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PUBLIC SERVANT BEHAVIOR AND FOREST POLICY IMPLEMENTATION IN
CENTRAL INDIA

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Projects such as the research I present in this dissertation take an enormous amount of time, and inevitably accumulate large debts. The research I report here is in many ways the cumulation of more than a decade of study and involvement in forestry policy, and I could never have achieved this without the support and mentorship of numerous colleagues and friends over many years, although the conclusions I have reached and the errors I have made are entirely my own.

This research project grew out of concerns I developed over the years before I started graduate school, and several mentors guided me along this path. As an undergrad and masters student at Stanford I was fortunate to participate in the RATS, a small student-run forest advocacy group, where I was introduced to some of the problems of forest management and social organization that I've tried to puzzle through in this dissertation. The friendships I made in RATS remain some of the closest I have made in my life, and as I finish this dissertation, I continue to hear the encouraging, eager, and critical voices of the RATS in my head, pushing me to do better work. I was also fortunate to study with many great environmental scholars who exposed me to questions they could not answer and encouraged me to pursue my interests. I am grateful for the opportunities I had to study with and work for David Ackerley, Gretchen Daily, Cagan Sekercioglu, Claire Horner-Devine, Paul Ehrlich, Julie Kennedy, Chris Field, Stephen Schneider, Wally Falcon, Roz Naylor, and Pam Matson. Three anthropologists played a particularly important role in my career by introducing me to common pool resource theory and the work of my future advisor, Elinor Ostrom: Nickie Irvine, Amanda Stronza, and Constanza Ocampo-Raeder. My classmate Becky Blanchard also encouraged me to read deeper into this literature.

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International concern over climate change and biodiversity loss have driven increasing focus on sustainability in tropical forests. Top-down government forest management, common in tropical countries, is prone to failure, yet attempts at reform have repeatedly foundered. The literature documenting these shortcomings has paid little attention to the behavior of forest administrators. This dissertation addresses this gap using evidence from one year of field work in the Central Indian regions of Maharashtra (Vidarbha) and Andhra Pradesh (Telangana). Interviews were conducted with stakeholders in regional capitals, and ethnographic observations were recorded on 2-3 week visits to 8 forest divisions. The dissertation consists of three papers. The first paper finds that widely held theories about the impact of formal bureaucratic structure on forest management, such as those presented in Herbert Kaufman's *The Forest Ranger*, are insufficient to explain the variation in implementation. The second paper examines political influences on implementation, and finds that political influences can be classified according to their direction (top-down versus bottom-up) and their intent (particularistic versus general), uniting a broad swath of literature on political participation. The prevalence of particularistic political influence in Indian forest policy is a major factor contributing to poor policy outcomes, but does not explain some practices. The third paper examines one unexplained practice in more detail: tree planting is widely practiced in the study region, but the policy rarely achieves intended goals. I examine the ideological basis of tree planting, and show how forester's education, training, and work incentives lead them to adopt practices they know are likely to fail.

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Taken together, these papers provide a unique accounting for bureaucratic influences in policy implementation in a developing country context, and they point towards further work needed to clarify the role of public servants in helping and hindering goals of sustainability and development.

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Chapter 1: Introduction:

“Public administration has usually been at the core of my concern because the operational context of any system of government turns upon what gets done. To administer implies to bring into use or operation - to transform concepts and ideas into states of affairs. What gets done turns upon how institutions as systems of rule-ordered relationships work. How institutions affect the structure of incentives for people to act is one of the key considerations in the study of any system of governance.”

-Vincent Ostrom (1994 p. 11)

1.1 Introduction

Tropical forests provide vital resources for human populations. They provide raw material for wood and non-wood based industries (Dauvergne and Lister 2011), buffer the global climate system (Gullison et al. 2007), provide habitat for much of the world’s biodiversity (Mittermeier et al. 1998; Myers et al. 2000; Terborgh 1999), and support many of the world’s poorest and most vulnerable people (Sunderlin et al. 2005; Sunderlin et al. 2008). Yet tropical forests ecosystems around the globe are threatened and in decline due to a diversity of causes that vary by region and temporal and spatial scale (Rudel 2005; Lambin et al. 2001; Rudel et al. 2005; Geist and Lambin 2002, 2001; Hansen et al. 2010). Policy responses have included exclusion through the creation of protected areas or other use restrictions (West et al. 2006; Terborgh 1999), inclusion through community-based natural resource management (Dressler et al. 2010) and decentralization programs (Agrawal and Ribot 1999; Ribot and Larson 2005; Tacconi 2007; Agrawal and Ostrom 2001; Andersson and Ostrom 2008), as well as incentives schemes such as payments for ecosystem services (Wunder 2007; Engel et al. 2008; Wunder et al. 2008; Pattanayak et al. 2010).

Studies of tropical forest policy document that these policies often fail to achieve their goals. This literature identifies two causal drivers for policy failure: first, policies are often poorly designed, and second, the challenge of accomplishing any policy in remote impoverished forest regions is overwhelming. For example, studies of forest decentralization show that policies

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are often not very democratic (Ribot 2008) and may in fact result in “recentralization” (Ribot et al. 2006), while research on the failures of protected areas often blames a lack of trained and well-paid guards, along with the poverty of forest dependent people (Terborgh 1999).

Government officials, such as the underpaid and poorly trained guards who fail to protect protected areas or the senior government officials who hinder decentralization in an effort to retain control of resources, play an important role in these stories. However, in this literature the role of bureaucrats, and of their interactions with other actors, is sidelined to story lines that emphasize policy design or broad measures of poverty and state capacity. Studies of forest policy rarely explicitly examine the role of government officials in forest policy reform & implementation. This dissertation addresses this gap by examining the role of forest officials in two Central Indian states. The study builds on development studies, public administration, policy implementation, and institutional analysis to understand the observed role of government officials in policy implementation failures.

The central question this dissertation addresses is: how do government officials and their interactions with other actors contribute to failures of forest policy implementation in Central India? Addressing this question is important for two reasons. First, it allows me to explain aspects of a substantively important case of forest policy implementation failure that has not been fully explained using existing approaches. Second, it allows me to build theory about the role of government officials in tropical forest policy implementation – theories that may be relevant not only to Central India, but also to many other policy contexts, including tropical forests with similar governmental management systems around the world, as well as to other policy contexts in South Asia, where the structure of administrative and political relationships are quite similar to the structure found in the forest departments.

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This dissertation is an organizational ethnography (Brannan et al. 2012), as well as an institutional analysis (Ostrom 2005; Poteete et al. 2010), based on nearly one year of fieldwork in the forest departments of two central Indian states, Maharashtra and Andhra Pradesh. Because my interest is in the interactions government officials in the implementation process, and because this process occurs across scales as policies are translated through the organizational hierarchy from the state headquarters down to the field offices, I adopt a multi-sited approach (Marcus 1995) which emphasizes the intermediate range and division offices where policies and programs are translated into action on the ground. The focus is on how decisions are made, and in particular, how the context of each decision-making situation affects its outcome. Because it is not clear how existing theories about policy implementation and decision-making in public organizations apply to this case, a major goal of this research is to develop case-based theories, which build on existing theoretical knowledge to explain outcomes in particular cases, and in turn allow for the refinement of theories applicable to broader environments (George and Bennett 2005). Following much work in contemporary organizational ethnography, theoretical development in this study adopts an approach which moves back and forth between existing theory and case-based knowledge, drawing on diverse literature to develop new theoretical understanding (Van Maanen et al. 2007; Agar 2010; Orton 1997; Watson 2011; Brannan et al. 2012; Watson 2012; Hammersley and Atkinson 2010). The relation of this method of theoretical development to the data collected in the fieldwork and the process of analysis and writing will be described in greater detail below.

The remainder of this introductory chapter proceeds as follows: section 1.2 reviews existing studies of forest policy implementation, with specific reference to the Indian context. The review points to the gap in the literature identified above, in which government officials play

a key role in policy prescriptions, and are blamed for policy failures, but their behavior is rarely examined. At the same time, the review also identifies theoretical expectations derived from diverse fields that provide a basis for theory development in this case. In particular I identify three types of influence on bureaucrats which are important in this case study: organizational structure, external politics, and bureaucratic values, and explain how these have been treated in past studies. In order to understand the complex intersection of these factors in an unstudied context, I adopt a comparative ethnographic approach, which is explained in detail in Section 1.3, which describes the methodological underpinnings of the study as well as the methods used to gather and analyze data. Finally, section 1.4 outlines the plan for the rest of the dissertation.

1.2 Situating studies of forest policy implementation.

1.2.1 Identifying a gap in the study of forest policy

Tropical forests have been the focus of several distinct research traditions in the social sciences, and the study of Indian forestry has played an important role in these literatures. In this section I briefly review four important traditions that have analyzed the management of tropical forests: land use and land cover change, common-pool resource management, forest decentralization & community based natural resource management, and political ecology. This research identifies key causes of deforestation and forest degradation, conditions which lead to successful conservation or reforestation, propose policy solutions and critique their implementation, and analyze the historical roots of deforestation and unequal access to forest products. Although past studies consistently point to an important role for government officials in the management of tropical forests, they have little to say about what makes these officials successful or unsuccessful in carrying out their work. The few authors that have explicitly studied government officials' role in policy implementation find that an understanding of the

institutions and incentives faced by individual bureaucrats can illuminate reasons for the frequent failure of forest policy.

The first research tradition focuses on large-scale measurements of land use and cover change, often using remote sensing to examine the influence of national level policies at the landscape level. This literature identifies key drivers of macro-level land use change that range from local to international, and which include demographic, economic, and institutional factors (Lambin et al. 2001; Geist and Lambin 2001, 2002), and vary with context (Rudel 2008b; Rudel et al. 2005; Rudel 2005). This literature has been extremely valuable in identifying causal drivers of land use change at multiple scales, however there has been little attention paid to the ways in which governmental action influences these drivers. In the words of Rudel (2008a: 253), who calls for a focus on policies rather than only focusing on drivers of change, “For the past two decades studies of forest policy has been the ‘poor stepsister’ of research on land use and cover change (LUCC) in the tropics.”

A second literature on tropical forest management examines local management of forests as a common-pool resource. This literature shows that diverse local institutions are capable of managing resources sustainably over long time frames. Successful local management regimes share certain characteristics, including clear boundaries, local monitoring, and nestedness within larger management systems that recognize local property rights (Ostrom 1990). These findings have been reinforced over the last two decades by numerous case studies (Cox et al. 2010), as well as by the International Forestry Resources and Institutions (IFRI) program, which has created a unique large-n dataset that combines biophysical and social measurements to study the relationship between forests and people at the local level across more than one dozen countries (Tucker 2010). Cox et al. note that a major critique of this approach has been that the focus on

local management provides little insight into the operation of larger scale systems, including the nested management systems which Ostrom identified as being important. Furthermore, many scholars point to the ways that governmental action can undermine existing local management regimes (Bromley 1991; Lansing 2006; Cox et al. 2010). In short, while the literature on local common-pool resource management acknowledges governmental actors as important players, it provides relatively little analysis of their role in the creation and maintenance of successful locally-based forest management, nor in the frequent failures to create successful local management regimes.

Partly as a result of the findings from studies of common-pool resource management, there has been an explosion of interest in community-based natural resource management and forest decentralization programs in the last 20 years, much of it funded by large donors. A large critical literature examining the frequent failings and occasional successes of these programs forms a third literature on forest management (Agrawal and Ribot 1999; Ribot and Larson 2005; Tacconi 2007; Ribot et al. 2010; Dressler et al. 2010; Colfer 2005a, 2005b; Coleman and Fleischman 2012; Andersson and Ostrom 2008).

Although most community-based or decentralized resource management programs prescribe important roles for government agencies – as supervisors, initiators, or co- or joint managers – most studies take one of three limited perspectives on the role of bureaucrats. The first perspective focuses on the role of individual managers as innovators (Indian examples include Rangachari and Mukherji 2000; Campbell 1992) but fails to examine the organizational context that produced that innovation (for a review and empirical critique of this perspective in the context of Indian Joint Forest Management, see Joshi 1999, 2000). A second perspective, commonly reflected in the policy documents produced by donors and forestry agencies, simply

assumes that field officials will carry out policies as imagined and planned in central offices, and thus provides little analysis of their behavior.

A third perspective, widely represented in studies of the failings of community based and decentralized forestry, identifies government officials as a barrier to implementation. For example, a conceptual review of joint forest management programs states that, “Resistance to the reforms has mainly come from national forest authorities that have seen the new approaches as challenges to their professional status. The resistance may have been influenced by decreased opportunities for collusion with powerful wood buyers, both domestic and foreign.” (Castrén 2005 p. 99). While the conclusion that reforms challenge foresters’ professional status and threaten their opportunities to earn money through corrupt practices is fairly widespread, it is confusing because it does not explain why some forest officials are innovators while others are resistors. Furthermore, these authors rarely investigate whether their hypotheses about the reasons for bureaucratic resistance are accurate. Surveys of the attitudes of forest officials in India towards joint forest management programs reveal striking diversity of opinion among officers working in the same state and at the same rank (Matta 2003; Matta et al. 2005b; Matta et al. 2005a; Matta and Kerr 2007; Kumar and Kant 2005, 2006; Kumar et al. 2007; Dasgupta and Vira 2005), indicating that the blanket statements about “The Bureaucracy” in the literature on forest management may require qualification and expansion. This literature assumes that the hypothesized mechanism – bureaucratic malfeasance – is sufficient to explain bureaucratic behavior, but does not explore alternative hypotheses, such as the possibility that bureaucratic malfeasance is the result of political pressures from outside of the bureaucracy. It also fails to explain how bureaucracies can be so effective at coordinating resistance to reform while also being ineffective at carrying out other tasks.

Finally, a fourth perspective draws on the political ecology tradition to focus on the role of governments in reshaping rural landscapes through studies of “environmental state-making.” This literature has been heavily influenced by studies of the history of Indian forest management by authors such as Guha (1983, 1989, 1996; 2001; 2006), Gadgil & Guha (1992, 1995), Grove (1995; 1998), Rangarajan (1994; 1996b; 1996a; 2001), Sivaramakrishnan (1998a, 1998b, 1999, 2000b, 2000a, 2002, 2008, 2009), Saberwal (1999), Agrawal (2005), and many others. These authors provide detailed analysis of the ways in which the Indian forest management system was developed during the colonial era. This history is discussed in chapter two, where it serves as a vital foundation for understanding contemporary forest management. Although most of these authors also study contemporary forest management, and have conducted extensive fieldwork in forest-using communities, there is a disjuncture between their historical analyses – grounded in documents produced by colonial government authorities – and their contemporary studies of forest users. Most of these authors have little to say about the contemporary forest department, except in as much as their historical studies of the origins of the forest departments under British colonialism can inform our understanding of contemporary operations. When they do discuss the contemporary forest departments, the limited nature of their observations of the forest departments’ operations tend to lead them towards blanket statements about “The Bureaucracy” or “The State.” These statements, which follow much of the decentralization literature cited above in attributing a universal venality or ill-intent to officials, are in contrast to these authors own subtle and complex unraveling of historical state-making processes, as well as to the results of surveys which indicate significant diversity of opinion & behavior among forest officials (Matta 2003; Matta et al. 2005b; Matta et al. 2005a; Matta and Kerr 2007; Kumar and Kant

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2005, 2006; Kumar et al. 2007; Dasgupta and Vira 2005; for a similar critique of the broader political ecology literature, see Robbins 2002).

This criticism notwithstanding, some of the best work on forest officials' role in forest policy implementation has come out of the political ecology tradition. Vasan's (2002, 2006) ethnography of forest guards (the lowest ranking employees of the forest department) in Himachal Pradesh, and Robbins' ethnographic (2000a, 2000b, 2001; 2007; 2009) analysis of corruption and law enforcement in a small wildlife sanctuary in Rajasthan provide useful signposts for this study because they emphasize the ways that the embeddedness of forest officials within a broader political economy provides incentives for the actions of lower-level forest officials. At the same time, the focus on narrow slices of the forest department – Vasan's study is confined to the lowest ranking officials in the department, while Robbins' focus is on a single small wildlife sanctuary – means that these studies cannot capture the complex cross-scale dynamics that occur as policies are translated from regional headquarters through division and range offices, and down to the forest guards.

