apart from being a farmers' representative for the Tobacco Board, he was also TDP's political representative in his village and on the farmers' committee. Venkat Garu was as reserved as he was polite. The Tobacco Board officials I met during my visit to Prakasam were pleased when I decided to live with Venkat Garu's relatives in his traditional village in the initial month of my fieldwork.

Lakshman Garu and Venkat Garu represent two of the qualitative features of "the progressive farmer" that I draw from Seigel's work (2017, 2018) in the previous section- ‘the progressive farmers’ and ‘the natural leader’. Lakshman Garu was oriented to the markets and Venkat Garu focused on rural and farmers’ politics and reform. They were, in this sense, two sides of the same coin. Their landholding placed both farmers as large farmers in the Indian government's records. However, unlike Lakshman Garu, whom the industry classified as a 'progressive farmer', Venkata Garu's family was not known for pushing the frontiers of experimental agriculture in the same way. Venkata Garu's brothers' farms produced good quality tobacco, but not enough to be the tobacco company's poster child. While Venkat Garu's brother remained in the shadows, Venkat Garu was well-regarded by state or company officials as the farmers' representative for the region. He was at the forefront of agitations and negotiations with the state and the market. I did not realize this at the time, but his company played a huge role in my gaining access to political meetings and to members of the Tobacco Board.

Lakshman Garu, on the other hand, was not a part of the group of farmers’ representatives. Later in my fieldwork, having lunch together at a fancy restaurant in town,

Lakshman Garu would explain his reasons for considering himself a self-made farmer that put him on the company's list of progressive farmers. "*Ikkade caste feeling ekkuva*" (caste solidarity is a bit too high here), he remarked as if that was self-explanatory. He reluctantly elaborated that farmers of dominant caste groups, Kammas, banded together and protected each other's interests. Since many of the farmers' representatives in the region were Kammas too, it stacked the odds against Lakshman Garu. While the farmers' committees are predicated on safeguarding the income and livelihood of all FCV tobacco farmers, many non-Kammas felt left out of the politics of decision-making in the sector. Farmers like Venkat Garu, who was also Kamma, were representatives on Tobacco Board committees, farmers' committees, and other political fora. Several of the senior state officials in the Tobacco Board in the district were also from this dominant caste group. Hailing from the Kapu caste, an agricultural peasant caste but with less political influence than Kammas, Lakshman Garu felt alone and without much (state) institutional support. It was these perceived odds that Lakshman Garu strove to rise above, with the aid of the tobacco industry. For the same reasons, he was open to the innovations suggested by state and industry scientists. He was highly (self) educated on the latest practices and varieties of seeds available in FCV tobacco cultivation. I believe that he sometimes sought my company, with persistent invitations to join his family on social occasions, as an extension of his desire to remain close to "expertise."

Once I had settled in Venkat Garu's village, I meandered quite incidentally into the farms of another moderately affluent farmer, Krishna Garu. Krishna Garu and his uncle ran their joint-family property. He, like Lakshman Garu, was from the Kapu community. His family owned and leased around 84 acres in his village and nearby areas. He only grew tobacco on 24 acres and had diversified to Bengal gram and eucalyptus on the other parcels of lands. Krishna Garu was unlike

both Lakshman and Venkat Garu in that he was neither considered a 'progressive farmers' nor was he a 'natural leader'. He was, on the other hand, more business-like in his everyday activities, speculating at market prices for several crops as well as finding new avenues for business. Since he was closer to my age and could speak more English, we became friends within a few weeks of my meandering into his tobacco fields.

During the cultivation season, I worked with laborers under the watchful eyes of Pramila Garu, the mistress of the joint household, who was Krishna Garu's aunt. Pramila Garu was Krishna Garu's mother's older sibling, who had adopted Krishan Garu at a young age. Together the family took care of all of the land Pramila Garu's siblings owned in the village and nearby regions. Krishna Garu managed the timeline for all the various crops he cultivated along with the contractor for the agricultural labor, Singaiah Garu. During harvest, I worked alongside laborers and Krishna Garu who supervised the *muttah* (contract laborer gang).

Krishna Garu did not share Lakshman Garu's penchant for quality FCV tobacco using the latest technology nor Venkata Garu's desire for politics. He preferred to exit the FCV tobacco cultivation for lentil cultivation but could not yet commit to the decision due to the difference in prices between FCV tobacco and lentil: lentils have a much lower cost of production, but their prices fluctuate sharply from one year to the next. Apart from farming, he also leased his tractor for illegal mining and distribution of water. He was also a part-time real estate agent for his family building in the city. Educated as an engineer, Krishna Garu was part of the new generation of entrepreneurial farmer. He maintained a healthy distrust of both the tobacco company and the Tobacco Board and expected very little from both. Though his landholding made him eligible for agri-services from the regional tobacco companies, he took all the board’s and company’s inputs with a grain of salt. Krishna Garu only cared for market standards for FCV

tobacco when he felt it affected the prices of his bales. Even so, as an affluent farmer, he owned some tobacco company-issued gloves and bins in his grading halls. He rarely ever attended Tobacco Board seminars unless there was a meal served at the end of the program. His disdain for the tobacco industry's double standards came through one day at an NTRM presentation in his natal village. On that evening in December, I had accompanied some of the tobacco company officials to a meeting at Krishna Garu's village. Venkat Garu, the farmers' representative and ex-headman of the village, had arranged for the meeting to be held at the village hall designated for public hearings and Panchayat meetings. The tobacco company's field official for the village had been busy all day arranging the kit the company was handing out to farmers. Krishna Garu's village was also one of the many villages the tobacco company had adopted for its Corporate Social Responsibility (CSR) program to develop Indian villages, which also explained why the company officials were hand-delivering the NTRM kits to all the farmers in the village.

As farmers filed in after cultivating hours, a newly recruited tobacco company official set up a powerpoint presentation and projected it against a make-shift screen. He began a detailed presentation on the various kinds of Non-Tobacco Related Materials found in FCV tobacco bales, how they got in the bales, and how farmers could prevent this form of contamination from happening (as detailed in section one). A veteran tobacco company grading official re-translated the official's presentation to the farmers seated in the audience. When the presentation was over, the grading officials asked farmers to come forward if they had questions. At this point, Krishna Garu got up and asked, "where is our money?" This question was followed by mayhem as farmers one by one began asking the tobacco company officials for the money the company owed the farmers for their FCV tobacco bales sold at the last auctions. The farmers were not accusing the company of reneging on their payment, which was a rampant problem in the 50s

and 60s (see chapter two). Instead, they were demanding that tobacco companies start paying them better prices for their FCV tobacco if they wanted farmers to take on new standards.

The company officials terminated the meeting soon after when the novice official got overwhelmed by repeated questions from irate farmers. Several farmers had begun describing in great detail the debts they had incurred producing FCV tobacco in the previous season only to find out that the market demand for FCV tobacco was stagnant. Finally, Venkat Garu, the farmers' representative for the village, had to intervene to calm his fellow villagers and farmers. As we walked out of the meeting, the young official and the veteran official apologetically explained to me that at this hour, after a day' s work, the farmers tended to start drinking and get belligerent. Thus, farmers not only adhered to standards according to their convenience, they also used platforms meant to educate them to agitate against the state and the tobacco companies. The age-old problem of Indian farmers recalcitrance toward producing good quality crop (see chapter one on colonial scientists descriptions of Indian farmers), here, attains a new meaning. Farmers preferred quantity to quality because their calculations against the market had taught them to ignore the advice of experts. Their experience taught them that producing higher yields, more than quality or uniformity, better buffered against price fluctuations.

In this section, I profile the affluent farmers I interacted with to show how they strategically interacted with the rubric imposed by the state and the tobacco markets. The farmers I talk about were from the dominant caste groups in the region, and they were wealthy farmers for their respective regions and their limitations. They were also highly differentiated based on caste differences or individual goals. Thus, even as the tobacco company and the state sought to organize farmers along a gradient, based on market standards, the farmers interacted with the standard in a fashion convenient to their social and agricultural needs.

Conclusion

As I mention in the introduction to this chapter, the increase in scrutiny of non-grade qualities of tobacco bales is still a form of standardization in the making. Though NTRMs are increasingly occupying Board and tobacco company attention, they are yet to be translated into hard and fast rules. Most traders index the needs of international markets when talking of NTRMs. Neither has the Indian market alone been targeted for excess NTRM (Benson 2008). The problem of NTRMs is part of the tobacco industry's new policy to monitor and discipline farmers on the one hand and assuage the fears of consumers on the other. Benson's ethnographic observation of tobacco cultivation in the United States, where tobacco industries' insistence on good "clean" tobacco is seen as a way of assuring consumers of the industry's dedication to providing a less deadly consumer product, while using the same rhetoric to discipline farmers and the labor force. In this case, the industry's scrutiny translates into racialized logic on the farms, such that tobacco farmers view the immigrant laborers as the locus of contamination (Benson 2011).

I have used NTRMs as a starting point to understand the process of standardization to create equivalence, in Indian tobacco and farmers, in the international markets. But, apart from serving as an entry point, the discussion of NTRMs is illustrative of infrastructural changes taking place in the sector. One of the reasons NTRMs are becoming a significant source of concern is the cumulative effect of broad structural shifts in trader/company practices. When Mr. Mohan and other tobacco companies complain about farmers' negligence and laziness, they actively mask the reality of earlier efforts of standardization. In the 1960s, the tobacco industry

had begun outsourcing the threshing and repacking of bales to independent threshing factories. The facility and services were provided by local intermediaries/traders, who invested in the large threshing machines and temperature regulated storage spaces. The intermediaries not only bore the brunt of market fluctuations but also invested in the fixed capital (as in threshing) and labor required to organize re-grading of auctioned bales and re-selling (Subrahmanyam 2000, Duvvury 1986). Thus, the tobacco company's cost of production was cut by diversifying the commodity chain with middle-men service providers and dealers.

As mentioned in chapter two, with the advent of Board-led auctions and the subsequent process of streamlining using farm grades, several of these intermediary companies perished or joined the ranks of exporters. Several grading halls shut down, with most companies only using spot-grading rather than employing groups of laborers to re-grade every bale. The Board-led auction had transferred the onus of grading onto the farmers and Board officials. As a result of these infrastructural changes, the tobacco companies no longer owned grading halls, where the purchased bales were re-graded. Over the years, these infrastructural changes have deprived agrarian laborers, especially women who grade FCV tobacco, of seasonal labor. Secondly, international partners now only confirmed their orders once the auction season began, unlike earlier times when international buyers relied on their Indian exporter liaisons to determine the quality of the FCV tobacco sold from the Indian market on an annual basis. Delayed international orders are the new norm, which also extends auction seasons. These structural changes increase the input cost and risk of extended care and storage of unsold bales onto farmers. The farmers have to hire extra labor and storage space to accommodate these large infrastructural changes.

Today, FCV tobacco bales sold at auction, after a hiatus at the Board warehouse, are transported directly to independent threshing factories. Threshing factories are large warehouses that consist of an extended assembly line of women and machines. Here, the leaves are stripped from the mid-rib while Non-tobacco Related Materials (NTRMs) are removed by hand and then passed through sifters. The leaves are then cut into thinner slices, moisturized in sauna-like machines, and fluffed multiple times. Women interspersed between machines process, check, and re-check the threshed tobacco strips for NTRMs. Finally, the strips are compressed, packed, and weighed at the end of the assembly line. Immediate threshing of bales after the auctions means that bales containing affected leaves or NTRMs, that escaped the scrutiny of the women workers, can contaminate entire batches of threshed tobacco.

Apart from the international buyers' new strategy to buy 'clean tobacco,' these infrastructural changes make non-grade qualities of tobacco like NTRMs a nuisance for buyers. More importantly, this discourse has become centered around farmers' lack of commitment. The standardization processes have the effect of classifying FCV tobacco farmers. Farmers with education and infrastructural and financial capacity are differentiated as progressive, while the poorer farmers, who farm on smaller plots and rent land and infrastructure, are classified as stubborn. The tobacco companies are overt in their support of progressive farmers, tapping into the logic of local politics and profiteering from economies of scale. Though the Tobacco Board is more attuned to the problems of small and tenant farmers, their standardization processes and ceremonies inadvertently discriminate against small farmers.