Vasan's forest guards are caught between the demands of their job to enforce forest laws, the demands of their neighbors to be lenient, and their own need to earn money to supplement their modest salaries. Vasan shows that poor (and corrupt) implementation are the products not of the venality of forest guards, but of the peculiar incentives they face in this double-bind situation. Similarly, Robbins shows that the system of corruption responsible for the decline of forest within the wildlife sanctuary (in spite of a fairly large professional staff and rigorous laws) is deeply embedded in the local social system, and highly robust to changes that higher level officers would like to institute. Studies in other countries, such as Mathews' (2011) study of forest policy in Mexico, also illustrate the ways that the context of forest administration matters

to implementation processes. While Mathews' descriptions of Mexico emphasize the ways that forest officials limited field capacity and weak political capital hinder their ability to carry out programs, Vasan and Robbins show that what limits the Indian forest officials is not their lack of a presence at the local level - the forest guards have a presence in every village - nor their lack of high level political capital, but instead their embeddedness within the broader political economy of India.

1.2.2. The contributions of literature on bureaucrats and the political economy of development in India.

The role of government officials in societal processes in developing societies has been analyzed by authors across the social sciences interested in the political economy of development. As with the political ecology tradition, the example of India, a poor society which inherited a powerfully and relatively high-functioning bureaucracy from the colonial era, has been influential in this tradition, and thus this literature has the potential to be very useful for developing an understanding of the weaknesses of forest administration in India. This tradition emphasizes a seemingly paradoxical condition captured in Rudolph & Rudolph's (1987 p. 1) description of India as a "weak-strong state." While on the one hand, the Indian government has a powerful role in shaping society, on the other, it is frequently unable to carry out its plans. Analyses of this paradoxical condition focus on the nature of political interactions within Indian society, including the prominent role played by corruption and clientelism, conditions in which the bureaucracy is implicated as part of a larger political economy.

The study of political economy of developing societies is a vast field, and this dissertation cannot offer a comprehensive review of all potentially relevant studies. Instead, I review those aspects of this literature most directly relevant for explaining the observations made

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in this study. For the purposes of this research on forest policy implementation, the most useful aspect of the political economy of development literature is that which focuses on issues of local policy implementation in similar policy contexts. Unfortunately, such work is thin. Writing on corruption & politics in studies of “The State,” Gupta (1995 p. 376) writes,

Research on the state, with its focus on large-scale structures, epochal events, major policies, and "important" people (Evans et al. 1985; Skocpol 1979), has failed to illuminate the quotidian practices (Bourdieu 1977) of bureaucrats that tell us about the effects of the state on the everyday lives of rural people. Surprisingly little research has been conducted in the small towns (in the Indian case, at the level of the subdistrict [tehsil]) where a large number of state officials, constituting the broad base of the bureaucratic pyramid, live and work - the village-level workers, land record keepers, elementary school teachers, agricultural extension agents, the staff of the civil hospital, and others. This is the site where the majority of people in a rural and agricultural country such as India come into contact with "the state," and this is where many of their images of the state are forged.

Along similar lines, Mooij and Vos (2003), reviewing research on policy processes, note that this field is heavily dominated by work on the United States, which may or may not be directly transferrable to the Indian context (Horowitz 1989; Mooij 2007b).

This is not to say that there is no such research, and in fact, this study is informed by several prior studies that have focused on the operations of local level bureaucracies within India, as well as the influence of their political and social contexts. These studies share with Robbins & Vasan’s work on lower level forest officials, discussed above, a concern with the way that government officials actions are embedded not only within the structure of bureaucracies but also within networks of politics, clientelism, corruption, and broader cultural and value systems. Among these works, Wade’s (1982a, 1982b, 1985, 1988b, 1988a) studies of a south Indian irrigation bureaucracy are particularly helpful, in that he directly addresses the effects of corruption and politics on the implementation of programs in an area which shares some theoretical similarities with forestry – in that irrigation water is also a common-pool resource.

Wade finds a pervasive system of corruption that is closely tied to electoral politics, as politicians demand bribes from bureaucrats to support their election campaigns. Bureaucrats give bribes in order to secure postings in locales where they can pay off the bribes to politicians by demanding bribes from building contractors & irrigators. The result is an over allocation of irrigation water to bribing farmers, as well as inferior construction by contractors who pay for their bribes by utilizing low quality concrete. The role of frequent transfers in corruption & policy implementation has been confirmed in studies of the elite Indian Administrative Service (Potter 1987, 1988, 1996) as well as in a broad ethnographic study of administration in Gujarat (Zwart 1994), and continues to receive mention in occasional works on Indian political economy (Banik 2001; Iyer and Mani 2009; Saxena 2010), but is generally ignored in many broader studies (e.g Kohli 2004; Evans 1995; Bardhan 1998), which instead focus on the roles of class conflict at the macro scale in determining macro-level outcomes. Thus, it is difficult to know how typical the kinds of pervasive corruption described by Wade are, nor whether transfers play such a universally detrimental role.

The careful analysis of local influences on bureaucrats undertaken by Wade, Zwart, and Potter has been significantly extended recently by van Gool (2008) who looks beyond the role of formal institutions and corruption to examine the role of caste and identity in the behavior of government officials. Drawing on studies which documents the importance of identity (usually race and gender) on the behavior of administrators in the United States (Dolan and Rosenbloom 2003; Meier and O'Toole 2006b), van Gool sets out to examine whether low-caste officials who are recruited into the bureaucracy in order to meet representation quotas behave in ways that are more sympathetic to their counterparts. He finds that they do not, in large part because their political situation constantly forces them to seek political favors among dominantly high caste

politicians, and thus seek to hide whatever sympathies they may have with fellow low caste members. Furthermore, their role – and secure pay – as government servants quickly separates them from their impoverished fellow caste members, and leads them to have different interests. Harriss-White (2003) has made similar points about how the role of civil servants can be heavily influenced by their gender and caste. While van Gool's findings are suggestive of the limited roles that individual values may play within the broader political economy of the Indian bureaucracy, his fieldwork in central Uttar Pradesh – one of the most caste conflicted and impoverished regions of India – make it difficult to extend his findings directly to regions where open inter-caste conflict is less prevalent, lower castes are more economically successful, and politicians are less uniformly corrupt.

Many India studies scholars take a broader focus on the local-level implementation of anti-poverty and development programs in India (Echeverri-Gent 1995; Corbridge et al. 2005; Mooij 1999; Nayak et al. 2002; Joshi and Moore 2000; Joshi 2010; Manor 2006), as well as the operations of informal local political economies (Harriss-White 2003; Shah 2006, 2007, 2010). This research often draws on intensive observations of local implementation processes, but suffers from similar flaws to much of the literature on forest management described above: the focus is on the beneficiaries of schemes, and these studies do not follow the example of Wade in subjecting the behavior of government officials and their relation to the broader currents in the political and social environment to careful analysis. This is even the case for Corbridge et al.'s exceptional study of governance in Eastern India, for which the authors reportedly interviewed over 280 Block Development Officers, key local level administrators of anti-poverty programs. Officials often do not act in ways that programs intend them to, but this literature does not make clear whether this is because of the formal structure of the organizations they work in, the nature

of local politics & corruption (as suggested by Wade & Robbins), or due to their individual values (as suggested by van Gool). Thus, careful work examining how the motivations of individual officials are shaped by the organizational and political environment, and how these in turn shape implementation outcomes, can make a very significant contribution to this growing field of study.

Finally, a literature that is better known to a non Indian specialist audience addresses the role of state action in economic development. India is often presented as a foil to East Asian success stories (Bardhan 1998; Evans 1995; Dreze and Sen 2002), or as a mid-level case between the East Asian successes and failures in Africa or elsewhere (Kohli 2004). In these accounts, “public action” (Dreze and Sen 2002) plays a crucial role in supporting and fostering, or discouraging economic activity, but the role of individual government officials is obscured. In South Korea, Bardhan, Evans, and Kohli emphasize that a key to economic success was the close personal and social ties between competent and capable government officials and crucial industrialists, which led bureaucrats to act in ways that favored the growth of large industries. The point was not that government officials were not corrupt, or did not favor certain interests unfairly over others – in fact, the South Korean government was deeply and pervasively corrupt – but instead that the interests of industrialists and officials were closely aligned – industrial success would also lead to bureaucrats having greater opportunity to line their pockets (see also Kang 2002; for a similar argument with regards to a comparison between the Phillipines and Thailand, see Hutchcroft 1997). By contrast, the Indian government is less capable of promoting economic development, both because of the complex nature of political coalitions within the context of a fragmented democracy, and also because the bureaucratic class lacks close ties to the industrial class. A closely related field examines the causes and consequences of corruption

more specifically, finding that the exact nature of the corruption has important consequences for economic growth, and that various civil service reforms may play a role in hindering bureaucratic corruption (Ades and Di Tella 1997; Rose-Ackerman 1999, 2003; Shleifer and Vishny 1993; Bardhan 1997, 2006).

While these studies point to the importance of relations between civil servants and other key actors, and particularly to the role of corruption, there are two reasons that their findings cannot be applied immediately to explaining the case of forest policy implementation. First, most of these studies take economic growth and/or poverty alleviation at the national or regional level to be the outcome of interest, while the focus of this study is on public policy implementation at the local level. Even if the focus of this study were on national or regional scales, the intended outcomes of forest policy usually include broader considerations, including social justice, resource conservation, and provision of ecosystem services which are likely to be determined by distinct processes from economic growth. Put in other words, the focus of the political economy of development literature is on the provision of public goods and its relationship to the provision of private goods, while this study focuses on the implementation of programs that aim to maintain a supply of common-pool goods. It is not clear whether variables that are important for explaining the role of government officials in poverty alleviation or economic growth will be important for explaining the role of government officials in securing resource sustainability, as these may be fundamentally different tasks.

The second problem with a direct application of findings of macro-level studies is their relatively unitary view of the state, drawn primarily from historical studies focused on behavior of administrative and political elites and/or aggregate data on economic and governmental performance. These studies essentially assume that “The State” is an unproblematic unitary

actor, capable of coordinating the behavior of its numerous functionaries to “see” (Scott 1998) and achieve goals. We learn little from these studies about how the behavior of the millions of individuals who collectively make up “The State” is coordinated. We already know from ethnographic and survey research conducted on Indian forest management that incentives, opinions, and behaviors vary widely among officials of the same rank, as well as between different ranks (Matta 2003; Matta et al. 2005b; Matta et al. 2005a; Matta and Kerr 2007; Kumar and Kant 2005, 2006; Kumar et al. 2007; Dasgupta and Vira 2005; Robbins 2000a, 2000b; Robbins et al. 2007; Robbins et al. 2009; Vasan 2002, 2006). Macro studies mostly ignore the problem of how these divergent opinions and interests are coordinated to achieve a coherent whole.

1.2.3 Public Administration and the Policy Process: Similar questions, different context

The role of government officials in policy implementation is a central concern in the study of public administration and related fields in political science. For the purpose of this study, the discipline of public administration is a sort of mirror image to the literature on the political economy of development: while development studies provides deep insight into the problems of developing societies, it pays inadequate attention to the role of government officials at the local level. Conversely, public administration focuses on the role of government officials, and includes many studies of policy implementation, including in environmental and social justice contexts, but has few insights about how the role of government officials might change in the context of a developing country.¹ Early attempts by American public administration scholars to export their ideas to developing societies (Riggs 1961, 1964; Chapman 1966) were often unsuccessful (Gulrajani and Moloney 2012) and the discipline has largely retreated from the

¹ This was underlined to me again at the 2012 Midwest Political Science Association, when the only work any audience member could identify on policy implementation in developing countries was work by Grindle that is more than 20 years old (Grindle 1980; Grindle and Thomas 1991).

study of developing societies (Gulrajani and Moloney 2012; Andersson 2011; Pollitt 2011).

Predominant theories of the policy process (Sabatier 2007b) are largely focused on the US and, to a lesser extent, Europe (Mooij and Vos 2003),² and the large literature on policy implementation (Hill and Hupe 2009) suffers from similar shortcomings. At least in India, indigenous studies of public administration are poorly developed, perhaps because bureaucratic training institutes have not been research oriented (Sharma 2008). That said, there are likely to be similarities between administrative situations in developed and developing countries (Horowitz 1989). Theories developed in the former may play a useful role in explaining situations in the latter, and the application of such theories to cases with different contexts may lead to their extension or to the identification of boundary conditions (George and Bennett 2005).

There is no unified theory of bureaucracy or policy implementation, and there is little reason to believe that such a unified theory can be created. These fields contain a broad diversity of theoretical perspectives (Raadschelders 2011; Hill and Hupe 2009; Sabatier 2007b), reflecting both the broad diversity of phenomena captured under the rubric of “public administration” (Wilson 1989; Raadschelders 2011) or “policy implementation” (Hill and Hupe 2009), as well as a potentially beneficial view from multiple theoretical perspectives (Sabatier 2007a) and perhaps the underlying diversity of ways in which socially constructed realities can be understood (Yanow and Ybema 2009). As with my discussion of the literature on development, my purpose here is not to provide a comprehensive account of all possible theories, but rather to use this large body of literature heuristically (George and Bennett 2005) to identify theories likely to be useful for explaining this case study. Thus, in this section I focus on three themes that play an

² A notable exception from Sabatier’s volume is the Institutional Analysis and Development (IAD) framework, which will be discussed in the next section.

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important role in these literatures and which are important to understanding this case:
organizational structure, political influences, and bureaucratic values.

The structure of public organizations is one of the oldest focuses of the discipline. By structure I refer both to the formal rules (e.g. civil service protections, pay rules, command hierarchies) and informal practices within an organization. These are understood to structure the incentives of individual bureaucrats as they go about their work, and are thus a frequent focus of reformers who wish to alter those incentives in order to improve the performance of public organizations (for a history of such efforts in the US, see Knott and Miller 1987; for recent efforts in India see Sixth Central Pay Commission 2008; Varkkey et al. 2008; Das 2010). A focus on the structure of organizations, and how they alter public officials' incentives to act, is the focus of much continuing work in public administration, including the work of March & Olsen (1989; Olsen 2008), Meier & O'Toole (1999), and Ostrom (Ostrom et al. 1993; Gibson et al. 2005a). Reformers in developing countries who seek to structure the formal institutions of government in ways that limit rent-seeking and corrupt behavior (Krueger 1974; Rose-Ackerman 1999) share this focus on the importance of organizational structure. In chapter 3 of this dissertation I pay particular attention to the work of Herbert Kaufman (1960) who credited the organizational structure of the United States Forest Service for its effectiveness at policy implementation. As we will see, similar organizational structures in India do not necessarily lead to effective policy implementation.

Early scholars of public administration such as Wilson (1887), Weber (1947) and Lasswell (1950; 1951; 1971) argued for a separation between the realm of politics, where policy formulation took place, and administration, where policies were implemented. This distinction remains popular in India, where many bureaucrats share a normative belief in this separation,

however scholars of bureaucracy have long ago moved beyond this distinction to recognize the important role played by politics on policy implementation. Politics is sometimes blamed for hindering policy implementation (Friedrich 1940; Wildavsky 1972; Pressman and Wildavsky 1973), while others argue that politics makes a positive contribution to policy implementation either on normative grounds, because it confers democratic legitimacy, or because democratic participation at the local level contributes to policy implementation that meets local needs (classic statements include Finer 1941; Lipsky 1980; Hjern and Hull 1982; this conception is also popular in contemporary development studies - i.e. see Chambers 2008; Ribot 2008). These debates are echoed in current debates over the role of development aid and the “good governance” agenda, with critics charging the World Bank with “depoliticizing” development in favor of a technocratic vision of society (Ferguson 1994; Harriss 2002). Chapter four of this dissertation draws on this literature to understand the multiplicity of ways in which political influences outside of the organization influence policy implementation.

Although issues of organizational structure and political influences on the bureaucracy have received detailed attention in both development studies and public administration, development studies has largely ignored a third issue: the values of bureaucrats. The reasons for this absence are not clear, but may have to do with the widespread attitude that the entire system, including all bureaucrats, are corrupt (Gupta 1995), and the prevalence of a narrow rational determinism, which assumes that government officials are focused on maximizing their utility without regard to the public interest (e.g. Niskanen 1971, 1975; Krueger 1974).

However more recent research on public administration in the west has emphasized the importance of bureaucratic values in understanding the successes of public programs. The idea that bureaucratic values are important is actually an old one – Kaufman (1960) showed how the

organizational structure of the United States Forest Service influenced the values of bureaucrats in ways that enhanced organizational effectiveness, and a major emphasis of March & Olsen's work has been on the ways that organizations alter values of their members.

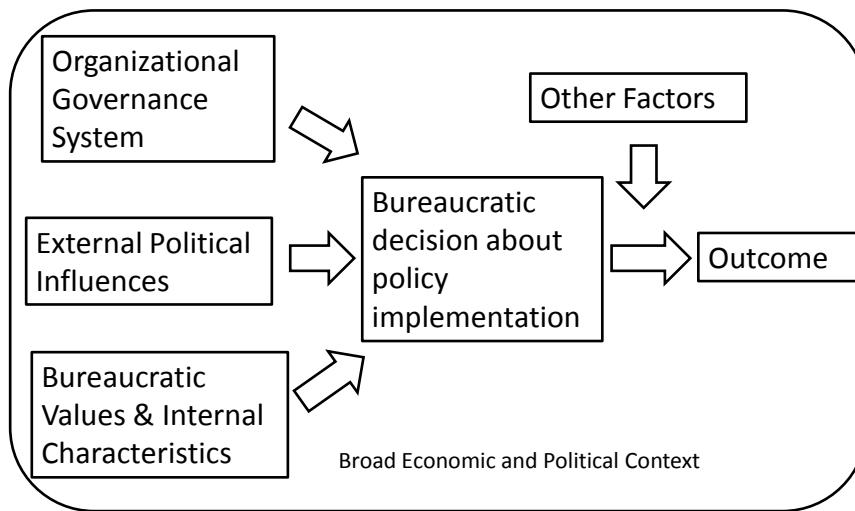
More recent work has done much more to draw out the importance of bureaucratic values. Comparative research performed in many developed countries has shown that "public service motivation," the desire to help society, is a primary motivator for public officials (Perry and Wise 1990; Perry 1996; Perry et al. 2006; Perry and Hondeghem 2008b, 2008a; Hondeghem and Perry 2009). Brehm & Gates' (1997), drawing on a large pool of survey data from the US, found that public service motivation was a stronger predictor of outcomes than theories which emphasized utility maximization. Meier & O'toole (2006b, 2006a) argue that earlier results that found evidence for political influences on bureaucratic decision-making (e.g. McCubbins et al. 1987, 1989; Calvert et al. 1989; Wood 1991, 1988; Wood and Waterman 1991) were biased by their lack of attention to the possibility that bureaucrat's interests were already aligned with those of their political supervisors. Meier & O'toole's operationalization of bureaucratic values, however, differs from that in the public service motivation literature because it emphasizes intrinsic characteristics of the individual – race and gender – as key determinants of motivation. This is consistent with a broad literature on "representative bureaucracy," (Dolan and Rosenbloom 2003) which finds that bureaucrats are more likely to help those who are similar to them based on characteristics such as race or caste. As discussed above, Van Gool (2008) rejected the applicability of the representative bureaucracy theory to bureaucrats in one region of India, but broader work on public service motivation – or bureaucratic values more generally – is entirely lacking.

1.2.4 A framework for identifying influences on bureaucratic policy implementation in the context of Indian forest policy

This dissertation draws on the diverse literatures in the previous three sections to develop a more comprehensive treatment of the ways that government officials are influenced to carry out their activities. As I will show, these influences play a major role in explaining both why forest policies in Central India are not implemented as intended, and why, when implemented, they do not have the intended effects.

The forgoing literature review emphasizes the potential importance of several influences on the behavior of individual government officials. The very limited past research on bureaucratic forest policy implementation in Indian forests (i.e. Vasan and Robbins) emphasizes the embeddedness of government officials within the structure of the bureaucracy and broader social and political contexts. These variables are also emphasized in different ways by scholars of the political economy of development, including those who take a macro view, focusing on the role of corruption and political linkages in economic development (Bardhan, Evans, Kohli, Rose-Ackerman), as well as those focused on studying lower-level policy implementation within India (e.g. Mooij, Harriss-White, Corbridge et al., Shah, etc.). While western public administration also emphasizes the importance of organizational structures and political influences, it points to a central role for the values held by individual bureaucrats. As we shall see, each of these three influences – organizational structure, external politics, and bureaucratic values, plays an important role in explaining the implementation behavior of forest officials in India. We can thus develop a general framework in which these three influences interact to influence the decisions of government officials, and these decisions interact with other factors

external to the organizational environment (such as biophysical or economic constraints) to produce outcomes (see Figure 1).



1

Figure 1: A framework of influences on bureaucratic decision-making

Although this framework is developed based on fieldwork and literature focused on India, it draws heavily on the “Bloomington School” and the Institutional Analysis and Development (IAD) Framework (Ostrom 2005; Aligica and Boettke 2009), and as such, this study, in addition to being an “organizational ethnography” is also an “institutional analysis.” This framework is present in three ways: first, this study follows the Bloomington School by making a clear differentiation between institutions and organizations, terms that are often used interchangeably in everyday speech. McGinnis (2011a p. 170), summarizing the Institutional Analysis and Development framework, defines institutions as “human-constructed constraints or opportunities within which individual choices take place and which shape the consequences of their choices.” In very similar terms, North et al. (2009 p. 15) define institutions as

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“the ‘rules of the game’ (North 1990 p. 3-4), the pattern of interaction that govern and constrain the relationships of individuals. Institutions include formal rules, written laws, formal social conventions, informal norms of behavior, and shared beliefs about the world, as well as the means of enforcement. The most common way of thinking about institutions is that they are constraints on the behavior of individuals as individuals... however, institutions also structured the way individuals form beliefs and opinions about how other people will behave.”

This study focuses on institutionally structured behavior of individuals within public organizations. The “state,” a singular term conventionally used in social science, is really a complex “organization of organizations” (North et al. 2009 p. 17). I follow North et al.’s definition of an organization:

“in contrast to institutions, organizations consist of specific groups of individuals pursuing a mix of common and individual goals to partially coordinated behavior. Organizations coordinate their members’ actions so an organization’s actions are more than the sum of the actions of the individuals. because they pursue a common purpose in an organization and because organizations are typically composed of individuals who deal with each other repeatedly, members of most organizations developed shared beliefs about the behavior of other members and about the norms or rules of their organization. As a result most organizations have their own internal institutional structure: the rules, norms, and shared beliefs that influenced the way people behave within the organization.” (North et al. 2009 p. 15; for a similar definition placed within the context of the IAD framework, see Arnold and Fleischman 2012)

The second way that this study follows the Bloomington School is on its emphasis on understanding large scale patterns through the behavior of individual decision-makers. The central box of the framework of influences on bureaucratic decision-making presented above focuses on the decisions made by individuals – this box is essentially the “action situation” (Ostrom 2005; McGinnis 2011a) of the IAD framework, in this case one in which aspects of the organizational and political environment interact with bureaucrats’ individual values to lead to actions. Here is where the sharp distinction between institutions and organization matter, because while organizations refer to a broad context – essentially a network of action situations (Arnold

and Fleischman 2012), institutions refers, in the IAD language, to specific rules and norms which affect the incentives of individual actors.

The third use of the IAD framework in this study is in the concept of framework & its relation to theory development. In Ostrom's words (2005 p. 28), a framework "helps us to identify the elements (and the relationships among these elements) that one needs to consider." The framework for bureaucratic decision-making, presented above, identifies three influences on bureaucratic decision-making, and shows that bureaucratic decisions combine with other factors to influence outcomes, but it is not a theory. In the language of the IAD framework, theories "enable the analyst to specify which components of a framework are relevant for certain kinds of questions and to make broad working assumptions about these elements" while models "make precise assumptions about a limited set of parameters and variables" (ibid). Although I have identified various theories about the nature of the three influences I have described on government officials, I have also been at pains to point out that with a diversity of theories drawn from dissimilar cases, there is no straight road forward to determining how these influences operate and interact in the context of Indian forestry. Thus, this dissertation draws on this framework (and the associated literature presented here) to guide theoretical development about the role of government officials in policy failures in the central Indian forestry sector.

In the IAD framework, the differentiation between frameworks, theories, and models refers to their level of specificity, however the distinctions made in the IAD framework are not widely accepted outside of this community, and the terms theory, framework, and model, are used in different ways across the methodological literatures this dissertation draws on. In the words of the IAD framework, the theoretical developments in this study include a test and extension of existing theories of the influence of organizational structure on bureaucratic

behavior (Chapter 3), development of a new framework that synthesizes several theories about political influences on bureaucracy (Chapter 4), and development of a model which explains forest officials' behavior when planting trees. However, all three of these would be considered case-based theories in the language of contemporary qualitative methodologists in political science, as well as sociologists trained in grounded theory and organizational ethnography (George and Bennett 2005; Glaser and Strauss 1967; Corbin and Strauss 2008; Van Maanen 1988; Van Maanen et al. 2007; Watson 2011). The methods of theoretical development and their relationship to these different schools of thought are described in the next section.

Before proceeding to methods, however, one final word is necessary regarding the IAD framework. In earlier sections I critiqued theories of development and bureaucratic behavior – such as those of Niskanen (1971, 1975) & Krueger (1974) for their excessive reliance on narrow rational determinism. Some associate the IAD framework with similar narrow models of rational choice, however the IAD framework is compatible with a broad array of assumptions about human behavior (Ostrom 2005). The most commonly used assumption, bounded rationality, is derived from studies of behavior within organizations (Jones 2001), and is compatible with an assumption that the values that individuals embrace are variable and need to be empirically determined in specific cases. In this case, I have already indicated that there are reasons for believing that understanding bureaucratic values is essential for understanding bureaucratic behavior.

1.2 Methodology

As mentioned above, this dissertation is an ethnography of Central Indian forest management. In this section I explain how an ethnographic approach contributes to the goal of understanding how government officials and their interactions with other actors contribute to failures of forest policy implementation in Central India, and how organizational ethnography fits into the disciplinary backgrounds of the study. I then explain how sites were selected, how data were collected during field work, and how they were analyzed upon return from the field.

1.2.1 Organizational Ethnography, theory development, and Institutional Analysis

While ethnography is a mainstay of anthropology, and remains strong in sociology, it is an approach that has not been as widely applied in the study of political science, public policy and public administration. “Organizational Ethnography” as a category is most widely used by organizational sociologists, and most contributors to the 2012 inaugural issue of the *Journal of Organizational Ethnography* are located in business schools. I draw heavily on the work of these anthropologists, sociologists, and business professors in developing my methods. However there is in fact a long and influential tradition of ethnographic studies of organizations in the disciplines of political science, public policy, and public administration. Probably the best known examples in these disciplines are the work of Fenno (1990, 1978) on US congressmen and Scott (1985, 1990) on village politics in Malaysia. Kaufman’s studies of the US Forest Service (Kaufman 1960) and of senior civil servants in Washington, DC (Kaufman 1981) have been influential in public administration, and Kaufman’s study of the US Forest Service will be discussed at length later in this study. Other formative works in political science are not often considered ethnographies, yet their long-term in-depth studies of political processes unfolding in or near the communities where their authors lived make them exemplars of an ethnographic

approach in political science – for example Selznick’s study of the grassroots involvement and elite capture in the Tennessee Valley Authority (Selznick 1949), Dahl’s study of local politics in New Haven (Dahl 1961) and Pressman & Wildavsky’s study of policy implementation in Oakland (Pressman and Wildavsky 1973).

Some may view the use of ethnographic methods in these early studies as a relic of a time when theories were less well developed and political situations less well understood. Since this is exactly the case with our contemporary understanding of the operations of Indian government officials, this should not be seen as an objection to the use of ethnography in this case. More broadly, ethnographers do not agree that theories are so well developed now that their tools are relicts (for example, see Fenno 1990; Hammersley and Atkinson 2010; Watson 2011; Van Maanen 2006; Van Maanen et al. 2007; Corbin and Strauss 2008). There is currently a resurgence in interest in ethnographic methods in political science (Schatz 2009; Tilly 2006; Baiocchi and Connor 2008; Read 2010; Kapiszewski et al. forthcoming) and in the study of policy implementation (Maynard-Moody and Musheno 2009; May and Winter 2009).

In the organizational ethnography tradition, ethnography is seen as first a foremost “a way of writing about and analysing social life” (Watson 2011 p. 202), and does not therefore prescribe certain methods, although it is closely associated with “close and intensive observation in the gathering of information and insights” (*ibid*), i.e. participant observation.³ Its advantage for students of human organization is that it “rigorously grounds and contextualizes the activities which the researcher observes and the accounts which they receive from organizational

³ Although some see participant observation as a necessary condition for ethnography, anthropologists working in South Asia who work primarily or exclusively with historical and contemporary documents describe their work as ethnographies (Hull 2003, 2012a, 2012b; Sivaramakrishnan 1999). My work follows more conventional usage, as participant observation was a major feature of my research.

members” and focuses on “the realities of ‘how things work’ in organizations” (ibid). In the words of Tilly (2006 p. 410),

If you believe (as I do) that how things happen is why they happen, then ethnography has great advantages over most other conventional social scientific methods as a way of getting at cause-effect relations. Most methods depend on correlations and comparative statics, asking whether observed variation corresponds to plausible consequences of one condition or another. Ethnography engages the analyst in looking at social processes as they unfold rather than reasoning chiefly from either the conditions under which they occur or the outcomes that correlate with them.

In this sense, the use of ethnographic techniques in this dissertation has much in common with process tracing (George and Bennett 2005; Bennett 2006a; Collier 2011) in that I focus on understanding mechanisms which drive action within individual sequences of events. The method differs from process tracing as described by George, Bennett, and Collier primarily in that these authors focus on historical events, with processes unfolding over long time frames and recorded in documents, whereas I focus on decision-making by individual bureaucrats, processes that I observed directly in the field or were reported to me by participants.

Ethnography is adopted in this study for three interconnected reasons. First, in the context of poorly understood and largely undocumented processes, such as the role of government officials in forest policy implementation in central India, ethnography offers the researcher a unique opportunity to develop case-relevant theory. Second, ethnography allows for a focus on the motivations of individuals within a larger organizational context. Third, ethnography as a form of institutional analysis allows the analyst greater access to understanding the relation between formal and informal institutions, particularly when informal institutions are not readily observed, as when illegal or corrupt practices are widespread (Read 2010). In this section I explain the logic of theoretical development used in this ethnography, as well as the

relationship of this logic to theoretical approaches more familiar in political science and public administration.

The first reason for using ethnography is that it provides a tool for case-based, contextual theory development. Prominent writers on methods within the discipline of political science (e.g. King et al. 1994; Brady and Collier 2004) focus on the process of testing theories, but give relatively little attention to the process of theory generation (George and Bennett 2005 p. 12). While the preceding review of literature shows that there are many theories from diverse literatures that could plausibly be applied to understanding the role of bureaucrats in policy implementation in central Indian forests, it is far from clear whether any of these theories fit this case. George and Bennett advocate for building theories through process tracing and comparison in historical case studies, but devote little attention to the use of process tracing outside of the study of political history (for more on process tracing in historical cases, see Bennett 2006a, 2006b; Collier 2011). An alternative approach to theory generation widely adopted by some ethnographers insists that theories be generated from data without reference to past theorizing (Glaser and Strauss 1967; Corbin and Strauss 2008), yet such an approach would lose the value contained in many previous studies of similar situations. Recent writers on organizational ethnography criticize this “grounded theory” approach for its excessive reliance on a purely inductive logic and for its problematic assumption that observational data about organizational processes can be collected without reference to theory (Orton 1997; Van Maanen et al. 2007; but see Hammersley and Atkinson 2010; Locke 2001).