While standardization reinforces local structures of power, the farmers I worked with positioned themselves differently vis-à-vis the stipulations of the market. In the case of Lakshman Garu, his perception of his caste vis-à-vis other prominent farmers and the Tobacco

Board officials resulted in his alliance with the tobacco industry and their brand of market-oriented Krishi Pandit (agricultural expert) or ‘progressive farmer.’ He implemented new technology in the production of his tobacco, significantly improving his profit as well as the appreciation for his work. On the other hand, Venkat Garu highlighted the other side of the Krishi Pandit/ progressive farmer as the ‘natural leader.’ Venkat Garu was more a political leader and farmers’ representative than he was an FCV tobacco farmer. Krishna Garu, the educated entrepreneur, strategically employed state and tobacco company standards to increase his profits, while he focused on diversifying his agri-related businesses. When one looks from this point of view, standardization is not a linear process of hierarchization that reinforces local structures of power to enable the smooth functioning of the commercialized FCV tobacco market. Thus, while standardization has a hegemonic tendency of creating equivalence among farmers by reinforcing hierarchies, its implementation was always incomplete because it couldn’t map on to ideals and goals that farmers’ maintained in the region.

Chapter 5: Flowers of Deception: The Elision of the Laborer in the Expert's Worldmaking Practices

Figure 5.1: *Orobanche Cernua* on Parched Soil

Deceptive Beauty

By early-January, the tobacco plants on the farms in Prakasam were about five feet tall. Their harvest had begun a fortnight earlier. The Tobacco Board officials, I was accompanying, were on their way back from a field trial at a nearby village. Midway through our journey, the Auction Superintendent asked the driver to stop the vehicle. The entire crew disembarked onto a mud track flanked by tobacco farms. Neither the cloudy skies nor the *tall* tobacco plants had concealed the beauty of the flowers blossoming on the parched soil beneath the ripened tobacco leaves. The tiny plant growing beneath the tobacco plant was stark due to a sharp contrast of purple flowers on yellow stalks. "Malle" – the local term for the plant - also referred to Jasmine

flowers, appropriate considering their beauty. Yet, on that gloomy day in early January, the sight of a farm filled with these flowers provoked alarm amongst our crew. The tobacco plants growing beside the flowering plant were yellow and wilting.

"Malle" or *Orobanche cernua* is an annual root holoparasite that feeds on *Solanaceae* or nightshades such as tobacco, chilis, and tomatoes. The *Orobanche* plant derives its name from Latin and Greek roots- *Orobos* (pea) and *anchcin* (strangle) (Baghyalakshmi et al. 2019). The contrast of its purple flowers on yellow stalks indexes a lack of chlorophyll. Beneath the beauty of the flowering parasite lay traits of adaptability and survival, which are lethal to a standing tobacco crop. Unable to produce food, the parasite grows on the shoots of tobacco plants and reroutes vital nutrients from the tobacco plant into its own body. To make things worse, an *Orobanche* plant can produce up to 15 new offshoots on top of its initial outgrowth. *Orobanche*'s spores produce up to 100,000 seeds that can remain dormant for 20 years (Puzzilli 1983). The seeds can adhere to farm machinery and the extremities of humans and animals, thus spreading from one farm to another at a rapid rate. Preventing wasteful germination of its progeny, the seeds of the plant only germinate when they come into contact with the root exudates of their host – the tobacco plant (Dhanapal 1996).

Apart from being tenacious, the other problem posed by the parasite, *Orobanche,* is its physical entanglement with the tobacco plant. *Orobanche*'s affair with the tobacco plant is more complicated than caterpillars, aphids, moths, and sun wilt that also infest the tobacco crop. The latter infestations are slower (moving from one leaf to another) and more visible to the naked eye. The seeds of the *Orobanche* germinate during the second week of the tobacco sapling's growth on the farms[107]. The infestation only becomes visible to sight after it penetrates the

[107]The time period of growth is calculated from when the sapling is transplanted from nursery to the farms.

tobacco shoots and emerges out of the soil as a flowering stalk in the eighth to tenth week of the tobacco plant's growth. By this time, the tobacco plant has set its roots in the transplanted soil. Although the life cycle of a single shoot of *Orobanche* is complete in three months, without intervention, new attachments form continuously, until the death of the host, the tobacco plant (Dhanapal 1996; Baghyalakshmi et al. 2019). This physical entanglement of the *Orobanche* to the tobacco plant and its stubborn adaptability makes its removal from the tobacco farms an uphill task. Thus, the Tobacco Board officials in our party were alarmed at the sight of an FCV tobacco farm filled with these small plants.

Orobanche's physical entanglement with the tobacco plant was also a matter of grave concern to the Tobacco Board officials because it had a significant effect on the quality of the tobacco leaves. *Orobanche* infestation during the growth phase of the tobacco plant severely affects the tobacco plant's intake of essential soil-based nutrients like nitrogen, phosphorus, and potassium, resulting in stunted growth and inadequate ripening of the tobacco leaf, the economic part of the tobacco plant. As I show in chapter one, the marketability of FCV tobacco is primarily based on its 'quality', which consists of two aspects, *usability* and *desirability*. The former, in particular, is defined by the chemical and morphological characteristics of the tobacco leaf that make it ideal for producing cigarettes. The rerouting of nutrients from the tobacco root into the parasite, *Orobanche*, skews the sugar and nitrogen ratios of the leaf resulting in inadequate ripening of the leaf, which effect the smoking quality of the leaf. The stunted growth of the plant and its leaves have adverse impacts on pliability and other morphological attributes used to evaluate the profitability of the leaf as well. These compromised traits in a cured leaf lower the grade of tobacco bales, reducing the price of FCV tobacco sold at auction, thereby, resulting in a loss of farmers' income. Orobanche infestation also results in a depletion of the

total yield of tobacco. Further, due to its capacity to survive over many years, if unchecked, *Orobanche* infestation on a farm can create a hostile environment not only for the standing crop but also for future cultivation. *Orobanche's* physical entanglement with the tobacco plant also makes aggressive solutions extremely difficult[108].

The return of the parasite infestation was also associated with other significant long-term concerns, such as environmental degradation, that experts in the Indian tobacco sector were monitoring. Many experts believe that *Orobanche* infestation occurs due to rising day temperatures and sudden shifts in atmospheric humidity. That is, when sudden rains or morning dew met dry parched soil on tobacco farms, they become the conditions for germination of the parasite. So, many experts relate the germination and spread of parasite infestation to soil health and atmospheric temperature variations. Further, experts also acknowledge that soil weakened by excessive monoculture and pesticide use make it more susceptible to *Orobanche* attacks. For the same reasons, experts often correlate *Orobanche* infestations with environmental degradation wrought by the monoculture of tobacco and 'climate change.'[109] Thus, measures to eradicate *Orobanche* had converged with measures to prevent environmental degradation wrought by monoculture in the region. The pest infestation that I witnessed on that gloomy day in January, I

[108]International market regulations for FCV tobacco strongly dissuades the aggressive use of pesticides or herbicide to curb the parasite. Most transnational tobacco conglomerates that buy FCV tobacco in the Indian market have a cap on the amount of CPAs (Crop Protection Agents) or pesticide residues present in the cured tobacco leaf that they procure.

[109]I heard the term 'climate change' in relation to tobacco agriculture in an agrarian seminar, which I elaborate on in section one of this chapter. Here, ‘climate change' primarily refers to the anthropogenic factors involved in the production of weather pattern variation in the region. Apart from the general adverse effects of commercial agriculture like monoculture, excessive pesticide usage, and carbon dioxide emission, monoculture on the soil and groundwater quality, experts believed that it negatively affected the temperature and rainfall in the region. In the case of FCV tobacco, the curing process of the leaves requires firewood. Long-term reliance on firewood, some believe, has contributed to the decrease in forest cover in the region. Trees also play a role in wind and cloud formation. Thus, 'climate change' was often used in the agrarian seminar to refer to this iterative relationship between monoculture and weather patterns.

came to understand, stood as a metaphor for longer-term trends involving changing weather patterns and soil degradation in the region.

In this chapter, I look at the technical interventions the state and industry experts[110] experimented with to remedy the parasite and the problem of environmental sustainability it stood for. The research updates on these technical interventions were disseminated through Board-organized agrarian seminars. This chapter focuses on one such agrarian seminar held in Prakasam district in 2016. I argue that experts' recognition of the parasite (described above) and the responses they tailored were based on a scientific understanding of the entanglements of two nonhuman actors, the parasite and the tobacco crop. In studying the physical entanglement of two nonhumans and finding solutions to better farmers' livelihoods, these experts' practices of world-making resemble scholarly projects 'after the ontological turn.' However, in this case, I reveal that the experts' responses also presume a distinct human subject who is the ideal subject of agriculture in modern Indian history.

The last chapter showed how the affluent peasant farmers were privileged among farmers by the standardization practices and the accolades of the state, while smaller farmers could no longer keep up with the increased cost of production of standardization. In this chapter I make a more general claim to show how the landholder farmer is the central subject of the experts' scientific world-making. For example, farmers are not only recipients of subsidized inputs and interest-free loans, but the Tobacco Board compensates farmers for disasters and other non-

[110]As with many of my chapters, expert is a loosely defined term for governments officials, in charge of marketing, research and development of FCV tobacco in India. On occasions, I extend the term to include industry scientists, who worked closely with the government. The chapter focuses on interventions devised by various agrarian experts, facilitated by the Tobacco Board of the Ministry of Commerce and Industry, Central Government of India, in charge of ensuring the production of good quality tobacco from the Indian market and sustainability for farmers.

agricultural costs[111] that the traders and laborers, who have worked in the sector longer, aren't priveleged with. Here, the farmers are perceived as victims, and as part of solutions to the infestation and environmental degradation that *Orobanche* stands for.

In targeting this group as ideal subjects, the experts knowingly or unknowingly elide over the labor of other crucial actors, who work closely with the crop and the parasite. The omission of the agricultural laborers from the experts' world-making practices renders the laborers non-victims of climate change and "free" from the precarity faced by landholding farmers. As the FCV tobacco sector transitions away from this lucrative capital- and labor-intensive crop, due to the tobacco product's health ramifications, the laborers who depend on the crop are not viewed as stakeholders in the production or as victims of the environmental destruction wrought by extractivist monoculture. Finally, I use my ethnographic study as a template to question selected scholarly works that argue for a move towards the ontological and the posthuman. In focusing on the nonhuman, are scholars of ontology presuming a human subject? If so, what are we potentially eliding over?

Since this chapter is about the masking of human realities, the sections of this chapter mimic the structure of the *Orobanche* that lives in the shade of the tobacco plant. At first sight, *Orobanche* appears a beautiful flowering plant. The first section, what I posit as the *Orobanche*'s *bloom,* explores the world-making practices of the experts who witnessed and recognized the Orobranche infestation on the farms. Expert recognition lies at the heart of the matter. They paid close attention to the life cycle and subsequent spread of the parasite across the region and its effects on the tobacco crop, and subsequently, the farmer's livelihoods. The experts' alarm that day was premised on the many-layered and complicated concerns that the *Orobanche* infestation

[111]Like cyclones, crop infestation, death and diseases, (daughter's) marriage, education, etc.

stood for. What lay beneath the surface of the beautiful bloom, for experts, was degradation and ruin, portending the high price to be paid by farmers and, ultimately, by the Indian tobacco market.

The expert's recognition of the problem of the parasite lent itself to multiple responses and actions. Here, I am referring to the iterative relationship between experts' recognition and their responses to stymie the parasite's tenacious spread on the tobacco farms as the experts' world-making practices. These practices also converge with a recognition of the pressing need for environmental sustainability in the tobacco sector. By mapping the emergence of this parasite, its recognition, and the responses it produces, I attempt an 'anthropology of ontologies,' as developed by Eduardo Kohn (2014), befitting a time when human life is in crisis[112]. That is, a section of this chapter by focusing on experts' world-making projects takes up their perspective on nonhuman entanglement.