I follow contemporary organizational ethnographers who argue for the use of “abductive” logic, a term coined by the 19th century American pragmatist philosopher Charles Peirce, who

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was interested in the origin of new concepts.⁴ He argued that surprising and unexpected observations were the key to discovery of new concepts, which emerged as attempts to explain the unexpected (Peirce et al. 1960). Following Peirce contemporary organizational ethnographers describe their theory-generating work as being based on a search for theoretically unexpected observations (Van Maanen et al. 2007; Agar 1996, 2010; Watson 2011; Orton 1997). In contrast to grounded theory, which emphasizes generating theoretical ideas without reference to prior theorizing, abductive ethnographers draw on existing theories to generate expectations, and revise those theories to account for the unexpected. This process also differs from a traditional hypothetic-deductive approach in which cases are used to test theories (for accounts of hypothetic-deductive use of case studies see Campbell 1975; Brady and Collier 2004; George and Bennett 2005; Flyvbjerg 2006) because ethnographers following an abductive approach do not necessarily know in advance exactly what broader theories their observations will be relevant for. As theoretically unexpected events arise, the ethnographer returns to theoretical accounts, and revises those accounts to accommodate anomalous observations from the case. This method is similar to process tracing as used in historical political science, both because the abductive method in use here is analogous to a Bayesian reasoning process (Bennett 2006a, 2006b), and because the theoretical developments are likely to be highly contingent. Although many such studies could lead to major new theoretical developments, an individual study such as this dissertation has lesser aims: developing theories applicable to a particular context, which may also suggest directions for future theoretical investigation in other contexts.

⁴ While Pierce and others differentiate abductive reasoning from inductive reasoning, many methods writers who do not appear to be aware of this distinction use the term inductive reasoning to describe reasoning processes that Pierce would have considered abductive. For example, George and Bennett's (2005) discussion of theory development through historical case studies follows a similar logic.

The second reason for using ethnography is that it allows for understanding the motivations behind individual action within the broader context of the culture of the forest department and the broader central Indian society. This emphasis on meaning and cultural context is fundamental to ethnography (Agar 2010 p. 289-90 calls abductive reasoning the "heart" of ethnography while context and meaning are its "soul"; see also Wolcott 2009), however I depart from those ethnographers who view the technique as primarily a tool associated with an interpretivist ontology (Yanow and Schwartz-Shea 2006; Yanow and Ybema 2009; Yanow 2012). Instead, I follow Watson (2012, 2011) who argues for a pragmatist realist ethnography, in which the focus is on producing an understanding of how events within organizations occur with respect to a larger whole.

The third reason for using ethnography is that participant observation, the core research technique used by the vast majority of ethnographers, allows the researcher to gain access to processes that would otherwise be hidden from view. These hidden processes need not be special – students of organizational processes in the United States or Europe have emphasized that they could not have learned what they did about the operation of large companies or local governments without extended immersion in the operating environment (Van Maanen 2006, 1988; Van Maanen et al. 2007; Watson 2011; Maynard-Moody and Musheno 2009; Lin 2000). However close contact with and observation of informants becomes more important when aspects of processes are intentionally hidden from view (Read 2010; Scott 1985, 1990). When attempting an institutional analysis of institutions of corruption and clientelism, which by their illicit nature must be hidden from view, there is simply no substitute for deep contextual immersion.

1.2.2 Case Selection and Unit(s) of Analysis

In order to understand how the actions of government officials influence policy implementation processes, it is necessary to work with multiple units of analysis. Policy decisions are made by individual bureaucrats who are nested within a government organization that is organized into sub units at multiple scales. An analysis of decisions must take into account the bureaucrats that made that decision, as well as the broader organizational contexts they are organized into. In this dissertation the primary unit of analysis is the decision-making of individuals, however in some sections of the dissertation I also analyze the actions of forest divisions – a basic unit of organization described further in chapter 2 – as well as states. The political and organizational environment of forest divisions and states also serve as important context for the decisions made by individuals. As I explain below, information about individual decision-makers was not available prior to going to the field. Instead, sites were selected based on characteristics of states and forest divisions, which primarily served as contextual variables for the decisions made by individuals, but sometimes also served as units of analysis in and of themselves. In this section I explain how sites were selected.

Conventional accounts of case selection emphasize the selection of cases in ways that enable critical tests of hypotheses (Ragin 2000; Mahoney 2000; Brady and Collier 2004; King et al. 1994; George and Bennett 2005; Flyvbjerg 2006), but this presupposes the existence of clear case-relevant hypotheses. In contrast, this study focuses on the development of case-relevant theory in an abductive fashion. Accounts of the abductive method of theory development provide limited guidance for the selection of cases in order to maximize analytic leverage, in part because these researchers are often more interested in explaining their case than in drawing large generalizations or hypothesis testing. Nonetheless, key lessons drawn from case selection

literature are relevant here: variation in potentially important variables is likely to maximize the kinds of possible observations, providing greater opportunity to discover theoretical anomalies or develop theories from common patterns. At the same time, case-based researchers face a challenge in insuring that their cases are sufficiently similar to be comparable.

I began the process of selecting sites by selecting states in which to work. The primary goal was to locate states which had similar forests and socioeconomic contexts, but had different political and organizational environments. Prior to my initial field visit, during June, July, and August 2009, I had read extensively about forest management in India, and these readings, in addition to providing me with a historical perspective, had led me to understand that the primary focus of Indian forest management was on Joint Forest Management, a type of participatory program, which was the focus of nearly all literature published on contemporary Indian forest management (for a review see Springate-Baginski and Blaikie 2007). This literature emphasized the important role forest officials played in determining the success of the program, but had little to say beyond that about what made officials help or hinder the program, and thus, my initial focus was on understanding the role of forest officials in Joint Forest Management.

During that first visit I spent time in several states, and consulted extensively with experts in the forest department, major NGOs, and academia. My goal was to understand how variation in the implementation process for Joint Forest Management might contribute to reported variation in outcomes. The first surprise was how much else was going on in forest management in the field. Even activities under the rubric of Joint Forest Management were more varied than portrayed in the literature. Thus I expanded my focus beyond the single program to look more broadly at the process of policy implementation. A broadened focus enabled comparisons between policies to see whether characteristics of policies contributed to their

success or failure. I also heard from my sources that there were important variations in the ways that policies were carried out at the state level – unsurprising given the fact India’s federal system gives states substantial latitude to carve out their own position in forest policy – and also at the lower level of the forest division, where I heard that the distinct preferences of forest officers often led to different emphases in carrying out forest policies. A research design that studied diverse policies across multiple states and several divisions within each state allowed me to maximize the variation in implementation processes that I could observe, but there was obviously a tradeoff between breadth and depth (Read 2010). I ultimately decided to focus on only two states, as I believed that that was the limit to what I could conceivably know well within a single year of field work. Although visits to several divisions within each state meant that I would not know any single place with the depth of a single-site based ethnography, the multi-sited approach would allow for greater comparison while allowing me to understand the operations of two state-level forest departments.

In order for this strategy to be effective, it was necessary to select two states that would differ as much as possible in terms of variables of theoretical interest, yet be similar in other respects. As identified in the literature review, bureaucratic structure, political context, and values of bureaucrats are key influences on the role of bureaucrats in policy implementation processes. Other variables likely to influence policy implementation, but not of theoretical interest in this dissertation, include underlying biophysical, ecological, and social conditions, as well as the types of programs being implemented. Thus, I searched for states which had similar biophysical, ecological, and social conditions, and were implementing the same or very similar laws and programs, but which differed in terms of bureaucratic structure, political context, and/or bureaucratic values. It is worth emphasizing here that while this selection of sites thus controls

for key variation while allowing for variation in variables of interest, enabling controlled case comparisons that can be used to test theories, the primary logic at work in this study is not that of a quasi-experiment (i.e. Campbell 1969; Shadish et al. 2002), but rather the logic of ethnographic abduction, in which variation serves as the basis for theoretical development.

These criteria led me to select Andhra Pradesh & Maharashtra as the focal states, as these states are different in terms of variables of interest, but similar in terms of other key measures (see Figure 2 and Figure 3) Both states are large, relatively wealthy states with diversified and industrialized economies and thriving agricultural regions (Government of Maharashtra 2002; Center for Economic and Social Studies and Government of Andhra Pradesh 2008). Forests in both states are concentrated in sub-regions that are remote, poor, and have low levels of human development. Although both states are large enough to contain diverse forest types, the region in which they share a border (Vidarbha on the Maharashtra side, Telangana on the Andhra Pradesh side) is dominated by the tropical dry deciduous teak forest type (Champion and Seth 1968). Rainfall varies from 1400 mm in the wettest areas in the eastern part of the region to less than 700 mm in the driest areas to the west and south. Rain falls almost exclusively from June through September. The wetter areas receive more consistent rainfall year to year, with the drier areas frequently experiencing strong droughts. Forest types and densities vary according to rainfall, with the better quality teak growing primarily in the wetter areas. Winter, lasting from November into February, brings cool temperatures, and frost has been recorded in the hills at the northern edge of the region. Summer, from March through early June, brings intensely scorching heat, with temperatures regularly reaching 47 celsius. Water shortages at this time are a severe problem for humans and animals. Many residents of the region report that in recent

years rainfall has grown more erratic, summer temperatures have increased, and the duration of the winter season has become shorter.

This part of the Central Deccan plateau is typified by broad flat plains, broken up by several small ranges of hills and deep valleys that drain into the Godavari River. Although forests remain in some plain areas, they dominate in the hills. Irrigation potential is limited, and most agriculture is rainfed. Rice is grown in the wetter areas, while in the drier areas millets, dals, and beans are more common. Cotton has long been a major cash crop throughout the region, and some areas have other specialties – Vidarbha is famous for its oranges. Shifting cultivation persists in a few remote areas of Andhra Pradesh. The regions have been in the news recently due to spates of farmer suicides which appear to be driven by excessive debt burdens, but farmer suicides appear to be less common in the wetter areas where most forest are (Gruère and Sengupta 2011; Narasimha Reddy and Mishra 2009).

The two regions have a similar and rather poorly documented social history of migration, invasion, and intermingling (Guha 1999; Prasad 1999; Sundar 2008), which leads to a complex mixture of socio-cultural groupings at the local level. In the forested areas of both states members of the Gond tribal and language group are dominant (von Fürer-Haimendorf and von Fürer-Haimendorf 1948; von Fürer-Haimendorf and von Fürer-Haimendorf 1979; Kulkarni 2007; Sastry 1984, 1989; Elwin 1992; von Fürer-Haimendorf 1943, 1945, 1990), although there is also a great diversity in the origins and social histories of both the Gondi-speakers and of other groups living in forest areas. The Gonds and other tribal⁵ groups have been economically and socially marginalized. The major urban areas of the region – including not only the large cities

⁵⁵ The concept of tribe in India is complex and contested (for example see Béteille 1986; Béteille and Gupta 2005). I use the term here to describe the legal status of those groups listed as scheduled tribes.

of Hyderabad and Nagpur, but also smaller cities, are filled with immigrants from across the subcontinent.

Despite these similarities, there were colonial-era differences in forest management practices between Telangana, formerly a part of the princely state of Hyderabad (Abdul Thaha 2009), and Vidarbha, part of the British-run Central Provinces (Rangarajan 1996b), and cultural variation within and between the regions is large, as is the case for all of India. However, the similarities in the border regions of the two states, where fieldwork was conducted, are as high as can be hoped for when comparing regions of India, and the differences in history or local cultures were not found to be very significant for explaining the implementation behavior of forest officials, although they may be significant in explaining other variations between the two regions.

Maharashtra	Andhra Pradesh
Similarities:	
Tropical Dry Deciduous Teak Forests	
Large, relatively wealthy states with diversified economies	
Forests in remote, impoverished regions	
Differences	
“Traditional” Forest Department	“Progressive” Forest Department
Congress Party dominant	Competitive two-party system

Figure 2: Comparison between states on key variables of interest



Figure 3: Map of India with study region shown with cross shading.⁶

⁶ Data source: State and District boundaries provided by Harini Nagendra. Note that external boundaries of India have not been verified, and are represented here as approximations for the purpose of displaying the study area in the national context.

The states differ on two of the three key variables of interest. It turns out that there is very little variation in the organizational structure of Indian forest departments across the entire country, so such variation could not be studied. The states differ in terms of their political context and the values emphasized by their departments. In terms of political context, Andhra Pradesh has had a highly competitive two party political system since the early 1980s, in which populist electoral platforms and retrospective evaluations of government performance increasingly dominate over caste loyalties and political patronage (Suri 2002; Mooij 2007a; Elliott 2011). Forest issues are rarely central to election campaigns, but do play a significant role in state politics. Although the strength of the Congress Party in Maharashtra has lessened in recent years (Palshikar and Birmal 2009) the state continues to be politically dominated by the Maratha caste elite of the western part of the state, who also control the Congress Party (Rosenthal 1977; Kamat 1980; Lele 1981; Lele 1984; Guru 1995; Dahiwale 1995; Deo and Sirsikar 2000). Because the political center of gravity in Maharashtra is in the west, particularly the giant city of Mumbai, a 12+ hour journey from the sparsely populated but heavily forested region in the east, forests play a very minor role in state politics. These differences in both the level of political competition and the importance of forests in state politics are expected to lead to different kinds of political influences on forest policy implementation.

In addition to different political contexts, these two states have forest departments that have placed emphases on different aspects of forest management, and thus may have distinct value systems. Andhra Pradesh is known for its enthusiastic adoption of participatory approaches to forest management and close collaboration with the World Bank on implementing these projects (Milne et al. 2005; Sustainable Development Department 2010; Rangachari and Mukherji 2000; Sector and Thematic Studies Group: Operations Evaluation Department 2002).

The logo used by the Andhra Pradesh forest department at the time of my fieldwork featured the words “Forestry for People” and included a schematic drawing of a circle of people surrounding a tree. In addition to its enthusiasm for participatory reforms, the AP forest department was also distinguished by great efforts to utilize information technology, including a first in the nation state-level assessment of forest resources using remote sensing (Andhra Pradesh Forest Department 2010a, 2010b) and extensive information, including the cell-phone number of every official in the department, made available on the department website. By contrast, Maharashtra is seen as a laggard with regards to participatory approaches (Jha 2004; Ghate 2008a) in spite of its also having had a World Bank project focused on participatory forestry (The World Bank 2000), and while some information technology is in use in the department, it lacks the pervasive orientation towards using information technology to enhance operations and transparency that is found in Andhra Pradesh. Among foresters in the region, Maharashtra is known for sticking closely to the British tradition of “scientific” forestry, and foresters in both Maharashtra and Andhra Pradesh describe the Maharashtra forest department as being much more oriented towards standard forestry work such as careful annual boundary maintenance, forest surveys, preparation of working plans, and marking and maintenance of areas selected for harvests. Although these distinct emphases may be the result of long-term processes, including the distinct histories of the two forest departments and the different political environments of the two states, the important point for this analysis is that the values emphasized in program implementation are likely to differ between the states.

Within each state, four forest divisions were selected, with the goal of maximizing the diversity of implementation conditions. As much as possible, forest divisions were paired across states so that similar types of divisions were studied in each state. In order to maintain low

levels of diversity of forest types and social conditions, all divisions were selected from within the Vidarbha sub-region of Maharashtra and the Telangana sub-region of Andhra Pradesh. In addition, I decided to focus my study primarily on the “territorial” divisions of the department, which are the primary land-management units, as opposed to more specialized subunits focused on protected area management, commercial production, or interfacing with other government departments and private landowners. The names of individual forest divisions have been withheld to protect the identities of key informants, and here they go by an ID number. Unlike at the state level, where detailed information was available about conditions of interest, division-level information was less readily available – in fact, prior to visiting divisions it was nearly impossible to obtain accurate maps or data on the divisions. As a result, I had to rely on expert informants in regional capitals (Nagpur in Maharashtra, Hyderabad in Andhra Pradesh⁷), as well as on district-level census data, which did not necessarily conform to forest division boundaries, as many districts contain several forest divisions.

I sought to capture variation within each state in conditions which I expected to affect the ways that bureaucratic interactions would affect policy implementation, and sought to pair similar divisions across state lines, although exact matches were not possible (see Figure 4). First I looked at levels of human development, which I expected to correlate with the level of sophistication of the local populace in dealing with bureaucrats and politicians. Divisions MH1 and AP1 both had high levels of human development relative to the other divisions, which correlated with the fact that both of these divisions contained large and fairly wealthy cities. Second, I selected divisions that had a reputation for high levels of political mobilization around forest issues (“forest politics”), which I expected to affect the kinds of political influences felt by

⁷ While Hyderabad is the capital of the entire state of Andhra Pradesh, it is also the principal city in the Telangana region. The capital of Maharashtra is Mumbai, but the principal city in Vidarbha is Nagpur, and because most of the state’s forests are in Vidarbha, the state headquarters for forest administration are based in Nagpur.

bureaucrats. Divisions with high levels of political mobilization included MH2 and MH3, as well as AP2. These three divisions all also had relatively high quality forests, as well as high levels of forest dependence, but AP3 had high quality forests and high forest quality without high levels of political mobilization. High quality forests would be expected to increase commercial interest in forest management. AP3 and MH3 experienced occasional armed conflict between Maoist rebels and police, a factor that was largely absent in the other divisions (though reportedly MH4, and AP2 and AP4 had seen similar conflict in the past). Some forest officers believed that the presence of armed conflict gave forest users greater freedom to use the forest and greater leverage to negotiate with officials, a conclusion supported by some outside analysts (Suykens 2010), however civil society actors also pointed out that armed conflicts tended to depress civil society engagement, as community activists were vulnerable to being attacked as collaborators by both sides in the conflict. MH1, MH2, MH3, and AP3 were all adjacent to wildlife sanctuaries, which I expected to affect the level of human-animal conflict, as well as the presence of large national and international NGOs. Finally MH4 and AP4 were selected as divisions that had low levels of all variables of interest – human development, forest politics, forest dependence, forest quality, armed conflict, and wildlife. I expected that in these divisions, political influences on the forest department might be particularly low. As it turns out, division-level variation in bureaucratic policy implementation was much lower than I expected based on preliminary discussions.

	Maharashtra				Andhra Pradesh			
	MH1	MH2	MH3	MH4	AP1	AP2	AP3	AP4
Human Dvlpt.	H	L	L	L	H	L	L	L
Forest Politics	L	H	H	L	L	H	L	L
Forest Dependence	L	H	H	L	L	H	H	L
Forest Quality	H	H	H	L	L	H	H	L
Armed Conflict	L	L	H	L	L	L	H	L
Wildlife	H	H	H	L	L	L	H	L

Figure 4: Selection of forest divisions: variation on key measures.

1.2.3 Data Collection

Data were collected during visits to India during June, July, and August 2009 and between May 2010 and March 2011. The 2009 visit was focused on refining research questions and selecting states to study, while the initial months of May-September 2010 were focused on selecting forest divisions and obtaining official permissions for research. During this time I met with and had extensive interviews with senior forest officials, academics, and leaders of larger NGOs in New Delhi, Hyderabad, Nagpur, and several other regional administrative and educational centers in other states, and collected numerous documents. My interviews of 19 currently or recently retired forest officials of the rank of Conservator of Forests or higher in Andhra Pradesh state headquarters, and 11 similar officials in Maharashtra, constitute a significant percentage of all the officials involved in high level administrative or policy-making posts in the forest departments of the two states.

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Visits to the 8 divisions began in September 2010, and continued through March 2011. I spent 2-3 weeks in each division, sometimes continuously and sometimes interrupted by visits to other divisions. Interviews with senior officials and other educated people were conducted in English, which is a language commonly used among educated people and in higher levels of administration. I hired a research assistant to help with translation from Hindi (which I speak poorly) and local languages (Marathi in Maharashtra and Telugu in Andhra Pradesh). My first assistant, who I worked with me in division MH1, and part of my visits to MH2 and MH3 was a recent engineering graduate who was between jobs. He had no previous experience in forests in the region, and was relatively open-minded and eager to learn about the subject. Since he did not speak Telugu, and since he was hired for a more lucrative position, in November I replaced him with a second assistant, an MPhil candidate in economics at the Centre for Economic and Social Studies in Hyderabad, Andhra Pradesh, who was fluent in Telugu, Marathi, and Hindi, and who accompanied me on the remainder of the field visits. His greater field experience and social science education, and the fact that he grew up in a rural (though not forested) area in one of the forest divisions under study gave him greater insight into some of the problems under study, but also led him to have more biases, and so I worked carefully to insure that I was not biased by his past experience. Both assistants performed their work as assistants and translators admirably.

I began my visit to each forest division with visits to the circle and division headquarters, where further permissions were granted for visits to the field. I utilized snowball sampling from these head offices to locate additional forest officials as well as other informants, including those working for other government agencies, NGOs, and local political leaders. I complemented this snowball sampling with visits to other key government officials in the revenue and tribal departments, as well as snowball sampling through activist and political networks based in the

major towns in the region. Due to the diverse nature and roles of informants, I did not follow a standard interview schedule, but tailored questions to the individual informant. In addition to formal interviews, I spent many hours as a participant observer, particularly with divisional and range forest officers, observing the comings and goings in their offices and accompanying them on their frequent field tours. Wherever possible I collected documents, including annual reports and budgets, as well as long-term planning documents. My ability to conduct participant observation, locate informants, and obtain key documents, varied from division to division based on the willingness of key officials to cooperate with my research, thus explaining the large variation in the numbers of forest employees I was able to interview in different divisions (see Table 1, Figure 5 and Figure 6).

These data collection techniques were vulnerable to bias in the direction of observing a higher functioning and less corrupt forest department. For many forest officers, my visit fit into the paradigm of making inspection tours. Since I carried letters of endorsement from senior officers, I was frequently given a tour resembling those that might be given to visiting superiors, designed to impress. This was accentuated by my being a white foreigner - with many officers explicitly going out of their way to showcase their hospitality and good work to their guest.⁸ It was also accentuated by my very limited command of Hindi and inability to speak local languages, including Marathi and Telugu. Although my assistants helped me overcome this disability, I undoubtedly missed many veiled references and subtle cues in these languages. Conducting interviews in English gives them an air of formality for officials who use English primarily as a language for bureaucratic communication. I triangulated my data to correct for this

⁸ Once, while interviewing a range officer, he started telling a long story in the local language to my assistant. When I asked my assistant for a translation, he gave a very vague answer. In private later, he explained to me that the range officer had been relating a story about corruption, and had specifically asked my assistant not to translate it for me because it would be best if I didn't know how bad things really were. I had a good assistant, who remembered the story and repeated it to me later.

bias by developing trusting relationships with officials who then felt comfortable revealing more of their work to me, as well as by cultivating informants in political and activist networks who were critical of forest administration.

Following standard practices for ethnographies involving potentially illegal or otherwise hidden activities, I did not record interviews, but took extensive jottings in notebooks which I translated into typed field notes on a daily basis. (Emerson et al. 1995; Bernard 2006; Wolcott 2001, 2005; Hammersley and Atkinson 2010). In their entirety, these fieldnotes contained 706, 938 words, or nearly 3,000 standard manuscript pages. These fieldnotes, in addition to the documents collected, constitute the primary data for this dissertation.

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Table 1: Primary informants, sorted by job type and location interviewed⁹

Row Labels	AP				MH				Other locations	Grand Total			
	Delhi	HQ	AP1	AP2	AP3	AP4	HQ	MH1	MH2	MH3	MH4		
Conservator of Forests or Higher	1	19	3	1	2	0	11	2	3	0	2	13	57
Divisional Forest Officer	0	0	0	2	4	2	1	0	3	1	3	1	17
Assistant Conservator	0	0	2	1	0	1	0	2	1	4	3	1	15
Range Officer	0	0	0	3	3	1	0	3	2	1	7	1	21
Section/Round Officer	0	0	0	9	3	0	0	1	1	0	4	0	18
Forest Guard	0	0	0	1	0	0	0	0	1	0	0	0	2
Forest dept.													
Clerk/Accountant	0	2	0	0	2	0	3	0	3	0	2	1	13
Other Govt. Employee	2	6	1	3	3	2	1	1	4	3	3	0	29
Academic	8	1	0	0	0	0	1	0	0	1	0	5	16
Businessman	0	0	0	1	0	0	0	2	0	1	0	0	4
Small Local NGO	0	1	1	1	3	1	1	3	8	2	7	0	28
Large professional NGO or IO													
Politician	0	0	0	3	0	0	0	0	1	1	1	0	6
Other	0	0	0	1	0	0	0	0	0	0	0	0	1
Grand Total	14	33	7	26	20	7	19	14	27	16	32	22	237

⁹ Ranks within the forest department are listed in descending order within the hierarchy (i.e. conservator of forests or higher is the highest rank, forest guard is the lowest). These ranks are described in detail in chapter 2. This chart displays primary informants who I interviewed on a one-on-one basis. It does not provide information on my frequent interactions with local villagers and with many lower level forest department employees, such as forest guards, junior clerks, peons, drivers, chowkidars, and casual laborers. During the course of my interactions with the middle-level forest officers who were the focus of my study, I frequently had the opportunity for brief, and occasionally somewhat involved interactions with subordinate forest department employees, village leaders, social workers, and joint forest management committee members. Often these interactions were very brief, mediated through higher level officials, and/or in the context of large-group interviews which my assistant and I organized as informal focus groups. For example, a not untypical field visit with a range forest officer might include a stop in a village where we would share tea with the local forest guard as well as 8-10 members of the joint forest management committee, and discuss with them local village affairs. I did not gather systematic data on the number of such individuals I interacted with. Adding these individuals, about whom I did not gather detailed data since they did not form the focus of my study, would add several forest section officers, many forest guards, junior clerks, peons, and drivers, and dozens of local villagers.

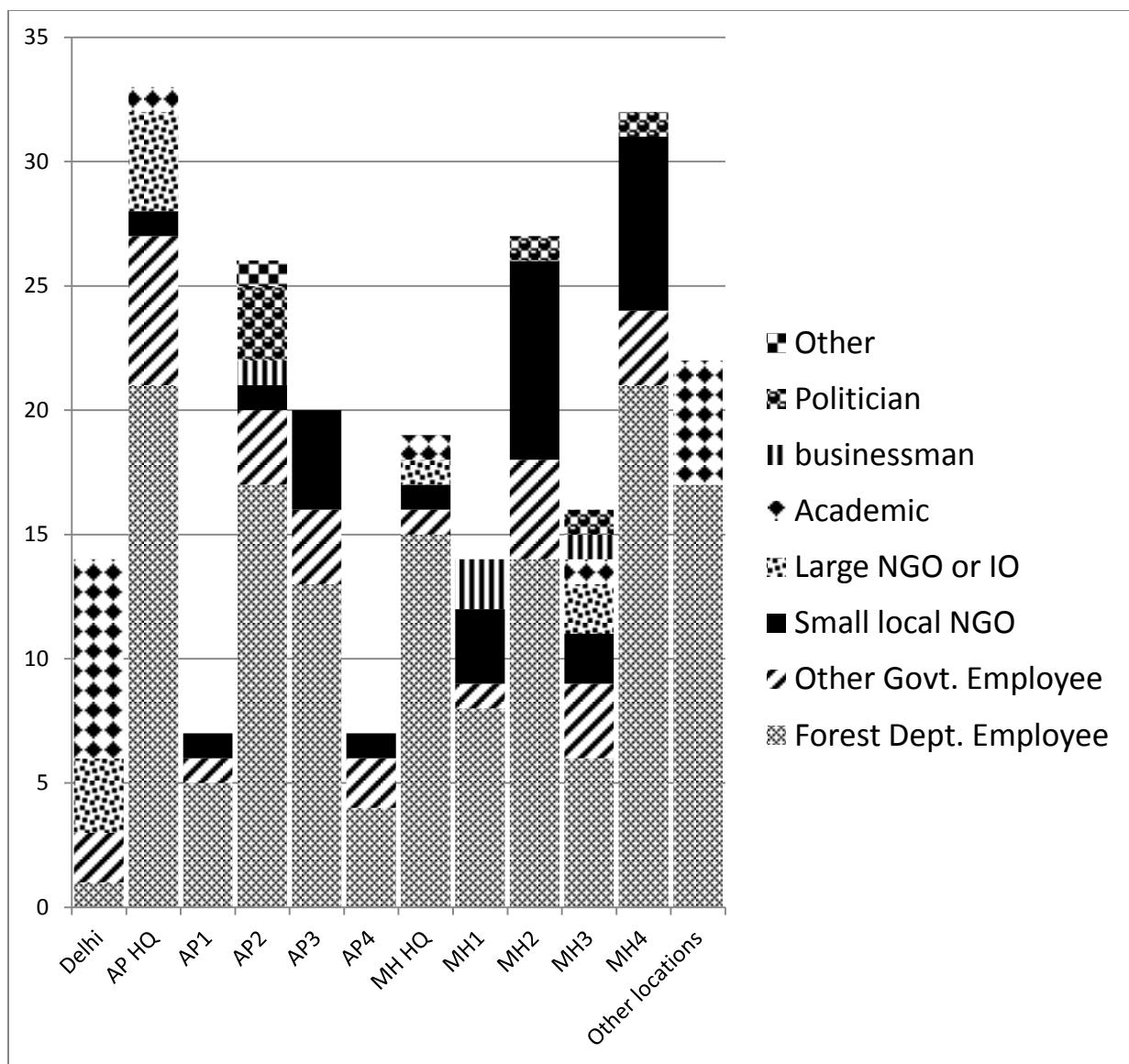
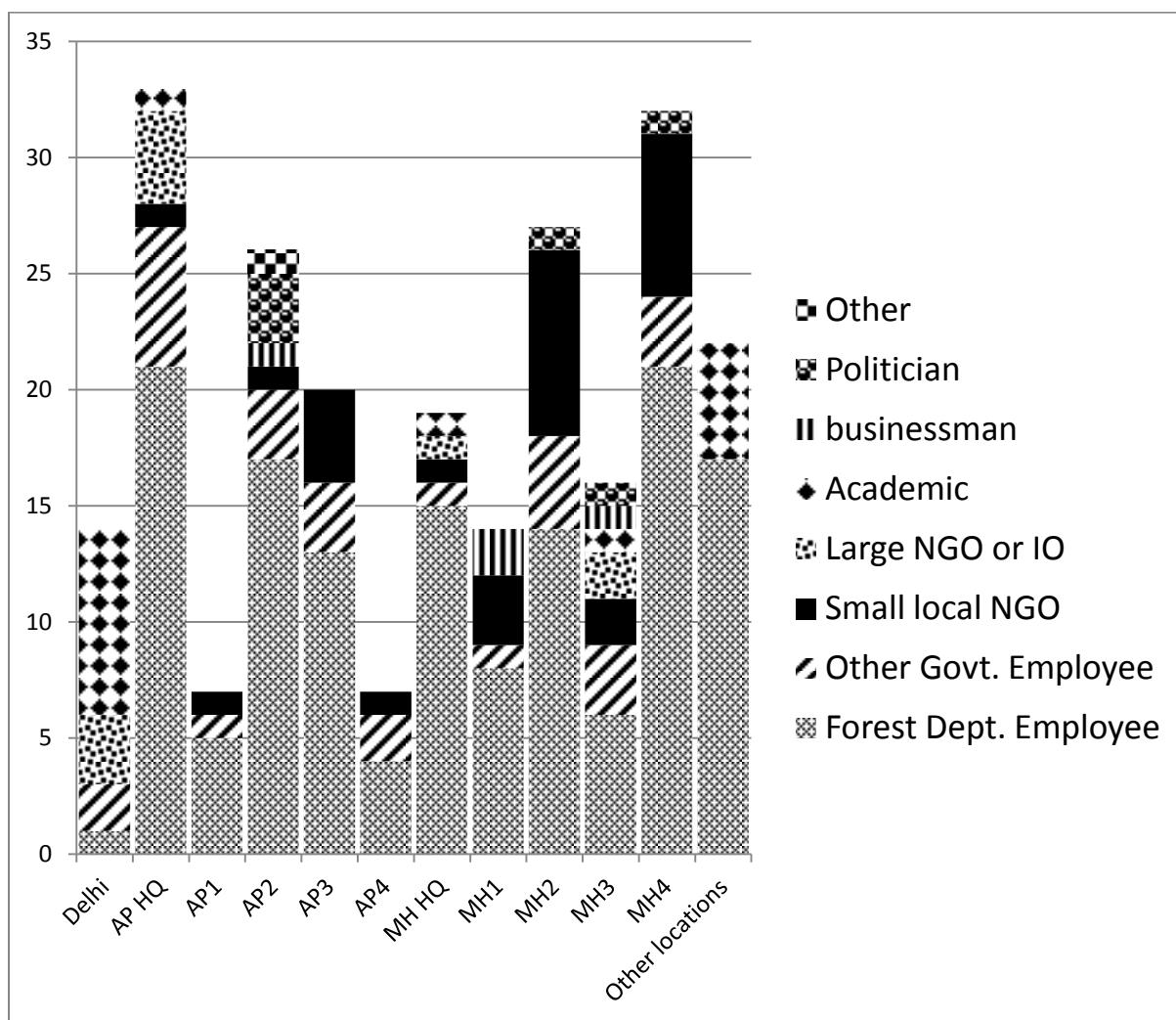


Figure 5: Informants in each fieldwork location (all types)

Figure 6: Forest Department informants sorted by location



1.2.4 Data Analysis

As described above, the logic of ethnographic research, in which the goal is theory development, is fundamentally different from the logic of theory testing, and thus analytical practices and techniques are fundamentally different. There are a variety of approaches to theory development in ethnographic research, yet all draw on a similar repertoire of techniques: these include developing initial impressions through the writing of initial memos and creating initial coding schemes while gathering data, reading and coding of textual data (such as fieldnotes, documents, and interview transcripts) outside of the field, making systematic comparisons

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between cases or instances, writing memos to explicate concepts, returning to textual data to verify and enrich concepts, and the writing of drafts (Glaser and Strauss 1967; Bernard 2006; Wolcott 2009, 2005, 2001; Becker 1998; Locke 2011, 2001; Corbin and Strauss 2008; Watson 2012; Van Maanen 1988; Van Maanen et al. 2007; Hammersley and Atkinson 2010). As Locke (2001 p. xi) notes, the nature of their research enterprise makes ethnographers especially attuned to their role as interpreters of observation and generators of theory, and thus particularly aware of the ways in which linear reconstructions of the research enterprise disguise the highly personal and idiosyncratic nature of discovery within the research process. Following Locke, in this section I explain how analysis was conducted from early fieldwork through the process of writing the dissertation.