In this context, I ask, if *Orobanche*'s will to survive has shaped experts' world-making practices towards eradicating the parasite and ensuring sustainable tobacco agriculture, who are the targets of these seminars and interventions? According to Marisol de la Cadena (2010), there is one foundational question in the ontological pursuit to harness the properties of the world. This question involves figuring out *what* humans are in this world, if the world is the result of human and non-human interactions. Questioning nature entails questioning the contours of the human. Here, I revise de la Cadena's foundational question to ask, *who* is the human in the

[112]According to Kohn (2014), what anthropology does best is analyze human reality and its socially constructed nature Here. 'social constructedness' is a problem of representation (linguistic or symbolic). Representations cloud our understanding of both human and non-human interactions and the practices of world-making of human and non-humans. To remedy anthropology's obsession with language, Kohn suggests that we study communication between humans and non-humans in a communicative world. But this approach heavily relies on linguistic and symbolic representations of reality. A good ontological anthropology not only studies how things are in this communicative world of representations but how things could be by letting nonhuman modes of being make us "over in ways that could make us otherwise" (2014).

experts' world, and argue that, for the scientists and Tobacco Board officials concerned with the parasite and the tobacco crop in Prakasam, farmers (landowners and lessors) are the perpetrators and primary victims of environmental change concomitant with *Orobanche* infestation. Thus, farmers alone can save the tobacco crop from the parasite and climate change. The human predicate of these concerns regarding the parasite and the environmental sustainability that the parasite stood for was the farmer-landholder.

In the first section, I focus on agrarian seminars. Agrarian seminars are sites where *farmers* are apprised of potential solutions to eradicate the parasite from their farms and to practice sustainable tobacco agriculture in the long-term. Much like the beautiful manifestation of the *Orobanche*'s bloom that deceives as to the toxic nature of what is hiding under the surface of the soil, the world-making practices of the scientists engaging farmers in a world approaching crisis also hide a particular political history they are enmeshed with. Beneath the soil, the *Orobanche* reroutes vital nutrients from the tobacco plant into its own structure at the cost of the tobacco plant. The parasite's capacity to thrive and reach beyond the spatio-temporal limits of a single tobacco plant or farm amplify its deception of being a humble but beautiful flowering plant living in the shadow of the tobacco plant. Similarly, I study expert's practices of disseminating know-how to show that while their scientific ontology of nonhumans was inclusive of the precarity faced by farmers[113], their scientific ontologizing (if you will), that predicated farmers as victims of and warriors against a parasite and agro-climatic vagaries currently plaguing tobacco-growing region, elided over a larger population rendered highly precarious by these shifts.

[113] Precarity faced by farmers due to debt, market fluctuations, and deteriorating agro-climatic condition is a very relevant matter worth accounting for in India's current agrarian conditions (see Narasimha Rao and Suri 2006; Suri 2006; Vasavi 2009; Aga 2016).

The second section of this chapter explores what (or who) lies *beneath the surface* of this world, the absent relations and humans it conceals. Like the *Orobanche* bloom that belies its adaptability, the deception in the experts' praxis draws heavily on a history that surpasses the spatio-temporal limits of FCV tobacco farms. The tobacco experts' interventions, in recognizing farmers as primary victims and stakeholders, veils and omits the agrarian laborer who is integral to the everyday work of caring for the tobacco plant. I argue that beneath the surface of the world-making practices of experts lies a history of exploitation that situates laborers as neither victims nor stakeholders in the tobacco sector. The laborers I worked with, on the farmers' farms and in their barns, were absent from these agrarian seminars, and their labor was neglected in experts' recognition and response. On the rare occasions that I witnessed them enter into the experts' world, it was neither as victims nor saviors, but only as ruptures to the normative processes of cultivation. Within this chapter, I juxtapose the laborers' stories of world-making with the experts' world-making practices to show how laborers view their role in the tobacco sector. More importantly, I show that experts' practices mask how the unsustainability of monoculture affects the bodies of laborers working on FCV tobacco farms as well.

The final section of this chapter poses a few questions of the human cost of an uncritical turn to ontology, especially in studies that animate and vitalize nonhumans in relation to humans, asking, is there a backlash to humans and, if so, to what humans specifically, as a result of the tunnel vision imposed by this urgency to animate the nonhuman? In taking up this project, this chapter is a critique of my own tunnel vision as I pursued experts as they went about their work.

Orobanche's Bloom: The Expert's World-Making Practices

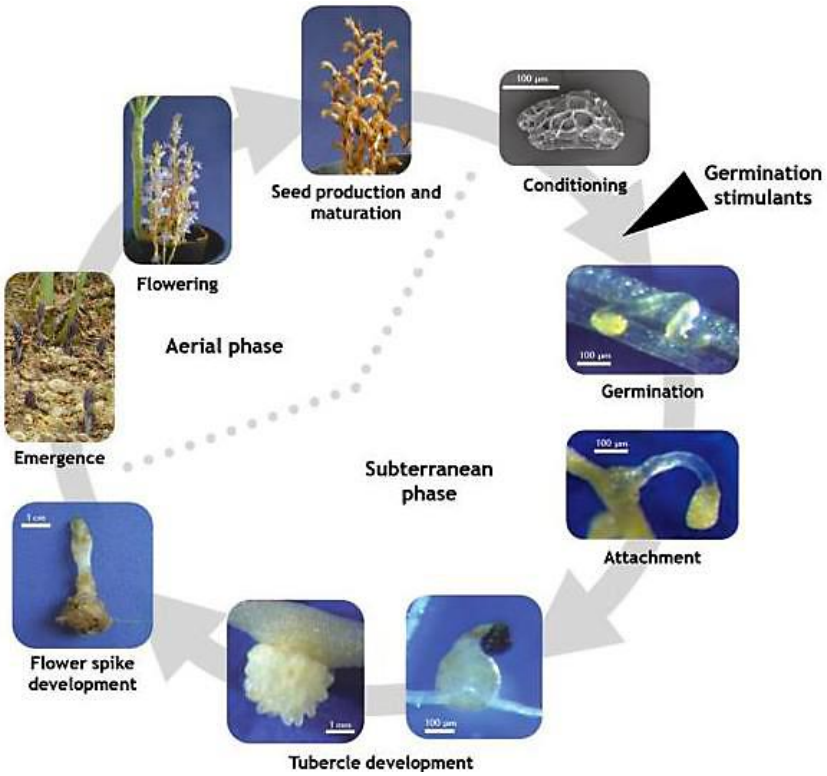

Figure 5.2: Life-Cycle of *Orobanche Cernua*

As mentioned earlier, expert recognition lies at the heart of the world-making practices that I engage with in this section. In the introduction above, I laid out the morphological traits of the parasite, its entanglement with the tobacco plant, its adaptability, and its multiscale effects on the tobacco plant biology and tobacco geographies. I summarized these descriptions from scientific literature written by tobacco experts in India and abroad. This is the basis of the experts' recognition of the parasite's nature and its relationship to the crop that lends itself to scientific interventions or responses to prevent, stifle, and cure *Orobanche* infestations.

On the ground, scientific experts experimented with varying results on both interim and long-term solutions to address the problem of the parasite, since the *Orobanche* had returned to the tobacco farm after a long hiatus (with the last infestation dated to around 2013-2014, as per hearsay). They conveyed the results of their scientific research and development during agrarian seminars, organized seasonally by the Tobacco Board, in collaboration with the domestic tobacco industry. Agrarian seminars are thus relevant to this study, as they were the sites where experts' worldviews and practices were disseminated to a broader audience, comprising mainly of farmers, who could then decide whether to put these interventions into practice on their farms. This section is based on the notes I took during one such agrarian seminar that took place midway through the cultivation season in late January 2016. I was part of the audience of this seminar, populated mostly by farmers along with some regional Tobacco Board officials, state tobacco scientists[114], and tobacco industry officials, and scientists[115]. I also refer to the latter group as experts in this chapter, though in other chapters, I distinguish between state experts and industry experts.

After the inauguration ceremony, the seminar began with a line-up of expert speakers, from both state and industry, who spoke on various topics pertaining to the cultivation, curing, and marketing of FCV tobacco in the region. Some experts spoke of ongoing research and development while others updated farmers' understandings of market regulation and market-approved cultivating practices. That year, several of them engaged with topics related to the parasite infestation and connected the problem to sustainability practices.

[114] State tobacco scientists were from the Central Tobacco Research Institute (CTRI).

[115] Most tobacco company experts were representatives of Indian Tobacco Company (ITC) and Godfrey Philips India (GPI) with a few speakers representing large exporters in the region.

Here, I relate the presentation of a tobacco company scientist who talked about the nature of *Orobanche* infestation and the tobacco industry's research on measures to curb the infestation. The scientist used his presentation to tally the benefits and pitfalls of current interim and long-term remedies that were being taken in response to the infestation. He began by pointing out the folly of brushing the shoots of the tobacco plant with kerosene to prevent *Orobanche* germination. He cautioned farmers against applying an unregulated chemical substance to the tobacco plant. The kerosene traces on the cured tobacco leaf, he reminded them, would upon detection lead to the rejection of the FCV tobacco bale and potentially that entire consignment of tobacco exports. While traders might suffer the immediate consequences, rejections based on contamination would, by reinforcing the notoriety of Indian FCV tobacco in international markets, eventually hurt the farmers themselves in the long run. At the end of the day, farmers would be the ones to bear the financial brunt of this notoriety.

With such market dynamics beyond his control, the industry scientist went on to consider more accessible solutions in line with the constraints of the farmers' lived environment. The easiest interim cure, post-infestation, was the inundation of the parasite. Watering the infested fields during the flowering period of the parasite made them easier to kill[116]. However, the scientist pointed out the quality of the irrigating water used to inundate the parasite was a factor to take into consideration. If the irrigating water was saline, it harmed the quality of the tobacco leaf, he reminded the farmers in his audience. Salinity, often characteristic of groundwater and irrigation water in the region, affected the color of the cured tobacco leaf, giving it a pale-whitish

[116]Procuring irrigating water can be an expensive affair for lots of farmers depending on the farm's proximity to water sources or available economic resources. Even so, compared to several of the suggestions of the tobacco company (see ahead), water is often the cheapest and safest measure to curb *Orobanche* infestation.

yellow and slick appearance. The Board classifies saline tobacco as ‘pale’ at auctions, thus unfavorably affecting its sale price.

The scientist proceeded to recommend alternative sustainable measures based on his company’s ongoing research. These involved biopesticides that the farmers could use during the tobacco season as both pre-emergence and post-emergence treatments for *Orobanche*. Biopesticides were expensive interim solutions, but they were also regulated substances and thus considered safe. Pre-emergence treatments included dipping individual tobacco saplings in amino acids during transplantation from the nursery to the field, while post-emergence treatments included application of herbicide solutions like Imazethapyr @ 0.15% and Paraquat dichloride (0.5%) or natural solutions of vinegar and water or palm oil on the parasite to stunt its development (B. Reddy and Mani 2016).

However, these were all interim solutions. *Orobanche* has persistent adaptability that renders it a long-term problem, and long-term problems require long-term solutions. During his presentation the tobacco company scientist noted that the best control measures were deep ploughing, crop rotation, and using cattle refuse to fertilize land during the summer off-season. Experts believed that these practices were standard among tobacco farmers of an earlier generation and, therefore, they were only reinstating earlier sustainable practices. As he impressed upon farmers the importance of natural and long-term solutions to the pestilence based on older cultivating practices, most farmers in the audience paid attention while others chatted amongst each other. In line with the scientist’s advice, several other industry and state scientists who spoke that day also suggested Integrated Pest Management (IPM), which involved the combination of using market-regulated biofertilizers and biopesticides alongside returning to older, sustainable cultivating practices (Poisot, Speedy, and Kueneman 2004).

The other long-term measure recommended was Good Agricultural Practices (GAP), a set of measures defined by the Food and Agriculture Organization of the United Nations (FAO) to promote "good food safety measures' beginning with farm production. GAP stood on three pillars, namely social equity (empowering small holders and disadvantaged sections), sustainability, and food security (Guddanti 2015, 153). GAP required the farmer's involvement in all aspects of cultivation from procurement of the seed, i.e., knowing the seed's point of origin, through to inspecting the curing and baling of harvested tobacco leaves. Good Agricultural Practices imagined the farmer as an entrepreneur and specialist, whose engagement in every step of cultivation and baling was necessary to produce an optimum product for markets.

As mentioned, for many officials and scientists, the famed return of the parasite after twenty years of latency was also a symptom of a larger scale problem of degradation in the agrarian environment in recent years. Prakasam district, where FCV tobacco is grown under rainfed conditions, has always been a drought prone region. Summer droughts, here, are followed by cyclonic rainfall that marks the beginning of the winter tobacco crop cultivation. When the Orobranche arrived on the farms in Prakasam, nothing much seemed to have changed in the district in terms of these overall climatic conditions of alternating droughts and cyclones, until one scrutinized the details. These showed that in recent years summers had been harsher and droughts more pronounced, day temperatures higher, and rainfall significantly delayed and depleted. Timing was everything in tobacco farming and, therefore, these changes in weather conditions had meant delayed transplanting and plant growth, all of which affected the quality and price of the tobacco crop at auctions. In regions where I worked, irrigation channels from the Nagarjuna Sagar and Gundlakamma Projects had run dry, forcing people to buy water from

private agents, further adding to farmers' costs of production. Experts had begun to take note of these changes and their effects on the agrarian ecology and economy.

Moreover, the parasite, *Orobanche,* is a sign of a general deterioration in soil quality and erratic temperature shifts across the geographies cultivating tobacco. Changes in the weather pattern in the Prakasam region had overlapped with the scalar effects of climate change. That is, along with the greenhouse effect on overall atmospheric temperature and precipitation cycles, experts had also begun using the term 'climate change' as a stand in for this kind of environmental degradation. Thus, for experts, *Orobanche*'s beauty hid a darker truth than its seasonal effect on farmers' pockets; it portended the beginning of significant longer-term threats to farmers' futures.

Curiously, during my field work, experts differed in their stance on the direction of the causal relationship between environmental degradation wrought by monoculture and climate change. Sometimes, the same expert's stance on the causal relationship shifted with the person and the situation they interacted with. For example, the relationship depended on whether the expert was addressing market requirements for sustainable FCV tobacco laid down by international manufacturers or environmental advocates working to stop tobacco production in India. That is, experts alternatively attributed changes in weather patterns to decreasing forest cover and monoculture caused by tobacco cultivation, while at other times, held changing weather patterns responsible for the degradation of the tobacco cultivating environment. In his inaugural speech at the commencement of the aforementioned agrarian seminar, the Tobacco Board regional manager for Prakasam district, Mahesh Rao Garu, made the case that despite adverse market conditions, "climate change" was the leading cause for the overall decrease of FCV tobacco quality in the region. That is, he claimed, delayed floods and prolonged droughts

had damaged the local crop more than international market rejections. For him, the outbreak of *Malle* or *Orobanche* was a symptom of the various changes in weather patterns occurring in the region, like low rainfall and alternating high day and low night temperatures. He concluded his speech by urging the tobacco industry to research scientific solutions to the problem of climate change and announced a reward for the person who finds a solution to the parasite problem.

In direct contrast to Mahesh Rao's alarmist tone, Dr. Lakshmi's presentation at the seminar was delivered in the measured tones of a scientist. Dr. Lakshmi was the Principal research scientist at the research station in a nearby region. Broaching unchartered territory for FCV tobacco agrarian seminars, the senior state scientist presented on the causes and effects of climate change from a geological perspective. In her presentation, she detailed the geophysical variables and human activities that contributed to climate change, like continental drift, shifting ocean currents, agricultural emissions, and the greenhouse effect. According to her, a change of 1°C in atmospheric temperature could account for the weather pattern changes evidenced in the region. Drawing on aggregate weather data of Prakasam of the past 100 years, she declared that there had been an increase in temperature, of between 1.8-4 degrees centigrade, for the region. Her 'objective' stance particularly came through in her analysis of the immediate benefits of climate change to agriculture (for example, excess carbon dioxide in the atmosphere was favourable to plant photosynthesis in the short-term). The novelty of her presentation lay in the fact that she chose the scalar earth history view of climate change in contrast to most of the presentations that day, which, even when talking of climate change, were specific to the tobacco crop in the region. For the same reasons, farmers responded to her presentation with nonchalance, and the increasing din of their chatter soon drowned out her presentation. I was

particularly enthralled as she was the only woman on a podium full of men presenting to a room consisting of mostly men.

Both these sides, whether they deemed climate change a human or suprahuman effect, or whether they were alarmist or measured, agreed on the perils of erratic weather patterns and environmental degradation for farmers' livelihoods. As a consequence of this consensus in recognition, the Tobacco Board had initiated several other responses such as outreach programs to support sustainable agricultural practices among farmers. The Board had also instituted subsidies for farmers to grow cattle fodder during the off-season as a means to improve soil health. Crops like gingelly were recommended as natural solutions to replenishing the soil nutrients.

A few months after the agrarian seminar, I accompanied a senior manager of the Tobacco Board during one such outreach program as he visited farms in Central Prakasam to study the extent of *Orobanche*'s affects on the standing tobacco crop there. He was also there to personally promote a new brand of biofertilizer ratified by the Board. Amidst much fanfare, which accompanied most field visits involving senior Board or industry officials, the senior manager conversed with local farmers regarding the extent of *Orobanche* infestation in their village. He then presented a farmer with a bottle of biofertilizers at a subsidized rate as eager bye-standers clicked pictures to commemorate the occasion. There was no way of knowing what the farmer thought of or did with the biofertilizer bottle he was presented, but suffice it to say that the subsidy and the field visit reinforced to the farmer the Board's urgency to actively implement measures towards sustainable tobacco agriculture in the region.

As I have described earlier, the experts' world-making practices mirror some of the concerns of ontological anthropologists. Mirroring this dynamic while studying these experts,

my methods were also informed by several of the concerns of ontological anthropology. According to Kohn, ontological anthropology is "a response to a conceptual, existential, ethical and political problem –how to think about human life in a world in which a kind of life and future that is both beyond the human and constitutive of the human is, today, in jeopardy" (Kohn 2015, 315). The task of ontological anthropology then is to figure out how the world is composed or to find cognitive and sensory motor patterns of practice that frame the understanding of the situation (Kelly 2014, 275–77)[117]. Following this method, I have, here, attempted at a thick description of how things are manifest on the ground (ibid; Holbraad and Pedersen 2017).

In this section, I also indicate who the audience of this seminar were. I reiterate that the world-making practices of experts, their recognition of the parasite and effects of climate change, and their active responses to all of this predicated the farmer as the primary perpetrator, potential victims, and frontrunner (entrepreneur) in enacting and enabling a better future for tobacco agriculture. This is why farmers populated the backdrop as the audience at agrarian seminars and farm trials. As with any audience, some farmers paid attention to the suggestions and others partially or fully rejected them. Thus, while I cannot yet predict all the potential cultivating practices these worldmaking practices of experts led to, I did record more affluent farmers investing in some of these sustainable practices through the increased use of biofertilizers, trap crops, drip agriculture and growing tobacco saplings in their own nurseries. As expressed by de la Cadena and echoed by Coole& Frost (2010), if the ontological project is a project towards figuring the human, the farmer, and for now, the affluent farmer, is the human predicate of the experts' discourse.

[117]Kelly goes on to describe four concrete frames through a four fold ontological schema termed animism, totemism, analogism, and naturalism.

The farmer was seen both as a landowner, tied by many chords to the land, the crop and the pestilence affecting the land and the crop, and as an entrepreneur, taking active yet environmentally safe measures to prevent a future catastrophe. Agrarian seminars impressed upon farmers the urgency of implementing sustainable solutions through presentations as much as cash subsidies for inputs like biofertilizers did. The world-making practices of experts illuminated a dire future for tobacco farmers and the potential means of remaking this future, but what or rather who was absent from these world-building practices?

I have likened this first section to the *Orobanche*'s bloom, for while it paints a picture of the experts' world of farmers, pests, and climate change, it also entails a conscious or unconscious omission or deception. The next section jumps to the invisible subject that the experts' scientific ontology of pests and climate change omits This process of predicating world-making practices on certain actors at the expense of others is based on social formations like the division of humans into landowners and laborers in the agrarian sector. Not all of them are recognized as stakeholders in the scientific governance of commercial agriculture in India. The, conscious or unconscious, exclusion of some humans from scientific governance is tied to a longer history of recognizing landholders as primary stakeholders in land-oriented activities, who contribute to land degradation but can also act to reverse the effects of degradation (Rupa Viswanathan). Drawing a parallel between the experts' methods and my own, I pose the question: Does drawing on the ontological frame of analysis of experts, consisting of recognizing and responding to the nature of the nonhuman parasite, lead to the reproduction of biases in the experts' analysis?

Beneath the surface: The Laborer's World-Making Practices

"…..what are the historical relationships that make possible the abstraction of the molecular as such?" (Rosenberg 2014)

Figure 5.3: Laborers Harvesting Green FCV tobacco

When I began my field research, I meandered through research stations, Tobacco Board, and tobacco company offices before I reached the villages that cultivated tobacco. My first day at the village, in late November 2015, was immediately after the cyclones of the North-East/ returning monsoons that year. Late in the morning, I walked to the tobacco fields I had seen on the way in at sunset the day before. Close to noon by then, these fields were filled with laborers

transplanting FCV saplings from the nurseries to the field. In a single equispaced row, 12 women moved in unison with a string stretching across the breadth of the plot of land tied to poles held by a man on either side. The men moved a few paces every few minutes. The women followed, planting a sapling in a two-finger hole in the wet mud along the line set out by the string. At first, I stood politely away, watching the activity from a distance, eventually moving closer to the action until an old lady in the line beckoned me over with a hand gesture. Ravannamma Garu, the Maistree's wife, shouted '*oddule oddule*' (*don't, don't*) and scolded the old lady for calling me over. Her caution came too late as I found myself calf-deep in black sludge. Stagnant water had pooled at the head of the plot of land, during the rains, turning the soil into a semi-marsh. There my fieldwork as field apprentice to several of these women, led by Ravannamma Garu, began.

For the next few months, as we transplanted and weeded, the women laborers persistently questioned me about *mi purushan* (my man/husband), *mi ammayi* (my aunt/mother-in-law), and discussed with extensive curiosity the absence of kids, dowry, and gold on my person[118]. Our discussions often ended with them convincing one another that all my work on the farm would fructify into a job that would be the equivalent of a happy future of hetero-familial bliss. Unlike experts, the women laborers I worked with never bothered to respond to my questions about tobacco cultivation, deflecting it with an 'I have always known how to do this' shrug and veering the conversation to the ingredients of my breakfast that day. Many of the women had started

[118]Though the dowry system is prohibited by law since 1961 under the Dowry Prohibition Act and was criminalized in the '80s and again in the 2000s to protect women from domestic violence, dowry is a common practice. The practice of giving dowry is often legitimized as voluntary payment made by the women's natal family to her affinal kin. The voluntary payment was coded as money and gold to ensure their daughter's well-being at her affinal home. In Andhra Pradesh (and elsewhere in the South), gold is an integral part of this exchange, and women wear this gold to index their own affluence and to boost the social status of their affinal kin. For many of my interlocutors, the lack of gold on my person and as dowry (upon more thorough investigation) was a matter of grave concern. For it meant that I was susceptible to ill-treatment by my affinal kin. Often, much against my sense of comfort, I found myself defending my parents, who, in their view, were callous for marrying me off without enough gold. Needless to mention, my parents have an aversion to these field stories.

working in the tobacco fields at the age of 13 and had learned to cultivate, tend, and harvest tobacco from their mothers or other female relatives[119]. It was such second nature to them that it did not require explaining to anthropologists at hand. They were shy of interviews and had very little time to spare. Yet, as I spent months with them, discussing fashion and our ideas of family and food habits, they showed me how to transplant, weed, and reap the tobacco crop, sew harvested tobacco leaves to curing racks, and grade the cured tobacco leaves. For the purposes of this chapter, they also taught me, by example, how to remove *Orobanche* from infested fields.

As I hopped between farms, government offices, and research stations (all over the tobacco growing geography), planting one day while attending a conference on biofertilizers the next, I observed a curious process of absenting. The *Orobanche*'s purple flowers against yellow stalks, caused by the lack of chlorophyll, was supported by a haustorium that attached itself to the tobacco root growing beside it, and beneath the surface of the soil. Though I have called this section '*Beneath the Surface*,' the deceptive absenting of humans was, strictly speaking, unlike Orobanche's deception, occurring inside the roots of the tobacco plant, beneath the soil surface, invisible to sight and awaiting expert diagnosis. In this case, what was absented was hiding in plain sight for all to see. Laborers were physically and discursively absented from agrarian seminars.