Abductive theory development in ethnography relies on exposure to develop new theories (Peirce et al. 1960; Van Maanen et al. 2007; Agar 2010; Watson 2011). I have already noted that my initial pre-dissertation visit to the field during 2009 led me to a notable surprise. I was aware that bureaucrats were frequently mentioned, but rarely studied, in the literature on joint forest management in India, but until I began interviewing them, I did not understand how joint forest management was only one of many activities they were engaged in. An initial stage of analysis began when I adjusted my research plans to incorporate a broader emphasis on policy implementation writ large, rather than just on the few policies receiving scholarly attention. Later stages of analysis involved detailed coding of field notes and documents collected during fieldwork, as well as writing memos connecting ideas and preparing initial drafts. This follows best practices prescribed in literature in both the abductive paradigm described by Van Maanen and Agar, as well as the grounded theory approach (Glaser and Strauss 1967; Corbin and Strauss 2008; Locke 2001).

Initial data analysis occurred in the field, and led to updating of questions asked in interviews and documents requested from offices. Once I began my research in earnest during 2010, my interviews and observations rapidly led me to further unexpected findings, which in turn led me to add additional questions to my interviews and requests for documents. This represented an initial stage of analysis. For example, I found that forest officers were relying on decision-making procedures that had not been discussed in the literature I had read. These were called working plans, and were supposed to be prepared for every forest division at 10-year intervals. Once I learned of the existence of these plans, I requested them in every division I visited. This led to additional puzzles: the processes for preparing the plans differed rather dramatically between the two states, but their actual implementation on the ground differed less. While in Maharashtra well-equipped working plan offices had permanent staffs in each circle, in Andhra Pradesh pending working plan revisions were not being attended to and past working plans showed signs of being completed in an ad-hoc manner. On the other hand, the field effects of these plans were not so dramatic. The plans in Andhra Pradesh were not sufficiently detailed to provide close direction to field work, and in practice were largely ignored. Officers in Maharashtra followed their working plans closely, yet those plans were so loose as to allow great discretion in decision-making, resulting in outcomes similar to those in Andhra Pradesh.

Ongoing observations & reflections based on my growing understanding of the work of forest officials as I spent more time in the field with them led me to the development of several initial theoretical ideas. These focused on the following areas. First, I thought that there might be important influences on the behavior of forest officials that arose from the structure of the organization itself – i.e. from the patterns of hierarchical control, pay and promotion incentives, formal reviews, and training. Second, forest officials themselves constantly emphasized to me

the pervasive influences of politicians on their behavior. Third, I found that there was something, although initially I was not sure what, about the history and culture of the forest department that led to certain kinds of behavior.

After returning from the field, I turned towards creating a systematic coding scheme to reorganize my field notes in order to facilitate deeper analysis. Although coding is an old technique for qualitative researchers (early researchers cut copies of their notes into pieces and put the pieces in piles to represent different themes), it is greatly facilitated by the use of qualitative data analysis software, which allows the user to apply numerous codes to the same piece of text, as well as to analyze relationships between different codes (Hammersley and Atkinson 2010; MacMillan and Koenig 2004; Locke 2001; Bazeley 2007). I imported my notes, as well as other documents, into the NVivo 9 software package, and began systematically coding the thousands of pages of resulting data. There is no universal best practice for developing a coding scheme, and following the advice of Bazeley (2007), I initially experimented with several different coding schemes, eventually developing a coding scheme which focused on identifying large-scale themes, as opposed to a more detailed scheme in which phenomena are dissected into component parts.

The coding scheme focused on three major themes, as well as several minor themes. The three major themes were: (1) influences of organizational structure on bureaucratic decision-making, (2) political influences on bureaucratic decision-making, and (3) influences of departmental culture and bureaucratic values. These three major themes correspond to those identified in Figure 1, and were derived both from the literature and from observations made in the field. They also roughly correspond to the topics of the three empirical chapters of this dissertation. Political influences were sub-coded by the dimensions of political influence

described in chapter four. Additional minor thematic codes focused on specific elements of forest department work – including major laws and programs (joint forest management, forest right act), as well as tools (working plans, plantations). In addition to these thematic codes, field notes were coded by informant and location to provide rapid access to information about individuals and locales.

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Table 2: Major themes identified in Fieldnotes, listed by number of references/number of words in fieldnotes.¹⁰

	All Influences	Civil Society-State Relations	Political Influences	Corruption	FRA	JFM	Everyday Life in FD	Planning & Working Plans	Maoist Rebels	NTFP Mgmt
Forest Divisions:										
AP1	137 / 28692	7 / 10435	33 / 6453	15 / 3562	30 / 12167	35 / 7994	22 / 7139	21 / 4196	3 / 724	2 / 226
AP2	94 / 25714	7 / 13501	23 / 11871	12 / 3953	35 / 13485	39 / 14473	39 / 9927	22 / 5852	20 / 4047	9 / 2081
AP3	236 / 43848	14 / 15177	18 / 3701	44 / 8824	42 / 23352	25 / 5374	34 / 9279	39 / 6958	12 / 11969	6 / 887
AP4	24 / 8880	4 / 3229	5 / 534	1 / 166	7 / 4334	20 / 6654	7 / 7603	2 / 953	1 / 157	3 / 167
MH1	82 / 18880	18 / 5968	26 / 6004	4 / 750	15 / 3967	47 / 8804	39 / 10161	24 / 5123	4 / 779	2 / 440
MH2	123 / 28838	32 / 37837	23 / 4558	7 / 1539	43 / 16666	36 / 16228	32 / 8056	32 / 12779	6 / 954	5 / 1147
MH3	61 / 15480	15 / 11385	10 / 2407	4 / 980	13 / 6113	20 / 3479	16 / 3853	12 / 4026	16 / 3285	22 / 5086
MH4	83 / 16410	15 / 10664	11 / 2788	5 / 966	26 / 7830	27 / 9241	28 / 8411	34 / 9827	1 / 92	1 / 22
Job/Position:										
CF or Higher	219 / 50821	21 / 4302	64 / 13596	26 / 5021	56 / 21790	83 / 25452	49 / 18076	47 / 14435	10 / 1721	4 / 643
DFO/DCF	358 / 73696	35 / 7855	45 / 8878	53 / 11019	47 / 8127	56 / 9312	70 / 20920	42 / 7467	12 / 1830	9 / 1560
ACF	100 / 32400	6 / 1191	16 / 3856	4 / 1179	21 / 4439	27 / 7442	42 / 15054	26 / 9960	6 / 1096	9 / 1260

¹⁰ The first number is the number of references refers to the number of times I coded a piece of text from my fieldnotes as pertaining to a particular theme, but does not indicate the length of that text. This is provided to give a sense of the frequency which that theme appeared in the fieldnotes. The second number is the number of words in the fieldnotes coded to that theme, and gives a sense of the length of conversation/observation pertaining to that theme. In neither case should these numbers be seen as an absolute measure of the frequency of the phenomena, as the data were not gathered through statistically systematic sampling procedures, however the numbers give an indication of the spread of sources and themes out of which this research developed.

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RFO	255 / 52308	11 / 2119	19 / 4941	29 / 6237	41 / 7038	45 / 12528	58 / 14363	46 / 11681	10 / 1522	8 / 1837
FSO/DyRO	100 / 20265	5 / 9028	8 / 5236	8 / 1366	23 / 4855	24 / 12874	31 / 7953	36 / 7692	8 / 1481	3 / 421
Beat Guard	10 / 1720	0 / 0	1 / 233	2 / 483	1 / 233	2 / 3602	5 / 1653	3 / 1109	1 / 39	0 / 0
Clerk/Accountant	22 / 5334	2 / 478	5 / 963	1 / 419	2 / 474	2 / 167	11 / 2870	18 / 3696	1 / 87	1 / 214
Other Govt. Employee	22 / 8763	11 / 3284	5 / 562	3 / 566	21 / 31998	4 / 1396	1 / 142	1 / 58	4 / 704	2 / 284
Small/Local NGO	31 / 7075	48 / 73551	16 / 4519	6 / 1298	49 / 24688	39 / 18408	3 / 261	8 / 1686	6 / 14555	5 / 1205
Large NGO	6 / 1266	13 / 7381	1 / 101	1 / 140	3 / 837	19 / 6732	0 / 0	0 / 0	4 / 715	6 / 1961
Academic	4 / 662	1 / 4161	0 / 0	0 / 0	9 / 2408	13 / 5470	1 / 119	0 / 0	1 / 92	1 / 220
Politician	4 / 749	2 / 9144	5 / 9853	3 / 1751	10 / 3426	6 / 1212	0 / 0	1 / 557	0 / 0	4 / 1607
Businessman	6 / 2140	0 / 0	0 / 0	0 / 0	0 / 0	1 / 161	0 / 0	0 / 0	1 / 379	9 / 1248

Table 2 presents data on the frequency with which different themes appeared in my fieldnotes. Such a presentation may mislead a quantitatively oriented researcher into describing the data analysis as consisting of informal frequency counts of phenomena. As I have described above, however, the analysis places greater focus on observing the process through which events take place, as opposed to the frequency of association between events. Qualitative researchers often differentiate between what (Bernard 2006 146-7) describes as “cultural data,” as opposed to “individual attribute data.” While assessing individual attributes us requires us to interview individuals, “cultural facts are shared and so cultural data require experts.” Bernard (*ibid*, p. 187) gives an example: “Think of the difference between asking someone “how old was your child when you first gave him an egg to eat?” versus “at what age do children here first eat eggs?” For the latter question, one would not expect variation in the answers of informants from within the same culture, as they would all draw on the same body of information. Similarly, many of the processes described in this dissertation are the same across the bureaucracy. A single bureaucrat with many years of experience can provide detailed information about how bureaucratic processes work in a way that is more useful than a superficial survey of many individuals. Although in some cases this dissertation does describe events using counts of their frequency, much of the data presented here draws on the expert knowledge of bureaucratic informants.

1.3 Plan of the dissertation

This dissertation proceeds as follows. As described above, one of the surprising aspects of this research was the large mismatch between what is described in the scholarly literature on Indian forest management and the actual practices of forest officials. Description is the foundation for all kinds of deeper theoretical and causal claims (King et al. 1994), and chapter 2 provides a description of the Indian forest department, focusing on how history and formal rules

affect the everyday working of forest officials. Chapter 3 builds on this description by examining whether formal organizational structure can account for the failures of forest policy implementation in Central India. In this chapter I compare the organizational structure of the Indian forest departments to a classic account of a highly effective forest bureaucracy – the United States Forest Service of the 1950s. In this account, Herbert Kaufman (1960), credited the US Forest Service's effectiveness to aspects of its organizational structure that are closely replicated in the contemporary Indian forest departments. This implies that organizational structure alone cannot account for the Indian forest policy failures, although the small differences between the administrative system described by Kaufman and that found in India today provide suggestive ideas about where formal institutional reform might be profitably directed. The chapter also provides a test of Kaufman's classic theory of successful public organizations, and the evidence from India suggests that Kaufman's theory may need to be revised to take into account additional variables.

Chapter 4 examines the political context of forest administration, a topic largely ignored by Kaufman. After a review of literature on political influences on public administration, I develop a novel typology which organizes existing theories about the relationship between politics and administration along two dimensions: top-down versus bottom-up and programmatic versus particularistic. I find that the prevalence of particularistic influences on bureaucratic decision-making is a major explanatory factor in the poor implementation outcomes I document, but I also show that this is an incomplete explanation.

The fifth chapter examines the role the internal institutions of the bureaucracy play in reproducing practices that are maladaptive. I examine why foresters plant trees, and find that although foresters are good at planting trees, their tree planting activities contribute little to

achieving their policy goals. I examine how internal review and reporting practices reinforce tree planting as a key department technology, and I also show how training practices create the ideology among foresters that tree planting is important work, even when there is fairly clear evidence that the practice is failing to achieve its goals.

The sixth and final chapter of this dissertation concludes this discussion with a synthesis of the main findings. I do not claim to have made a comprehensive analysis of Indian forest policy, but instead to have illuminated several features, ignored in previous literature, which play an important role in explaining the paradoxical role of the government in forest management. I explain why the government is good at doing some things, yet persistently fails to do other things. In this chapter I also discuss the implications of my findings for policy change, and provide suggestions for future research – including some that I am already involved in – which would improve our understanding and contribute to better policy making.

Chapter 2: The context of Indian forest management: History and Administrative Structure

2.1 Introduction

If we are to understand how government officials and their interactions with other actors contribute to failures of forest policy implementation in Central India, we first need to understand who the government officials are, how they are organized, what kinds of interactions they have, and what kinds of policies they implement. Methodologists from across the spectrum of ontological and epistemological doctrines , from Geertz (1974) to King, Keohane and Verba (1994), agree that description is a necessary prerequisite for deeper understanding. Although there have been many studies of historical and contemporary Indian forest management, most histories of administrative structure end in the early 20th century, and there are no systematic accounts of the contemporary pattern of forest department organization. This chapter provides that descriptive background by explaining how the forest department arose, what its basic structure is, and what policies it carries out. This account draws on existing literatures which focus on the history of forest management in India, as well as on evaluation of particular programs. I complement this literature with both official descriptions of forest department operations, which generally focus on the operation of formal institutions, and observations drawn from fieldwork which provide insight into how formal and informal institutions interact to produce policy outcomes. The focus of the description in this chapter is on the diverse sources of influence on the forest department writ large, and the aim here is to provide a context for the remaining chapters which focus on a specific set of influences: those that influence bureaucrats at the level of forest divisions and below as they implement policies. In addition, much of the

description in this chapter is valid for forest administration throughout India, but where relevant I have indicated where the pattern varies between the states and districts covered in my study.