In all of the government and industry solutions posed to curb the parasite and to enact sustainable practices, the experts I witnessed in action never once considered the already widespread practice of hiring laborers to physically remove the parasite from the farms as a potentially permanent and cost-effective solution to the problem of *Orobanche.* This oversight

[119] The younger women on the fields when I was visiting were school or college going and older. They joined the cultivation process during holidays or during prolonged absences from school to contribute to the family's seasonal income.

was especially glaring as many of the landholdings were small. In fact, they rarely even referenced the laborer's activity in their interim measures. On the contrary, the experts expected the farmer-landowner-entrepreneur to participate in and monitor every intervention on their farms personally. The laborer was plain to see but absented from the sites of knowledge-making. What was forgotten or lay beneath the visible surface, in this case, was the history of caste-based dependence and exploitation in agriculture in the region (and elsewhere in India) that enabled the elision of laborers in the experts' world-making practices.

It is not that the scientists, officials, and farmers did not know the importance of laborers in successfully removing the parasite from the tobacco farms. Farmers and experts depended on the laborers to implement all the mundane and challenging tasks of growing tobacco, whether it was manually removing the pests or experimenting with a new biofertilizer. The literature on *Orobanche* eradication in South Asia clearly states the necessity of and the expense incurred in employing laborers to weed the parasite (Dhanapal 1976). For the size of landholdings in the region, eradicating *Orobanche* clearly required laborers to handpick the parasite from the tobacco farms, and to gather and burn them. On the farms, the laborers were the vectors that helped in the pollination of the parasite; they were also cardinal to the care of the labor-intensive tobacco crop. The Tobacco Board officials, as well as the tobacco companies, regularly published information regarding the number of farm laborers they employed in the sector, which hovered around the 20 million mark (Tobacco Board Annual Report 2015-2016). Both the Central and state governments also recognized the importance of this statistic and of the employment proffered by the sector, which enabled the sector to flourish even as it faced the severe critique of health and environment advocates.

However, unlike tobacco farmers, dependent on and tethered to land and infrastructure, laborers were considered 'free' agents, owing to their capacity to choose to work in the agrarian sector as opposed to other forms of seasonal labor. As far as most experts were concerned, the sector granted laborers job opportunities, which they could either opt-in or out of as true proletariats. Without ownership of tobacco farms and barns, the laborers were not stakeholders in a crisis that affected the land and crop. This simultaneous dependence on the laborers without considering them stakeholders was part of the deception, conscious or unconscious, that I am suggesting here. Thus, for the experts, laborers were neither the victims nor the perpetrators of climate change, nor were they considered as part of the solutions to these problems (especially in the form of reparations for disasters or diseases).

On the farms, laborers were in charge of every single activity. The labor contractor from the village, Maistree Garu, oversaw a small group of thirteen women and two to three men during cultivating season, who planted, weeded, plowed, fertilized, and irrigated the tobacco plant. During harvest season, a contract labor gang of 22, the *muttah*, consisting mostly of women, rotated across various plots of land harvesting the lowest and the ripest leaf of each tobacco plant. Like *Orobanche*'s physical entanglement with the tobacco plant, it was the body of the laborer that came into intimate contact with the pest and the crop. During harvest season, laborers cautioned that tobacco not only stained one's hand dark-purple but added a bitter flavor to food (consumed by hand). While the labor to weed out *Orobanche* from infested fields involved additional work that required stooping continuously for hours on end under the harsh sun, it also proffered extra labor days to the women who found seasonal work in agriculture. Intermittently, farmers employed two or three women on post-harvest days,

when *Orobanche* became visible, to pluck and gather the parasites in gunny bags, which were then burnt to prevent further pollination and the spread of the infestation.

Maistree Garu, in-charge of laborers' affairs during cultivation and harvest season, was a manager par excellence. Hailing from the village, he had been part of a *muttah* for 15 years before he became the *maistree* or contractor for one of the *muttahs* in his village. Becoming a *maistree* was a mark of leadership, according to him, whereby the laborers he worked with approved his unofficial nomination as *maistree*. The contractor was responsible for striking deals with farmers on behalf of the laborers during the tobacco harvest season. Differentiating himself from other *maistrees* in the village, who stole or drank away the wages of the laborers under their care and cheated farmers by veering away from contracts, Maistree Garu professed the ethics of his world-making practices to me thus:

> *Nakkaadu koncham janam untaru..nakkadu peddavaalu untarikkada. Vaalu manam meethe vachirunda nammakkum…ee abbayi correctga pani cheypistaadu….mana rupayee yaarikku pogaathu…raithikku cheppukaluguthaadu manake cheppukaluguthaadu…nammakkam untenu…. manakaadu kosthundi.*
>
> (There are people here…people who are older than I am… they have trusted me…this guy will get the job done, this guy won't squander our money away…they trust that I will be able to explain things to the farmer and to them..the trust is there….they join me).

Maistree Garu's world-making practices involved honoring his contract with the farmer and the laborer. The farmer often relied on him to not only monitor the laborers but also to coordinate the timing of harvest for different (owned or leased) plots and to organize the

transport of laborers and harvested leaves to and from these plots. He was also in-charge of timing the curing and bulking of harvested tobacco. In short, he was not only the manager-negotiator for the laborers, but he was also the farm manager for the farmers. In spite of their significant role in caring for the plant, and in ensuring that laborers worked hard, he and his wife, Ravannamma Garu, told me that they rarely interacted with officials from the tobacco companies or the government.

Maistree Garu also had definite ideas regarding *Orobanche* infestation and removal. Having long roamed the various plots of land owned by the farmers at regular intervals, Maistree Garu knew of the infestations on various farms. Observing me obsessively pluck the parasite on the tobacco farms, he claimed that *Orobanche* infestation occurred when dormant *Orobanche* seeds lying in the drier soil of the raised-end of an inclined plot of land met the root exudates of the tobacco plants. He added that improving soil quality by crop rotation was the easiest way to avoid *Orobanche* infestation. Nevertheless, his ability to enact practices like crop rotation depended on farmers' decisions to engage in sustainable practices.

When laborers made a rare appearance in the expert's worlds, they were often part of the problems (faced by farmers). Even the story of *Orobanche* infestation that I began this chapter with provoked a set of responses (or world-making practices), from the officials I was accompanying, that culminated in experts decrying agrarian laborers. Upon seeing the *Orobanche*, the auction superintendent traveling with us in the jeep that day had ordered a field officer to trace the field officer in charge of the particular village with the heavily infested farm. The first field officer immediately called the field officer in charge of the village to enquire after the owner of the *Orobanche* infested field. After a ten-minute phone conversation with the second field officer, the auction superintendent called the farmer. This phone call ended in

exasperation. “What can he do? There are no laborers for hire,” the auction superintendent told me. That is, his explanation was that, the farmer had let the infestation spread on his farm because he could not find laborers to weed the pesticide. Thus, when laborers came into the experts’ conversations, they took the form of ruptures in the smooth functioning of the sector.

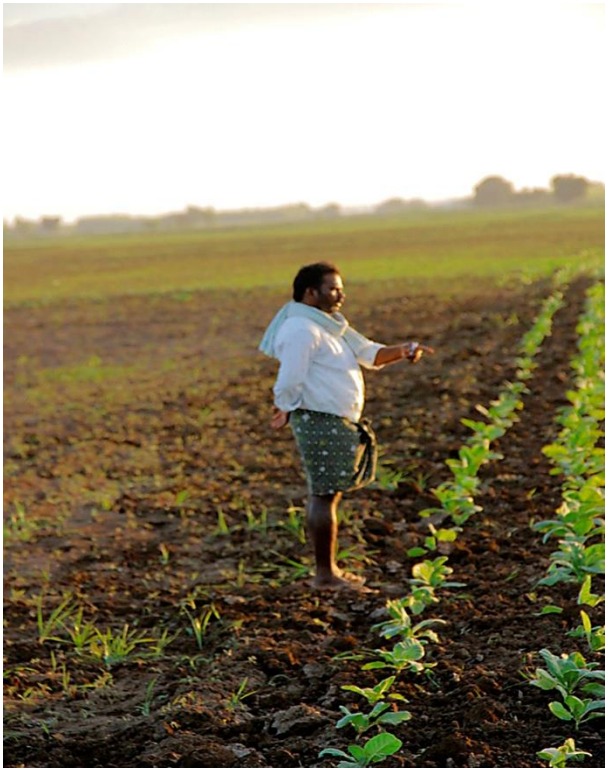

Figure 5.4: Maistree Garu on the Farm

Later, reading a cardinal ethnography on Virginia Tobacco Growers in Andhra Pradesh, I came across a narrative from an older, more authoritative source that sounded similar to the narratives surrounding the laborers commonly heard among tobacco experts[120]. M. V. Sivaiah describes in great detail the trials faced by farmers caught between the government, the market, and the erratic labor force. Written in 1985, this is a book by a stakeholder who characterizes

[120]I have used this biography as a primary source in chapter two to relate the history of formation of the Tobacco Board.

himself as a "born Virginia Tobacco Grower." Mr. Sivaiah was a FCV tobacco farmer who had gone on to become a Member of the Legislative Assembly (MLA), an elected candidate to the state government of Andhra Pradesh, and Vice Chairman of the Tobacco Board[121].

In his book, he writes about the changing attitudes and dispositions of the labor force in the tobacco sector. Reserving his utmost scorn for the younger generations of farmers and laborers, he claims they were enticed by material things: the lure of city lights, and the shows on television. In his narrative, the laborer is someone who would rather go hungry than miss the latest show of his/her favorite movie. The men squandered their money on drinks[122], and their families faced perpetual penury. The new generation of laborers, unlike their parents' generation, came late to the fields and, like government officials, left early[123]. While on the farms, they dragged their feet. He casts the inability of laborers to function optimally through a well-placed joke about a teacher quizzing his student on a math problem. The joke goes something like this: If a single laborer takes a day to complete a task, then, how long would two take? The naïve student responds that it takes two days. The lousy math, for Mr. Sivaiah, exemplified the current reality faced by tobacco farmers. Though written in 1985, this narrative aptly reflected the attitudes I encountered among state and tobacco company officials and farmers towards agrarian laborers. They bemoaned the loss of laborers to urban development projects and state-funded programs for the poor. The improvement projects of scientists, aimed at mechanization, tried to

[121]Incidentally, this reference was handed to me by senior Tobacco Board officials, who insisted it was a must read for anyone studying the sector.

[122]Colloquial English term for alcoholic beverages.

[123]Refers to the popular belief in India that government bureaucrats gave up on work the moment they secured a job as a government servant. That is, they showed a lack of drive and initiative, characterized by a strict maintenance of office hours.

capture the congealed labor of the *muttah* (labor gang). Thus, the laborers were invisible until they posed a threat to the status quo in the sector.

Here, the elision of labor in the experts' world-making practices draws on and contributes to a particular history of exclusion, discrimination, and exploitation prevalent in South Asia. This history is rooted in regional caste divisions that enact difference among humans based on birth, lineage, and occupation. Caste-based division of humans along a hierarchy of occupations framed the experts' worldview, giving them the capacity to not only disregard the laborers as stakeholders in the tobacco sector but also as victims in a veritable environmental catastrophe affecting the sector. Instead, experts created narratives of loss, like Sivaiah's biography described above, where they rendered laborers part of the problem rather than the solution. This lapse that draws upon historical forms of caste exclusion and labor exploitation, in turn, reaffirms to the laborer their lack of ownership of the crop they raise and the land they weed. The exclusion of laborers in agrarian seminars and farm trials had real effects on the laborer's attitude to their work. They were further alienated from the tobacco crop they tended to.

I now return to the laborer's version of this story. The laborer did turn up to work on the farms by ten in morning during planting season and by eight during harvest season, and not at dawn as Tobacco officials and farmers hoped they would. But, for many of them, this was not merely a question of dedication or lack thereof. Several of the women I worked with had school-going children, a right they exercised as a result of decades of Dalit resistance to caste discrimination in educational systems and the increased accessibility of these institutions to rural residents[124]. Unlike the nostalgic image of the devoted laborer who lived to serve the farmers,

[124]While most villages had their government-funded primary schools, secondary school and colleges were distributed across several villages or an administrative block. Access to these institutions required access to cash as

code for indentured labor, these women had children they needed to pack off to school. Most of them woke up at dawn to cook for the whole family. After a sturdy meal of rice and curry, they came to the farms to work until sunset. After a couple of hours of reprieve from work, they began cooking again, for dinner.