In describing this contextual information, I also begin to explain a fundamental premise of this dissertation: that most policy implementation processes in Indian forest policy are failures. By implementation I refer to the process by which government policies and programs are carried out by officers not involved in the creation of those policies. Although the exact boundaries created by this definition are debatable (Sabatier 1999; Hill and Hupe 2009), in this section I show that while the officials I study in districts play an important role in interpreting policy, they can be clearly differentiated from those officials in the state and national capital who have responsibility for creating policies in the first place. By policy, I refer to all authoritative statements of public intent, including laws, programs, government resolutions, and funding packages. This definition is the one commonly in use in political science, economics, policy studies, and public administration, but it differs from the conventional use of the term among Indian forestry bureaucrats, for whom the term policy refers to a small number of broad and non-binding goal statements that have been issued occasionally by forest departments and ministries, such as the National Forest Policies issued by India in 1952 (Government of India 1952) and 1988 (Ministry of Environment and Forests 1988).

Although the assertion of widespread failure will be expanded on through the remainder of the dissertation, as I explore particular policies, it is important here to point out that there are two types of implementation failures. In the first instance, policies are put into place but are not acted upon – i.e. there is no implementation. In the second instance, the policies are acted upon, but in ways that clearly differ from the intended implementation behavior. Identifying what was intended is controversial in the implementation literature (Hjern and Hull 1982; Sabatier 1986;

Hill and Hupe 2009), but in the cases that I describe, the deviations from official intentions are large and do not enhance the achievement of desirable goals, as described in the work of Hjern. Of course, a significant portion of the policy failures (as opposed to policy implementation failures) may be due to other factors, such as policies that were poorly designed in the first place.

2.2 The Organization of the Forest Department

2.2.1 National Level Organization

Managing the approximately 20% of India's land area that is legally designated as forest land is a complex organizational task, and Indian governments have developed a complex organizational structure to cope with this task. In this section I describe the formal structure of contemporary forest administration, moving from the national to the state to the district level. Many important forest policies, including key laws, government resolutions, and funded programs, are designed at the national level. Since the middle of the 1980s, forests have come under the national Ministry of Environment and Forests (prior to that they were a part of the agricultural ministry), which is responsible for setting national policies, enforcing national laws and supreme court orders related to forestry, running national level research and training institutes, and managing the All-India Indian Forest Service discussed below.

Much attention is given to acts of parliament for which the Ministry is the implementing agency, yet existing acts leave substantial room for interpretation and contestation by the ministry. Important policy decisions are often made by the minister or by his high-level administrative staff in the form of policy directives and government resolutions. There are occasional conflicts between the minister (and his boss, the Prime Minister), parliament, and senior forest officials over the design and interpretation of policies (for discussion of recent conflict between these entities in the context of the development of the Forest Rights Act, passed

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in 2006, see Bose 2010; Kashwan 2011; Kumar and Kerr 2012). Figure 7 is the formal organization chart of the forest section of the Ministry of Environment and Forests, as posted on the website, May 2012. As the chart shows, the forest ministry has numerous responsibilities, including dealing with international treaties related to forests and wildlife, enforcement and monitoring of national laws, administering research and educational programs, and administering national programs that provide grants to state forest departments.

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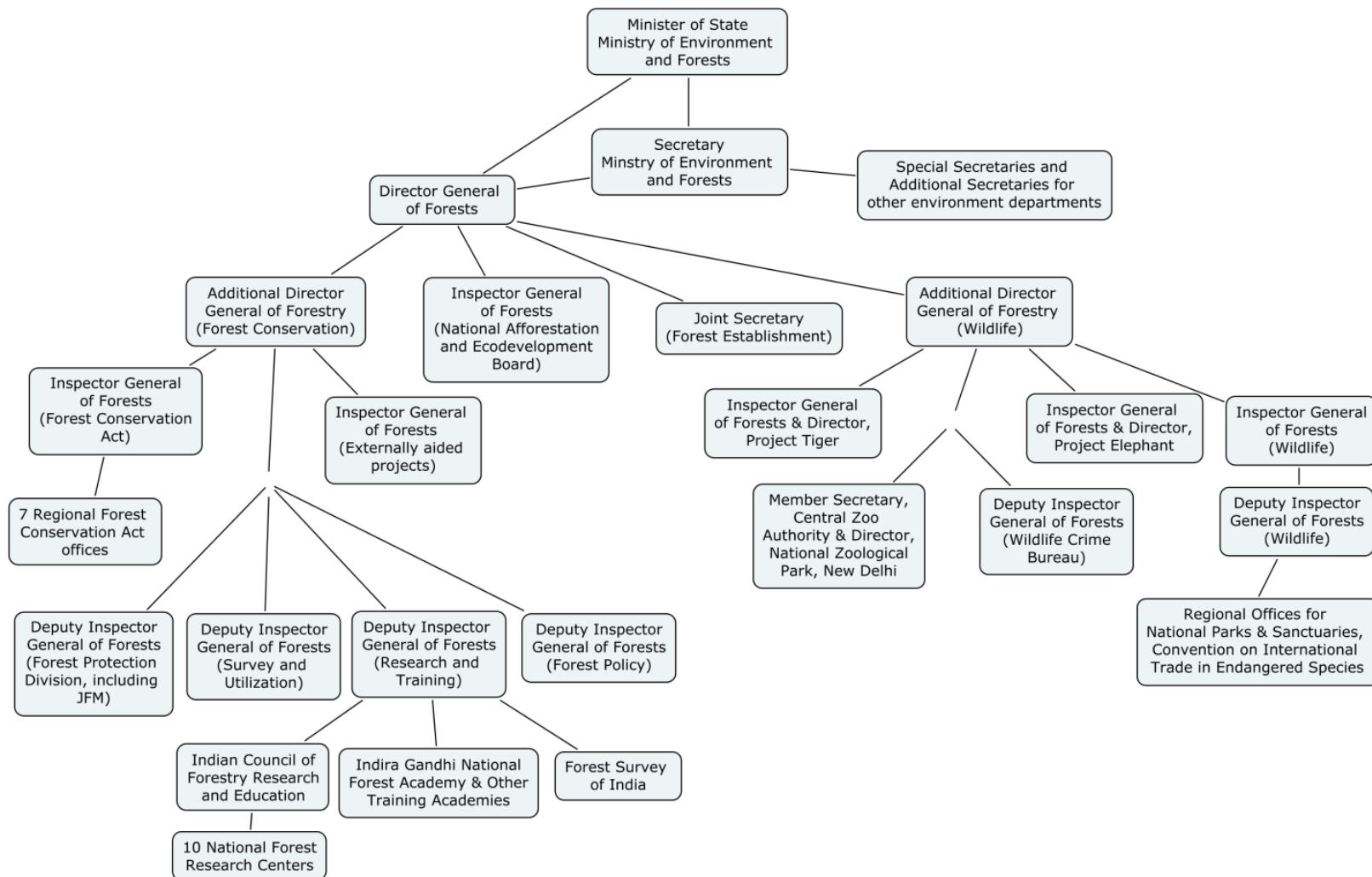


Figure 7: Organization Chart for the Forests Wing of the National Ministry of Environment and Forests.¹¹

¹¹ Adapted from an organization chart downloaded from the MOEF website, May 2012: <http://moef.nic.in/modules/about-the-ministry/organisational-structure/chart-3-11.php>.

Important aspects of forest policy are also influenced by national government actors outside of the Ministry of Environment and Forests. Of these, by far the most important is the Supreme Court, which has asserted vast authority over forest and wildlife policy (Sanctuary Magazine 2003; Nair 2005; Rosencranz et al. 2007; Thayyil 2009; Upadhyay et al. 2009; Sivaramakrishnan 2011; Upadhyay and Sane 2009), and has created standing committees to try to enforce its writ on the Ministry as well as on the state forest departments, with mixed success. Given the limited oversight capacity of the Supreme Court and the often conflicting and sometimes extremely unrealistic nature of its interpretations, there is often a great deal of controversy as to the exact nature of the Ministry's legal mandate. In addition, several other ministries interface with the Ministry of Environment and Forests and state forest departments – for example, the Ministry of Tribal Affairs plays an important role in administering the Forest Rights Act, while the Union Public Service Commission supervises the recruitment and administration of the Indian Forest Service. The ministry also has strong linkages to some universities (including those for which it provides major funding for forestry research) and NGOs and international organizations involved in forestry and based in the national capital.

In addition to authority to make and interpret laws, the central government has two important tools at its disposal to influence behavior of state forest departments. The first tool is funding. As is the case for most state government programs in India, a high percentage of funding for state forest departments comes from central government grants. In many cases funding is provided for the implementation of particular schemes, as was the case for forest development agencies (Additional Principal Chief Conservator of Forests 2003; Ghate 2008a) or the current "National Mission for a Green India" (Ministry of Environment and Forests 2010),

but in other cases central government funding is fairly flexible, as is the case for the funding currently being provided to the states for “Compensatory Afforestation” (CAMPA).

The second tool the central government has to influence state policy is its influence on the Indian Forest Service, and more broadly on training of all forest officers and setting the agenda for forest research. The Indian Forest Service is an elite branch of the civil service that is recruited by the Union Public Service Commission at the National Level through two routes. Two thirds of the Indian Forest Service officers are recruited through a civil service exam that is open to all Indians under age 30 who hold a bachelors degree or higher in science or engineering, while the remaining third are promoted from senior officers in the lower ranked state forest service. Direct recruits attend an intensive two-year training course at the Indira Gandhi National Forest Academy in Dehra Dun, while promotees attend a shorter course. All members of the service return to the academy at intervals for refresher courses. Once trained, direct recruits are assigned to a state which is not necessarily their native state, and spend most of their career in that state. Many also do rotations in various offices of the central government. However, as is the case with similar central government services such as the generalist Indian Administrative Service (Potter 1996), the central government retains some control over promotion and training opportunities, and thus the Indian Forest Service officers may be seen as representatives of the central government working for the state government.

Perhaps more important than the limited formal authority the central government exercises over the Indian Forest Service, the central government also retains authority by setting training syllabi for all forest officer training courses offered both at centrally run forest academies (such as those in Dehra Dun and Coimbatore) and also those operated by the various states (Goyal 2004b, 2004a, 2004d, 2004c; Indira Gandhi National Forest Academy 2010).

Furthermore, the central government also funds most forestry research in the country through the Indian Council of Forestry Research and Education (although state forest departments also operate independent research bodies), and operates many of the country's specialized training courses for forest officers of all levels. As I will show later in this dissertation, training plays an important role in shaping forest officers' professional outlook, which in turn shapes their behavior, and the central government plays a key role in shaping this aspect of forester behavior.

In using these tools, the central government often does not act as a unitary actor, and rarely provides clear and coherent instructions. Although not the focus of this dissertation, the signals that state forest departments receive from the central government are complex and conflicting. Supreme Court orders or new laws often conflict with each other, or with longstanding practices of the department. In theory, such conflicts should be resolved through the legal system, yet India's legal system is weak. Access to the courts is difficult, court cases drag on for decades, leaving inconsistencies unresolved, and courts have limited monitoring or enforcement power. Even without the resulting controversy over the interpretation of legal mandates, tools such as the provision of funding and the development of training programs are often controlled by different actors than those with access to the formal legal machinery, and these actors often make decisions that may undermine the implementation of formal laws – for example, training guidelines which influence what foresters learn about their profession are prepared by a deputy inspector general of forests, an official several ranks below the minister, and do not generate the high levels of public scrutiny given to the development of formal laws. As we will see later in the dissertation, the result is that the actual skills and attitudes possessed by officials in the field may be in direct conflict with official policies.

2.2.3 State level organization

Under India's federal constitution, forestry is a "joint subject," meaning that both state and national governments can write laws regarding forests. However, the actual territorial control of forests is vested in state forest departments which are directly accountable to the elected government at the state level. This means that state forest departments are accountable to two distinct superiors – the national Ministry of Environment and Forests, which uses the tools described above to influence forest departments in distant state capitals, and the state government, which has the distinct advantage of geographic proximity,¹² local political influence, and primary control over the appointment and transfer of forest officials. At the time of my field research, both of the states under study were controlled by the Congress Party, which was also the ruling party at the Center, however there was no apparent coordination between state and national Congress party politicians on issues of forest policy, which usually do not play central roles in electoral politics (but see Kumar and Kerr 2012). As I will show here, however, the confusing signals of a federal system are largely sorted out by the fairly clear administrative hierarchy within the state forest department headquarters and thus, the policy signals received by district officials do not fully reflect the cacophony of official voices heard higher in the administration.

As at the national level, state forest departments are controlled by a minister, who may have responsibility for several other departments – for example, in Andhra Pradesh the minister is responsible for "environment, forests, science and technology." In both Andhra Pradesh and Maharashtra, the minister's office in the state secretariat is staffed by senior officials who mostly

¹² The importance of geographic proximity is less in the case of Maharashtra, where the forest department is based in Nagpur, a 12 hour train journey from the rest of the state administration in Mumbai. In fact, Nagpur is nearly as close to Delhi as it is to Mumbai, and senior forest officers in the state complain that their geographic separation from the center of power limits their ability to participate in and influence state-level decision-making.

are members of the generalist Indian Administrative Service, not the Indian Forest Service.

Although this is a source of resentment among forest officers, I have not been able to document cases in which the generalist made decisions that were at variance with the forest officers' technical expertise. While this ministry has formal authority over the forest department, the head of the forest department itself is the Principal Chief Conservator of Forests, and is appointed by the minister from among the most senior Indian Forest Service Officers in the state. Two other senior Indian Forest Service officers serve as heads of two much smaller, but formally independent branches of the forest department – the Chief Wildlife Warden, responsible for wildlife management in the state, and the Vice Chairman/Managing Director of the parastatal state forest development corporation. Since the focus of this dissertation is on the main forest department, and not on these specialized units, I will not discuss with wildlife wings and forest development corporations in much detail.

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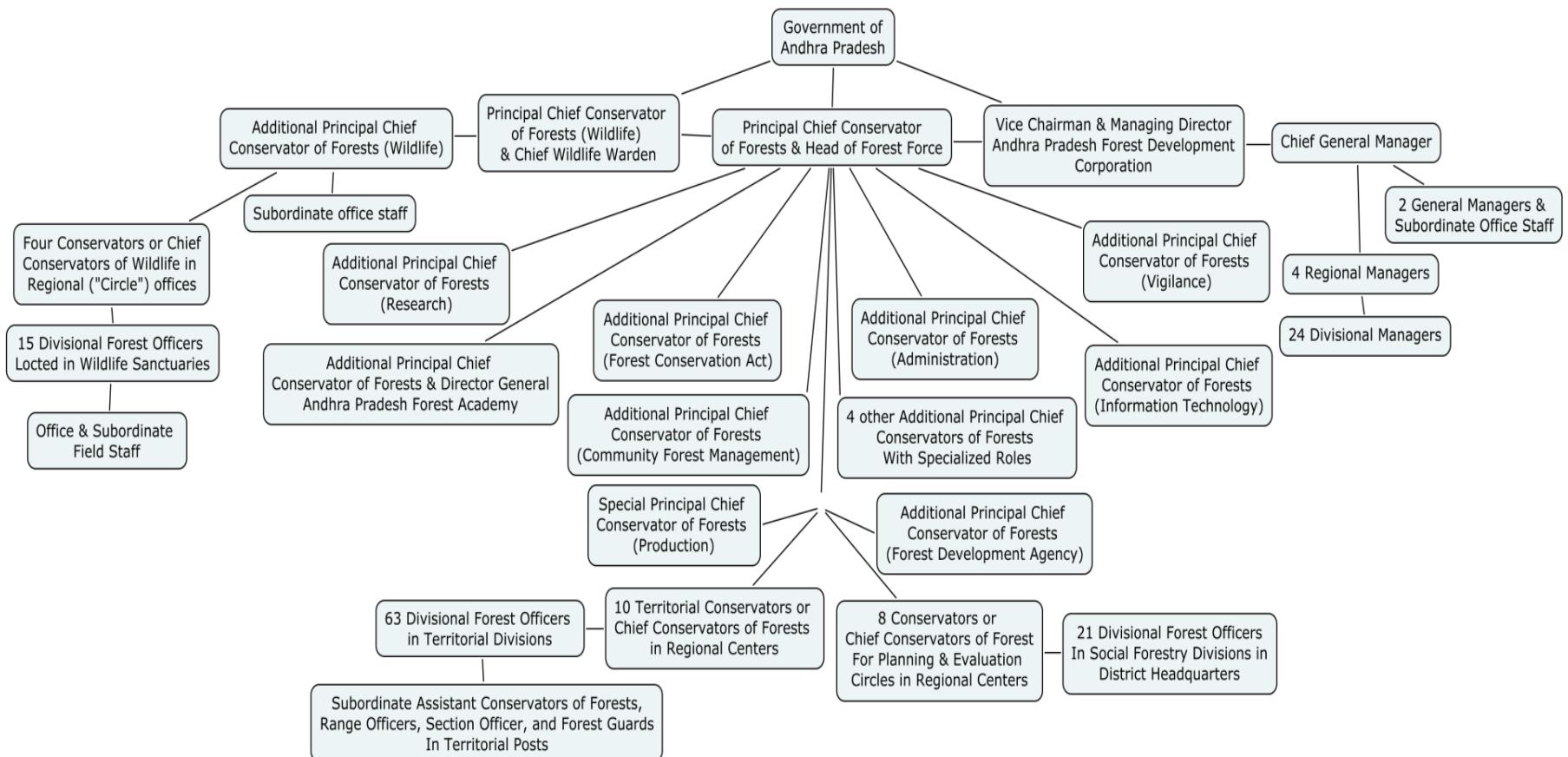


Figure 8: Organization Chart for the Andhra Pradesh forest department.¹³

¹³ Adapted from a chart downloaded from the AP Forest Department website: <http://forest.ap.nic.in/pdf/chart.pdf>, May 22, 2012 and dated accurate as of 1st September 2009. Note that each Additional Principal Chief Conservator in a specialized functional post has a large staff of lower officials, typically including one or two Chief Conservators or Conservators and several divisional forest officers with specialized roles, who are not depicted here for ease of presentation.