Harvest seasons were more strenuous for laborers, but the timings were flexible[125]. The harvest contracts were acreage based. Harvest of a stipulated acreage was followed by an hour's lunch break, which was followed by a swift process of sewing tobacco to racks and arranging them in barns before the leaves wilted in the sun. The harvest work finished by afternoon, giving laborers the rest of the day off. But, during harvest season, laborers were also woken up in the dead of night to unload tobacco leaves from the barn after seven days of curing. The cycle of daily work continued through the tobacco season until something disrupted this flow. And disruptions, both scheduled and unscheduled, occurred frequently.

On the occasion of one such scheduled disruption, early in the harvest season, the farmer's wife invited me to celebrate the death anniversary of a close relative of her's in the village. Having become a fan of Andhra food, I jumped at the rare occasion to eat spicy mutton curry. As we returned from the farms, I excitedly quizzed other women whether I would see them at the luncheon. Parvathy, daughter-in-law to Maistree Garu, scoffed and told me that 'they' did not participate in these ritual meals. Taken aback by her irritation, I went ahead to eat my share of mutton. As I sat among the invitees in a makeshift tent outside the deceased relative's house, I noticed a few of my laborer friends eating at a separate table away from me

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well as to transportation, which were followed by issues of social acceptability in public institutions of poor and/or Dalit students.

[125]The laborers were paid a bulk amount for harvest calculated based on the number of barns, where barns were utilized at maximum capacity, or based on acreage, when farmers shared barns.

and realized that Parvathy had not been impertinent as much as exercising self-respect. By choosing not to come, she had bye-passed the rules of caste commensality prevalent in the village. By distancing herself from the farmer's household rituals, Parvathy was not only choosing her wage work but was also choosing to be free from the forcible subjection to discriminating caste practices that prevented commensality[126] between upper caste farmers and lower caste laborers. Yet, this freedom came at a steep price of precarity.

The regular cycle of work broke one day without warning. In the first couple of months of my fieldwork in the village, working alongside women in the tobacco farms, Ravannamma Garu, the Maistree Garu's wife, and Parvathy's aunt and mother-in-law, had tried to include me in work, despite my strange appearance and awkward Telugu. As time passed, Ravannamma Garu's attitude towards me shifted from suspicion to nonchalance to warmth. She would make sure I was not working too hard, by making me sit beside her while she worked. As the tobacco plants grew tall and ripe, she looked increasingly worn out. In the past year, Ravannamma Garu was struck by the death of her brother and father, and then by persistent stomach pains. I had chalked her fatigue down to grief and to the sleepless nights during harvest season when laborers were summoned in the middle of the night to unload tobacco leaves from the barns.

After several days of Ravannamma Garu not coming to the fields, I visited her for an interview at Maistree Garu's and her house in the village. As her husband's aid, in-charge of women workers, she echoed her partner's sentiment about trustability required in the person of Maistree (or his wife) to run the contract labor gang. She also stressed that pain was an integral part of agrarian labor. Breathing in the morning mist, with their heads bent between tobacco leaves, the laborers inhaled the pesticides and fertilizers, one of the characteristic features of cash

[126]See Ambedkar (2014), Louis Dumont (1980)and M. N. Srinivas (1956, 1984) on caste-based etiquettes in India that reproduces the upper caste as different from lower caste humans.

crop monoculture, along with the morning dew. According to Maistree Garu and Ravannamma Garu, the pesticides were the cause of her recent illness, manifesting as persistent nausea and stomach upsets. Both Maistree Garu and Ravannamma Garu believed her illness to be the seasonal dues that agrarian laborers paid every year to the sector in return for the work. It is important to note that illness not only costs the laborers the lost day's wages but also additional costs at the clinic.

A few weeks later, returning to the field after a short Easter break, Krishna Garu, the farmer told me that there was no work that day. In an occupation where even Sundays were work-days, it was atypical. Ravannamma Garu had succumbed to the abdominal pain and had passed away. Work was suspended for the next two days, while Maistree Garu mourned his wife, and Parvathy her aunt. After a day or two of mourning her death, the laborers and I were back in the field. The tobacco plants did not stop for death or mourners; they followed their own rhythms. Tobacco's lucrative status and the potential for losses of profit made farmers less empathetic. Though Maistree Garu's family took a couple of days off, the seasonal work meant that neither he nor his son or his daughter-in-law could wait too long to mourn Ravannamma Garu. There was work to be done to keep up the family income by caring for the commodity cash crop.

I characterize the world-making practices of tobacco experts as the *Orobanche's* bloom, visible under the shade of the tobacco plant. The history of the exploitation of caste labor is the invisible haustorium that the parasite inserts into the roots of the tobacco plant, rerouting its nutrients into the well-being of the parasite. Here, the laborer becomes akin to the tobacco plant that wilts and droops beside the *Orobanche* bloom. Ravannamma Garu was a victim of the grueling work that is agrarian labor, if not the victim of excess pesticides characteristic to

monocultures. Her status as a free agent in the tobacco sector put her death outside the purview of experts' practices. While inconclusive in Ravannamma Garu's case, the effects of pesticides used in tobacco monoculture, apart from leading to environmental degradation, also affects the body of laborers who interact with the tobacco crop and *Orobanche*.

Conclusion: Flattening Worlds

"Geologists have begun to call our time the Anthropocene, the epoch in which human disturbance outranks other geological forces" (Tsing 2015, 19).

In this chapter, I divide the sections according to the morphological adaptability of the parasite *Orobanche*. Above the soil surface, *Orobanche i*s a beautiful flowering plant. I compare Orobanche's manifestation to the first section of this chapter, in which the world-making practices of Indian tobacco experts manifest as they deal with a tenacious parasite infestation, and the environmental degradation that threatens the viability of commercial farming of tobacco. The experts' analytical worldview frames my analytical perspective in this section. On the surface, these world-making practices are supported by a world view that predicates farmers as stakeholders and laborers as free agents. In reviewing solutions to the problem of the parasite and environmental degradation, farmers are stakeholders in the tobacco sector. They are its victims, perpetrators, and potential solutions. In this section, I suggest that the ethnography of the experts' worldview mirrors the analytical frame used by ontologists and posthumanist scholars who study nonhumans to learn ways of living in a world approaching crisis.

Beneath the surface, the tobacco plant supports the *Orobanche's* manifestation as a beautiful flowering plant, which ultimately results in the tobacco plant's death. Similarly, the world-making practices of experts who view farmers as stakeholders relies on a section of humans, on whom the everyday life of the plant, the parasite, and the farmers rest. The laborers

support everyday care of the tobacco crop. However, experts consider laborers as 'free' agents, and seasonal workers who are mostly absent in the expert research and solution development. When laborers manifest in experts' discourse, it is mostly as disruptions to the farmer's cultivation process. I juxtapose and contrast the world making practices of experts with the world-making practices of laborers to illustrate how laborers working on the crop live with the conditions of agrarian production, entangled in the lives of farmers, the tobacco crop, and the parasite attacking the tobacco fields. The life force and the body of the laborer entangles with the social and environmental conditions of FCV tobacco production. What lies beneath the surface is the history of caste-based exploitation of labor prevalent in the agrarian sector in Andhra Pradesh, and India in general, whereby experts can bemoan the loss of devoted laborers, which is code for indentured labor, while treating laborers as seasonal, with no stakes in the sector's future.

I take a similar analytical approach as the ethnography above to open the pandora's box that is the ontological turn. The ontological turn as a concept is highly polysemic, or as Jensen et al. put it, "a plural set of partly overlapping, partly divergent turns" (Bessire and Bond 2014; Jensen et al. 2017, 525). Here, I select a few examples from cultural anthropology and science studies to ask, 1. Who is the human predicate of some of these works? 2. What has an analytical focus on the nonhuman resulted in?

While its origins can be traced to science studies in the '80s, today, the ontological perspective is going beyond the human to configure the human at a time of precarity and climate crisis. In reconfiguring the human qua the non- and post-human, I argue that ontological literature inadvertently flattens human history at the moment of crisis. This pivot is also a moment of self-reflection since the ontological turn heavily influences my own scholarly

research on experts in India. While agreeing that dislodging Anthropocentrism is necessary to develop a new politics of being human at a time of crisis, my study claims that animating the nonhuman does not in itself lead to a non-reductive ethnography, but, perhaps, leads to a tunnel vision of perspective instead. Below, I explore select works of ontologists in cultural anthropology and science studies.

Anna Tsing, in her latest book, *Mushrooms at the End of the World*, builds on the ethics of living in the ruins of extractive capitalism. Based on her collaborative scholarly project on Matsusake mushroom, a delicacy that grows in cutover pine forests in many parts of the world, she argues that "*to live with precarity requires more than railing at those who put us here (although that seems useful too, and I'm not against it). We might look around to notice this strange new world, and we might stretch our imaginations to grasp its contours. This is where mushrooms help. Matsutake's willingness to emerge in blasted landscapes allows us to explore the ruin that has become our collective home*"(Tsing 2015, 3). For her, *Matsusake* mushrooms are part of a polyphonic assemblage that includes the forest, the mushroom that grows in erstwhile pine forests, and the humans who are dependent on the mushroom economy for survival and pleasure. She reminds us that we need to explore these polyphonic assemblages to learn to live in times of precarity, both economic and environmental. A sensitive account of the capitalization of precarity, there is a unified 'we' that underpin this democratic exploration for self-evident reasons.

Kohn's posthumanist appeal for anthropology beyond the human works to critique the way we have treated humans as exceptional (Kohn 2014) paying "*ethnographic attention to the problem of survival in the particular colonially inflected ecologies in which the Runa tell us something more general about how we might become new kinds of we, in relation to such*

absences…..and how, in the process, 'we' might…. "flourish" (Kohn 2013, 23). Here, jaguars, dogs, and monkeys are part of human relations to each other and to the world around them. Dogs can dream, jaguars can take on human form (and vice-versa), and monkeys can outwit humans. While one does not dispute these nonhuman capacities to act or be represented as such, the purpose of this attention, similar to Tsing's investigation, is to discover a new "we" who can flourish in times of crisis.

These texts take the hierarchies of being humans, whether as the result of colonialism or global capitalism or intra-group rivalries seriously. Even so, the goal is to figure a new way of being human. We, as humans, must democratically forge a new way of life. In Kohn's case, the Amazonian Runa's world view becomes 'our' template for transformation. They suggest an unconscious "we" that arrests historical time at the moment of crisis when all humans are rendered victims and perpetrators of climate change or crisis of capitalism.

For cultural anthropologists, ontology lies in materials and cultures that ethnography excavates, which can then be used to reimagine other ways of being human (Holbraad and Pedersen 2017). Another approach posits an ontology as part of their methodology, as in the case of science studies (Bessire and Bond 2014). These scholars have primarily focused on scientific world-making practices that enact an ontology of the (scientific) object within a network or practice. Here, scientific ontology vitalizes the nonhuman to rework one's understanding of the world-making practices of humans (Mol 2002; Latour and Woolgar 2013; Woolgar and Lezaun 2013). The study of ontology for both sets of scholars is a way of bypassing the problem of epistemology or the import of linguistic representations and 'social construction' on our capacity

to study the problem of the real[127]. Ontology is also the ethics of displacing the human and human representation from the center of academic discourse. The turn to ontology, according to these scholars, allows one to pay attention to the "complex, pluralistic, relatively open process," of materialization of nonhuman and human realities in which the theorist herself is immersed (Coole & Frost 2010, 7).

Feminist science studies scholars have taken up a more modest task toward this end. They take a middle path between constructivism[128] and positivism by studying the situated practices of enacting material boundaries in the sciences[129] (Mol 2002; Barad 2013). The gap between words and things in a socially constructed world is broken down by studying how scientific practices produce the boundaries between words and things; in the process, the boundaries between humans and nonhumans are blurred and exposed as contrived. The focus on scientific experts has the added benefit of showing how 'universal knowledge' is the result of negotiations between humans and nonhumans in situated places. In vitalizing and engaging intra-active matter, they zoom into the microscopic view of nonhumans in the hopes of finding a way of understanding the human process of knowledge production (Barad 2003)[130].

[127]For new materialists, this ethical move is required to dethrone human as agents of free will from the center of the analytical universe and to reinstate the complex dynamic of materialization that demonstrates the minutiae of power dynamics that maintains human distinction. For anthropologists among ontologists, the inclusion of nonhuman actors entails excavating a variety of worldings that is underpinned by a variety of ontological regimes. These ontological regimes are the raw materials for an alternate worldview or to reimagine a utopia (Hankins 2015)).

[128]The object of analysis in 'social constructions', according to Hacking (1999), is both an object and idea of an object that follows a set of patterns. The iterative relation between the idea of an object and the object is a contingent product of certain forms of representations. They are inevitable but need not be so. The objects are maintained as such through ideological matrices comprising practices, people, and institutions (ibid 1999).

[129] These studies draw inspiration from Foucault, Butler, Husserl, and Merleau-Ponty's notions of materialization of body, performativity, embodiment and phenomenology.

[130] Other feminist scholars like Braidotti (2006) and Haraway (2007) imagine a new future by creating hybrids from the kinship between human and nonhumans. These hybrid figurations of the human and the nonhuman dislodge cultural hegemonic positions, "diminishing their power in the construction of identity" (ibid 2006, 201). The task of

But, vitalizing the nonhuman can also flatten the world of humans. By positioning the human in opposition to the non-, post-, trans-, and supra-human at this moment of crisis, are we forgetting that crisis itself looks different from different vantage points of being human? Studying the anthropogenics of climate change, Chakrabarty (2012), cautions against the scientific thesis that posits *Homo Sapiens* as a major force in the Anthropocene, for this claim renders both the human and the Anthropocene ahistorical. He argues that for social scientists in this debate on responsibilities and responses to climate change, the question remains what the human is. Here, the human is not the universal 'we' of ontologists or the even more highly selective 'we' of tobacco experts; it speaks to the hierarchies of humans who do not and cannot share equal responsibility in the long history of extractivist colonialism. Nor will climate change affect all humans alike. So, equalizing humans who have suffered centuries of unequal exposure to precarious environmental conditions with humans whose lives have been made precarious by the recognition of climate change is ahistorical too. For many humans who live in conditions detrimental to life itself environmental crisis predates the recognition of the inevitability of climate change. Thus, in gazing at molecules, machines, and parasites, do we lose sight of the relations that make that moment possible (as Rosenberg claims in the quotation beginning section two)? Even a modest methodology entails a tunnel vision that comes from engaging with the expert who works on a molecular scale. Are we, like our interlocutors, the experts, losing sight of a long history that has made some humans invisible?

In the case of the tobacco experts I study in Andhra Pradesh, the histories of caste-based exploitation of Dalits must be forgotten for the experts' worldview to exclude laborers in finding

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the intellectual for Braidotti is to be the "modest witness" neither detached nor uncaring but a border crossing figure who attempts to reconceptualize his/her own practice within fast-changing social horizons.

solutions to ecological distress. The exploitation of caste-based laborers, which was exacerbated in the colonial mode of production depended on the maintenance and expansion of semi-feudal systems in the colonies (Banaji 1972). The concentration of land in the hands of a British-instituted class of upper caste tax collectors, Zamindars, reduced the poorer peasantry to subsistence farming on poor quality lands or tenant farming. As colonialism progressed, the number of landless peasants increased, and the average size of farms decreased. While the stress of investing in small landholdings with low technical capacity resulted in an economy of high-value cash crops, the rise in expropriation resulted in the creation of classes of rural semi-proletariats (landless or engaged in subsistence agriculture) and urban lumpenproletariat. Lower caste tenants and laborers among the landless peasants were also actively dissuaded from landownership, even for subsistence (ibid 2010).

In the post-independence period, the affluent peasant has continued to monopolize land. His voice as a political bloc or 'votebank' has limited state programs to enact land reforms to redistribute land ownership. According to Patnaik (1972; 1990), together, the rent capitalism of affluent peasantry and the subsistence farming of poor peasantry, have hindered technological investment in the rural sector except in the form of development programs. With affluent peasants at the helm of government bodies, the bulk of development programs are geared towards building infrastructure for an existing rural elite. As a result, the Tobacco Board's subsidies for enabling sustainable practices and their reparation for environmental catastrophes like the effects of cyclones on standing crops benefit mostly landowning farmers[131]. These state benefits that traditionally protect FCV tobacco farmers are unavailable to laborers.

[131]The rights of the land owner far exceeds the limited approach of being the human subjects of state recognition. Land owners unofficially control the sector by controlling the rent of the land leased. The lessor farmers are

Dalits[132] exclusively populated the *muttah* or contract labor gang I described in section two. The *muttah* as a category of labor itself has a history not just in the cheap labor that indentured caste-based labor indexes, but is also rooted in labor forms prevalent in Virginia plantations. American scientists and the British American Tobacco company transplanted labor gangs to Guntur, when FCV tobacco was introduced in the region. That is, along with the genetic strain of tobacco from Virginia, forms of labor were also imported and indigenized. The slave gangs and indentured labor gangs of Chesapeake and Virginia were transformed into caste and tribe-based labor gangs in India (Benson 2011; Cox 2000; Kerkhoff 2014). Thus, caste expropriation replaced racial expropriation as the characteristic feature of the *muttah*. Today, in the highly commercialized tobacco sector, the muttah is a free alliance of contracting individuals led by a manager par excellence, the maistree. But, Dalit laborers continue to populate the labor gangs.

Even as the polarization of land ownership based on caste continues in India today, state egalitarian and development programs have trickled down to the poorest and the landless. The political mobilization of the Dalit identity in Andhra has given voice to the landless Dalit laborer. For the same reasons, while laborers care for and tende to the plants, they also treat agrarian work as if they are office goers or contract workers. Neither victims of environmental degradation nor stakeholders in potential solutions to environmental degradation, the laborers' history of transitioning from servitude to precarious free labor was flattened and buried in the world-making practices of the experts. In the larger scheme of things, whether Ravannamma

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dependent on landowners to direct their way any state-issued credit, state subsidies for inputs like seeds, fertilizers, and monetary reparation for crop loss to environmental catastrophe.

Garu perished due to pesticide poisoning or incidental internal bleeding, her death was merely an untimely disruption of the seasonal work cycle.

When I refer to laborers as being "free to choose" their work, it masks a relationality that actively dissuades laborers from owning land, thereby reinforcing a history of caste-based exclusion by privileging the perspective of upper-caste, farmer-landowners. In their lamentations for an earlier time when laborers were more dedicated to their work, neither state scientists nor Board officials mentioned the indentured nature of caste labor and servitude without ownership that the relationship called for. Thus, not only did the world-making practices of experts have a selective understanding of humans but they actively masked and reinforced the history of hierarchizing humans to exploit their labor. Povinelli (2016), in her book, *Geontologies,* claims that the turn towards ontology is a response situated within the contingencies of this historical present (late liberalism) that draws its repertoire from postmodernist figures like Deleuze and Guattari. By reconfiguring Foucault's notion of biopower for late liberalism, she makes a case for geontopower, as the power that sustains capitalist extractivism (55). Ontology and new materialism, here, are displacements of bioontology through a language that draws on "geological, ecological, and geometrical metaphors." Povinelli claims that 'our fixation with the politics of the event and vibrancy of assemblages is less a challenge to geontopower and more a reiteration of the distinction between Life and Non-life that sustains geontopower (53-55). That is, an ontological worldview emerges from a feeling of impotence in the face of the uncertainties of capital and war (more-than-human or suprahuman forces), and now climate change, which also leads to the exclusion of social relations from the analytical frame. This worldview is "predicated on the necessity rather than the contingency of contemporary racial, gendered, and

sexual formations or ideal types of difference" (Jordana Rosenberg and Sarah Ahmed in Povinelli 2016, 71).

Rosenberg characterizes the ontological turn as carrying "the fanatical character of radicalism," a structural position outside the realm of legitimate politics in contemporary society, "but only as a kind of technical sheen". The radical nature of the theoretical view that seeks to dethrone the human from the center of the universe is diffused in a methodology that renders the politics of becoming human banal to its focus. "Central to the ontological thought is a flourishing of the limit to that thought, a limit that becomes internal to and constitutive of that thought."

Yet, the politics of becoming human has been a long and arduous journey. Black Feminists like Sylvia Wynters (1989) argue that fundamental to the concept of life in the modernist discourse of Man is the binary between the ideal Man and its Other/Lack. Hortense Spillers (1987) and Davis (1981) take the argument further by illustrating the paradoxical effects of this historical process of othering. The figure of the "Black woman" in the 20th century, Davis claims, in the community of slaves was doubly oppressed, first through the expropriation of her labor as a slave and then in the reproduction of that labor. In excavating this history of double oppression, Davis attempts to recoup the history of the forgotten human in American history. Hortense Spillers claims that the historical effect of practices of "Othering" (that sustained the racialized capitalist economy of labor) and objectification (the quantification of labor) in the Atlantic slave trade made Black Women invisible in archives and public discourses. Women carried across the Atlantic were quantified and recorded by commensurating their entire being not only to labor but also to the measure of men's labor. However, when they did come into visibility, a suppression of this history of othering further pathologized the Black woman as a cause of ruptures in the patriarchal family.

Thus, the liberal humanist figure of Man has masked not just nonhumans from visibility but other modalities of being human as well. When racialization has determined the ordering of Homo Sapiens into human, not-quite-human, and nonhuman, the question as to whether a focus on the ontology of the nonhuman makes more visible or not the politics of internal differentiations of the human (also the products of the same extractivist capitalism that has wrecked 'our' futures), remains to be fully resolved (Weheliye 2014; Atanasoski and Vora 2018). Or, are we hurtling along to a future where the ordering of the hyper-commoditized nonhuman, whether it be industrial hogs or carbon trading, become new ways of ordering and cordoning off humans (Blanchette 2015)?

So, when state and scientific experts in the Indian FCV tobacco sector recognize the ontology of parasites and plants and respond to their demands, they also highlight the distress faced by farmers in light of changing weather and rain patterns and the erratic nature of international markets that pursue an elusive standard of quality. At the same time, they also actively mask the lives of laborers, who are vectors of the parasite's pollination and vital to the upkeep of the plant. Ravannamma Garu was also a victim of the monoculture and erratic weather patterns that made backbreaking agrarian labor and pesticide use necessary. Yet, scientific ontologizing, if you will, allows stakeholders to view agrarian labor as a matter of choice sans inherited forms of exclusion.

Unlike Kohn, I have trouble believing that ethnography can be non-reductive, owing to the human constraint of not being able to be everywhere at once and the human inability to focus on everything. While the goals of an ontological study to displace Anthropocentrism remain laudable, perhaps gazing too long at the vitality of the nonhuman might also blind us to histories of difference upon which human worlds are built, flattening them in the process. Thus, the

ontological pursuit does not escape the trappings of social construction; in attempting to do so, it ends up further reinforcing forms of structural inequality that led to this moment.

Conclusion: Where do we go from here?

Interview Transcript

Author: But do they [Tobacco Board] get any support from the government?

Chinnaiah: Government of India is not giving a single paisa of budgetary support to the Tobacco Board. These people [Tobacco Board] have to generate their own revenue. How are they getting revenue? By collecting 1% cess from the growers, 1% from traders. That is not sufficient to meet their expenditure. How are they getting by? They are imposing penalties. With that money, they are enjoying and meeting their expenditure. The Ministry of Commerce has admitted to this fact!..... They [Tobacco Board] have to conduct trade. Then only, they will get some profits….[goes on to talk about grower responsibilities]…

….In the liberalization era, what are the government saying? No, no, no, government is only for administering traders for purchasing your products. Government is not a business organization, we [govt.] are not going to give you whatever price you want. But who will give price? Who will purchase our commodity? Market forces will decide the price! If it is a controlled economy, the government has got much responsibility. With privatization, liberalization, and globalization government have no role to play, they are saying [*sic*].

Chinnaiah Garu (President of the Tobacco Farmers Welfare Association, Prakasam), interviewed by Amrita Kurian in early November 2015.

I started this dissertation with the interview of a senior official at a prominent domestic tobacco company. I end with another interview I conducted a couple of weeks later with a farmers' representative (see chapter two). An ex-tobacco grower, Chinnaiah Garu was a vocal figure in the region who spoke on issues affecting FCV tobacco farmers, and a force to reckon with for the Tobacco Board. I was introduced to Chinnaiah Garu by a local journalist friend in Prakasam.

Here, he voices his resentment towards the Tobacco Board in their inability to protect farmers. He points to what he deems is the contradictory position that the government currently takes with respect to the sector of earning profit while playing the role of the public sector institution. Moreover, even as the Board earned revenue from the farmers and traders, the

Central government has abandoned the Board due to their association with tobacco. If the Board could not survive, then they could not protect farmers. In such as a scenario, Chinnaiah Garu recommends that market forces must decide the prices on which the farmers' livelihood depends.

At the time, I could not fully situate Chinnaiah Garu or his angry tirade against the Tobacco Board. Speaking to him that day, I also did not realize his very situated notoriety. I got an inkling of it later when he independently visited the Auction Platform I was working at. Farmers and Board officials began murmuring and pointing to him as they spotted him on the auction floor. A senior grading official asked, "Have you met him?" The Board's usual tendency was to supervise my project by asking me to interview as many stakeholders as possible, but this was more of a conspiratorial query, suggesting a sight not to be missed. "Oh yes, a while go," I remarked, scandalizing the official in question. Other Board officials were quick to point out that he was not a real farmer, for real farmers had no time to go around raking muck; they were too busy attending to their farm and in getting their FCV tobacco crop to market.

Today, I understand his politics better, as well as the reasons why my journalist friend had steered me in his direction. More importantly, I understand where the resentment with which he talked about the Tobacco Board comes from. Of course, his ire was in no way restricted to the Board, but, if anything, his take was sympathetic to it compared to his description of domestic tobacco companies, who he referred to as "people with evil designs." Unlike farmers' representatives like Venkat Garu (see chapter four), who shared close ties with Board officials, Chinnaiah Garu only represented the interests of the abstract Virginia tobacco farmer in the region, even if he did not fully agree with him yet. I use his interview transcript to not only show how farmers' solidarity with the Board is under considerable strain today.

In this interview, Chinaiah Garu pointed to a phenomenon that this dissertation demonstrates over and over, that experts working in the Tobacco Board were increasingly finding it challenging to regulate the Indian FCV tobacco sector in a manner that adequately compensated its stakeholders. For obvious reasons, tobacco's increased notoriety in health circles globally over recent decades was the most prominent of these. Apart from this, two other aspects had critically affected the Board's capacity to function as agri-experts and regulators in the sector. The first aspect was that competition in state-regulated markets was at an all-time low. Nothing the Board was willing to do could alleviate the decreased demand for FCV tobacco. Yet, as regulators and arbitrators on behalf of farmers, it was their duty to ensure that the FCV tobacco sold in the markets was of high quality and that, in the process, farmers' revenues balanced with their costs of production. Without market competition, quality and farmers' livelihoods, which formed the core of the Board's mandate, pulled in opposite directions.

The second critical aspect that affected the Board's authority and its functions were the Indian government's slow secession from its investments in the FCV tobacco sector. Unlike bidi tobacco, which was sparsely regulated and had its manufacturing classified under the category of small and medium industries employing precarious communities (women, Dalits, and Adivasis), the FCV tobacco crop was heavily regulated by the Board with crop sizes ceilings and limits on acreage[133]. The manufacturing and consumption of cigarettes that utilize FCV tobacco also come under heavy taxation (Sarma 2000). With the global tobacco scare, the Indian government has wanted for some time now to recede from FCV tobacco production, but it has not been able to abandon its core administrative subject, the farmer completely. Currently, the Tobacco Board

[133] While the term Adivasi is a collective term that means indigenous/autochthonous populations in the India, the Government of Indiai recognizes these groups under the Scheduled List of Tribes.

regulates the sector as before, but it is increasingly encouraged by the Central government to generate independent revenue and to create programs for crop diversification for farmers. In contradiction of Chinnaiah Garu's exaggerated claim, the Central government did not wholly abandon the Tobacco Board either, since bureaucrats working in the Board are employees of the Central government and not independent contractors. However, as he points out in the above conversation, over time, amounts sanctioned for subsidies and interest-free loans to farmers have been decreasing steadily, and penalty charges levied on farmers for over-production have been increasing.

From the farmers' point of view, which Chinnaiah Garu succinctly captures, the state in all fairness cannot regulate heavily, earn revenue, and yet not perform its protective function in the FCV tobacco sector. As far as Chinnaiah Garu was concerned, either the Board must engage in trade and export directly, or leave it to 'market forces' to bring about market competition. As of today, these contradictions in the state experts' role in the FCV tobacco sector are giving rise to a new farmers' politics demanding further liberalization of ownership in the sector. This is a significant demand that requires a little contextualization, but it is also one that will significantly impact both the Board and the farmers.

Since independence in 1947, the Indian government has taken a wavering stance towards FDI or Foreign Direct Investment. Following then prevalent socialist norms, the Nehruvian government invested in strengthening domestic heavy manufacturing industries, with policies geared towards securing the commanding heights of the economy and import-substitution. Starting in the '60s, the Indian government maintained a highly restrictive policy towards Foreign Direct Investment (FDI, and it was only with "Economic Liberalization" in 1991 that

significant opening up of the economy to foreign investment began[134]. The Indian government has taken a selective policy with introducing FDI in the FCV tobacco sector too[135][136]. The Indian government continuously revisited and revised the policy, abruptly imposing a blanket ban in 2010. According to this ban, "foreign tobacco companies are allowed to invest through technology collaboration, licensing agreements and by forming a trading company," they cannot directly purchase from farmers or manufacture cigarettes in India (Ranjan and Pushkar 2017).

Returning to the contemporary debate, in 2016, as I was leaving Prakasam, some prominent farmers were openly campaigning for FDI in the sector, decrying forty years of Board intervention in the sector. The same year, the Ministry of Commerce and Industry reaffirmed its 2010 policy to farmers' demands (ibid 2017). The Ministry claimed that these measures protected the domestic economy and the livelihoods of farmers against opportunistic multi-national companies. On the other hand, many farmers' association leaders considered these protectionist measures to be safeguarding the interests of the domestic tobacco industry at the cost of farmers (*The Indian Express* 2016).

In the end, the government decided to reconsider allowing FDI in 2018. The Economic Times, a daily newspaper, quoted the representative of Peridepi Tobacco Farmer Society,

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[134] The FDI policy in 1973 resulted in the Foreign Exchange Regulation Act (FERA). The FERA regulation re-organized British and other foreign investments in Indian industries and corporates, whereby foreign companies had to register their companies under Indian regulation with only up to 40% foreign equity in the new Indian companies. However, these restrictions were selective, allowing for technological interventions in some sectors and exceptions to other export industries (like tea) (Ninan and Singh 1982; Kumar 2005).

[135] After the FERA Act of 1973, the British-Indian collaboration, the Imperial Tobacco Company of India became India Tobacco Company Limited (ITC Ltd.), with the Indian national banks as one of its shareholders (ibid 1982). ITC Ltd. currently exports to BAT Co., though this enduring relationship has come under the FERA scanner several times as has Philip Morris investments in their domestic partner company, the Godfrey Philips India (Rekhi 1996; Kalra 2019) .

[136] In 1998, India made an exception for the UK-based company's Rothmans to set up a subsidiary in India, thereby, allowing FDI in the FCV tobacco sector. According to health activists and scholars, the government consideration behind this was "economic and political," since in 1998, 10% of the government excise revenue came from tobacco (Sharma 1998).

Yashwanth K C thus, “We are for FDI. We invite the technologies because for farmers (sic). Markets have stagnated for so many years. It is also occupied by limited players and they have exclusive control over commodity and the trade. Entry of multinational firms in the sector here would provide a level playing field. If we have multiple players, there will be more competition and farmers will get multiple choices [*sic*]." (Economic Times 2018). That is, farmers as an interest group were now seeking to replace yet another intermediary, the Tobacco Board, whom they claimed only benefited from their livelihood.

The farmers’ stance towards FDI in the sector is indicative of the Tobacco Board’s diminished status and role today. As I have argued in the introduction, the Tobacco Board as experts and regulators were instituted as the legitimate arbitrators of the markets, protectors of farmers, and as experts who improved the quality of the FCV tobacco crop towards this end, yet, structural changes in the system, and the inability of their technical solutions to resolve the problem of markets, have now ended up de-legitimizing their authority to regulate the production and marketing of FCV tobacco. As has been reiterated, more than once, the labor required to sustain market capitalism has become an uphill task for experts working on the ground, and particularly for state-experts straddled between scientific and governing goals.

Dr. Lakshmi, the state scientists, over the course of her interview, bemoaned that tobacco research was ruining the careers of state agri-scientists because 1. there was no longer much funding or government incentive to innovate on FCV tobacco, 2. the tobacco companies could take care of tobacco research themselves, 3. their careers as agri-experts were stained by their association with tobacco, resulting in colleagues no longer citing their work. She declared a matter of fact that, if tobacco had no nutritional value for its consumers, unlike food crops, and made people sick, the Indian government had no purpose operating in the sector. Once the

guardians of farmers, today, the Board and CTRI experts struggle with seasonal tasks of ensuring the quality of FCV tobacco sold in Indian markets. Neither the government nor markets nor weather patterns were on their side as they worked to sustain the commercial markets for FCV tobacco. It is clear that increasingly, sustaining the FCV tobacco market in India requires increasingly strenuous effort and sacrifices, even from the few people who sustain and benefit from tobacco capitalism.

Increasingly, poorer farmers cannot cater to the quality and standardization stipulations of the international market. These stipulations do not take into consideration the imbalance between their decreasing revenues and increasing costs of production. Moreover, practices like GAP and IPM (see chapter five), globally circulating concepts of ideal farming propagated by the Food and Agriculture Organization of the United Nations, and historical shifts in infrastructure have shifted the burden of producing uniform, quality FCV tobacco squarely onto the shoulders of farmers. Farmers are expected to be entrepreneurs with access to their own resources, essential in the deployment of the latest technical interventions in the sector. On the other hand, agrarian laborers are well outside the ambit of the Board's expertise and development efforts. Having lived their entire lives doing FCV tobacco seasonal work, they now face precarity as FCV tobacco production recedes across the region. Although precarity for this last group will persist whether or not the sector is further liberalized, that has not prevented tobacco companies, the Board, and farmers from blaming the laborers for increasing their wages without regard for farmers' costs of production and market conditions.

Even rural capitalists and affluent, peasant caste farmers of the landed elite that the state largely represents (see chapters two and four) increasingly find themselves locked out of a system that has historically benefited them. Chinnaiah Garu is a case in point. As scholars of

agrarian capitalism in India have pointed out, capitalist accumulation relies on hierarchies within agrarian geographies, right until it does not. When capitalist expansion no longer requires them, it dislodges the agrarian capitalist who once dominated the rural economy (Chari 2004; Gidwani 2008).

Still, as I have shown in this dissertation, these expansionist tendencies are even now met with resistance and seasonal agitations from people who work in the sector. For example, the landholding farmers, in response to the Indian government's decision to recede from FCV tobacco production, are increasingly pressing their demand that the Indian government compensate them for land and barn infrastructure invested in the production of FCV tobacco. This, in fact, was Chinnaiah Garu's secondary demand of the Central government, were FDI not an option. That is, he demanded that if the government wanted landholding farmers to give up tobacco production, then the government had to compensate them for barn infrastructure and loss of land revenue. It remains to be seen, if such landholder politics will prevail. Yet, it is important to point out that this politics is not simply about landholding farmers, it is indicative of larger trends towards precarity that the Indian agrarian sector faces. Though many farmers did not yet share Chinnaiah Garu's disdain for the Board, they increasingly felt the pressure of more frequent market gluts and constantly evolving stipulations on their costs of production. Like many others in the Indian agrarian sector, they too are now engaged in the high-risk enterprise of balancing fluctuating international markets and erratic agro-climatic patterns. Increasingly, risk and the labor of production are no longer matched by declining profits. Cultivating tobacco is becoming less addictive.

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