Figure 8 contains the current organizational chart for the Andhra Pradesh Forest Department. A similar chart would apply to the forest departments of most other states, including Maharashtra, although the exact number of officials at different ranks, and the exact charges of different head office units, may vary. The head office contains a large number of Additional Principal Chief Conservators of Forests, Chief Conservators of forests, and Conservators of forests – high ranking Indian Forest Service Officers – responsible for managing various aspects of central administration, including topics such as administration, human resources, planning, training, production, as well as the administration of important legal responsibilities – such as the Forest Conservation Act – and of major projects – for example, in Andhra Pradesh there is an office for Community Forest Management headed by an Additional Principal Chief Conservator of Forests (in Maharashtra, where Joint Forest Management is given less emphasis and funding, a lower ranked conservator of forests handles the Joint Forest Management program). Each of these offices also contains lower ranking forest officers, as well as clerks and accountants. The number of senior level posts in the headquarters has expanded rapidly in the last 20 years, the result of over recruitment into the Indian Forest Service during the 1980s.

As is the case at the national level, administrative offices in the state capital are likely to have strong linkages to other government offices and actors. There are vertical linkages with the national forest administration in the central ministries, as well as horizontal linkages to other departments which may work on related issues or provide funding for forest projects. In the two states under study, Andhra Pradesh's forest department seemed to be more ambitious in terms of its collaboration with other departments, perhaps because Maharashtra's forest department is headquartered in the city of Nagpur, close to the main forests in the state, but far from the state capital of Mumbai. Although international funding agencies sometimes work with the central

government, most international development assistance projects in India are negotiated directly with state level departments, and the forest departments of Andhra Pradesh & Maharashtra have both taken on large projects with funding from the World Bank and bilateral donors, although at the time of fieldwork, neither department was receiving significant international assistance.

Whereas the complex nature of governance in a federal system means that the policy signals received by the state forest department from various branches of the central government, as well as from the forest minister at the state level, may vary or in fact be in conflict, within the state forest department there is a high level of coherence in policy direction. While senior forest officers often have strong disagreements, the hierarchy within the department is clear, and the confusing policy signals from above can be partially resolved through this hierarchy. The Principal Chief Conservator of Forests can issue orders and expect that the senior staff in his office – many of whom he has been working with for decades – will obey him. Thus, the degree to which policy pressures from the national capital and the higher level state government influence policy action within department is likely to be mediated by the personal preferences of the department head and other senior officials. On the other hand, senior managers are transferred frequently, and many times the Principal Chief Conservator of Forests is appointed only a few months before his retirement. Officers that serve for such a short time may have few opportunities to influence the direction of the department, but in chapter four I describe how a Principal Chief Conservator in Andhra Pradesh who served for four years played a significant role in reshaping his departments' priorities.

2.2.4 District level organization

The complicated conflicting signals reemerge, however, as one moves down into the lower rungs of the bureaucracy, which are located in the field, far from the relative coherence

and order of the Principal Chief Conservator's office. Below the head office are a series of lower-level territorial jurisdictions organized in descending order as circles, divisions, ranges, rounds or sections, and beats. These are described in Table 3, and are also listed for the state of Andhra Pradesh in the bottom half of figure 2. The officers who serve at these levels have limited interaction with the distant confusion of policy-making in New Delhi, but they do face a diversity of influences in their work. These include the instructions they receive from their superiors in the office of the Principal Chief Conservator of Forests, which may be in conflict, as different branches of the head office ask for different, and occasionally incompatible, work. But they also include instructions from officials in other departments with whom they collaborate, as well as from politicians, businessmen, NGOs and political activists, and other local people. Also, unlike higher level policy-makers, these lower level officials face the actual constraints of the physical environment. They cannot plant trees unless the rain falls, and when the rain does fall, the forest department must compete with agriculture for labor. In order to understand the pressures on these officials, which is the focus of this dissertation, it is first necessary to understand the organizational structure and constraints within which their work takes place.

The forest department, like the land revenue and police departments, but unlike most other government agencies, has representatives spread from the cities out into the most remote villages. At the lowest level, a forest guard in a forested area lives in a village and may be responsible for the forests in several other villages. The section officer, who supervises several guards, is likely to live in a slightly bigger place – perhaps a larger village that has several shops, and may hold a weekly market. As noted in the previous chapter, Vasan (2002, 2006) has written a short ethnography of forest guards in Himachal Pradesh, and many of her observations apply to the Central Indian states. Positions as forest guard and section officer generally require only the

completion of high school,¹⁴ although recently Andhra Pradesh has begun recruiting college graduates to fill new section officer posts. Although forest guards and section officers are not high status jobs within the departmental hierarchy, within the politically marginal communities they live in, their status as government employees with regular paychecks distinguishes them from their poor neighbors, and gives them a high status. I often noticed that while the villagers have the lean, gaunt musculature of people who face chronic food insecurity, the forest guard – a low paid official – has eaten enough rice to develop a pot belly. At the same time, Vasan found that forest guards' residence in remote areas makes them particularly vulnerable to influence from local elites whose interests frequently run counter to those of their forest department superiors. This is likely to be even more of a problem in Central India, where the structure of local society is less egalitarian and democratic than Himachal Pradesh.

Moving up the territorial hierarchy from the forest section is the range, which forest officials often call the “backbone” of the department. Ranges are usually contiguous with subunits of districts known as talukas, tehsils, or mandals, depending on the region of India, and as such, the range offices are usually located in somewhat larger towns, which may be home to several government offices. Still, range officers' rather lengthy training and high status are likely to place them among the higher status people living in their communities. The forest department recruits range officers exclusively from those with bachelors' level degrees in science or engineering, and range officer training is an 18 month intensive course, usually offered in only a few high profile academies throughout the country. The range office usually has a small staff – one or two accountants, clerks, and peons, who handle paperwork for the range officer. Many range offices have a small guest house, intended for the use of touring

¹⁴ Forest guards usually are recruited with a minimum education standard of the completion of 10th grade, the normal time for Indians to complete high school. Forest section officers usually require completion of 12th grade.

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officers, although now largely a relic of the days before high quality roads placed most range offices within one hours' drive of the district headquarters. Shortly before the beginning of my fieldwork in 2010, all of the range offices in Andhra Pradesh received small 4x4 Jeeps, funded by the CAMPA program, however prior to this, and to this day in Maharashtra, most range offices did not have regular access to a departmental vehicle, and range officers, like their subordinates, toured their territory primarily on their privately owned motorcycles. As is the case with most positions in the forest department today, a recruitment glut in the 1980s was followed by very low amounts of recruitment in the last two decades, thus most range officers are now in their 50s, and since there are so many of the same age, few have received promotions. Because they are transferred frequently, many officers will live with their families in a centrally located city where services such as good schools for their children are available, and try to obtain postings within commuting distance, or may return to the city from distant towns on weekends to spend time with their families.

Division offices are located in larger towns. In districts that are relatively small or have small amounts of forest, the forest division will have the same boundary as the district, and will be headquartered in the district capital, but in heavily forested districts, there may be several forest divisions within a single district, headquartered in smaller taluka towns. Divisional forest offices are large administrative centers, often employing 15-30 clerks, accountants, and peons, one to four assistant conservators of forest, and often several subordinate officers with specialized responsibilities. Assistant Conservators of Forests usually belong to the State Forest Service, and are either promoted from among senior range officers or are recruited directly. They are ranked directly below the divisional forest officer, and are assigned to work closely with him to manage the division. Divisional forest officers usually belong to the Indian Forest

Service,¹⁵ and may be promoted from the State Forest Service or recruited directly to the Indian Forest Service, as described above. Every divisional forest officer I have interviewed had an air-conditioned government jeep and driver at his disposal. While these were for official purposes, I also saw divisional forest officers send their drivers to go shopping for their wives or run favors for their friends. Because of the high status of the Indian Forest Service, the divisional forest officer is considered a person of importance in his district – second in bureaucratic prestige only to the District Collector from the Indian Administrative Service and the District Superintendent of Police, from the Indian Police Service. Many Forest Divisions have their own campuses, with high quality British buildings and healthy old trees in the center of burgeoning cities – while others are located within the larger District Collectorate. In addition to the territorial divisional forest officer, most districts also have a single divisional forest officer in charge of a social forestry wing, responsible for raising seedlings to be distributed for planting to other government departments and the private sector, and they may also have branches of the forest development corporation or the wildlife wing, and thus, there may be several divisional forest officers with different responsibilities working in the same area, however the focus here is on the territorial offices, of which there are many more than the other, more specialized units.

Circle offices are generally located in large regionally important cities, although in heavily forested areas they may be simply located in the district capital. The Circle is headed by a Conservator of Forests, promoted from divisional forest officer after a minimum of 16 years of service, or in some cases by a Chief Conservator of Forests. Unlike the Divisional Forest Officer, whose job includes large amounts of direct supervision of field work by his subordinate officers, the Conservator's job is primarily administrative, passing policy direction from the state

¹⁵ A distinction is made in some states between divisional forest officers, who are not part of the Indian Forest Service, and deputy conservators of forest, who are ranked higher, and do belong to the Indian Forest Service. However, this distinction is not important for the analysis here, as in practice these officials serve in similar roles.

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headquarters down to his field units, and collating reports to send back to the state headquarters.

In addition to the Conservator, the Circle office may contain several divisional forest officers or assistant conservators of forest with specialized responsibilities. In some states, including Maharashtra, the circle office is complemented by a second Conservator with sole responsibility for preparing forest management plans – known as working plans. Andhra Pradesh does not generally assign such specialized officers for working plans.¹⁶

¹⁶ For example, a series of communications between the office of the Principal Chief Conservator of Forests of Andhra Pradesh and territorial circles and divisions in 2011 instruct territorial divisional forest officers to work with their staffs to prepare working plans in those areas where the plans expire in 2012. These documents were shared with me by an organization that obtained them through a Right to Information Act request.

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Table 3: Territorial hierarchy of forests in India

Job	Territorial Jurisdiction	Approximate Area in Central India	# in AP ¹	# in MH ²
NA	Compartment	50-100 HA	NA	NA
Guard, Forest Guard, Beat Guard, Forest Beat Officer (FBO)	Beat	1000 HA	2916 ³	8531
Forester, Forest Section Officer (FSO), Forest Round Officer (FRO)	Section, Round, Block	2000-4000 HA	FSO: 1298, DyRO ⁴ : 426	2842
Range Forest Officer (RFO), assisted by one or two clerks and accountants	Range	10000-20000 HA	426	917
Divisional Forest Officer (DFO) or Deputy Conservator of Forests (DCF), ⁵ assisted by one or more Assistant Conservator of Forests, and a large number of clerks and accountants	Division	40000-100000 HA	DCF/DFO: 62, ACF: 140	DCF: 44, DFO: 65, ACF, 235
Conservator of Forests (CF) or Chief Conservator of Forests (CCF), along with subordinate and specialized staffs	Circle	3-4 divisions	CF: 23 CCF: 13 PCCF: 2, APCCF: 4	CF: 47, CCF, 20 PCCF: 1 APCCF: 3

¹ Data Source for Andhra Pradesh: 2008-0 Annual Administration Report (Chief Conservator of Forests 2009)

² Data Source for Maharashtra: 2008-9 Annual Administration Report. (Government of Maharashtra Forest Department 2009). Maharashtra reported both the authorized strength and the number of posts actually filled. Numbers here are the number of posts actually filled – in each category, some authorized posts remain vacant.

³ In Andhra Pradesh, there are 1458 Assistant Beat Officers, at a lower rank than guards, but with similar duties.

⁴ In Andhra Pradesh, Deputy Range Officers (DyRO) are a position intermediate between forest section officer and range forest officer, but generally filling the same role as a FSO. This title is not in common use in Maharashtra.

⁵ In Maharashtra the term DCF is used for members of the IFS cadre, while a DFO is not IFS. In Andhra Pradesh the terms are used more interchangeably. I prefer the term DFO in this dissertation since it is a more explicit reference to the territorial jurisdiction.

In addition to policy direction travelling down the formal chain of command, there are a number of other routes of policy influence on subordinate offices. Forest officials within districts are formally subordinate not only to their hierarchical superiors within the department, but also to the District Collector, the chief administrator of the district, and are required to attend regular meetings at the Collectorate, serve on committees, and coordinate with the Collector in the implementation of programs and policies. The high status of the Indian Forest Service probably makes the forest department somewhat more independent from the rest of the district administration than other departments. At the same time, the high status means that the divisional forest officer is more likely to be diverted to other work, such as the supervision of elections or dealing with natural disasters. There is a long history of tension between the land revenue department, with the District Collector at its head, and the forest department over the best uses of land (Saberwal 1999; Rangarajan 1996b), with the revenue department tending to favor uses that would speed agricultural and industrial growth and favor small farmers, while the forest department tends to favor policies that protect its control over the land. This tension continues to this day, and surfaced in several conversations I had with forest officials, who described to me how they were under intense pressure to approve roads and other development projects on forest land, and with revenue department officials who complained that the forest department was insensitive to the needs of district development or the rural poor.

While tensions between the forest department and the revenue administration date back to colonial times, democratic politics has inserted new actors into the mix. A range of other political actors work to influence the administration of forests. In contrast to what a believer in a dichotomy between politics and administration might expect, these political actors do not confine themselves to attempting to influence the elected legislature. Instead, they invest substantial

energies in influencing field-level forest officials directly, often through informal channels, a topic to which I will return to in detail in chapter four.

2.3 History of forest management institutions in India

The administrative structure described above arose through a historical process that plays an important role in contemporary forest management for two reasons. First, the present structure of institutions is often the result of attempts to solve past problems, but these past problem-solving exercises build in an element of path dependency which limits current options (Pierson 2000, 2003, 2004). Second, the past provides legitimizing narratives to the present which play a powerful role in shaping policy discourse and justifying implementation behavior (Suykens 2009). Following Suykens, two such narratives are particularly important in Indian forest management. The first is the legitimizing mythology of the forest department as technical savior and forest protector, a narrative that can be found in the classic accounts of British Indian forestry written by colonial era foresters (Ribbentrop 1900; Stebbing 1922; Champion and Osmaston 1962), and one that is widely repeated by the foresters of independent India, both in published literature (Forest Research Institute Dehra Dun 1961; Negi 1991; Negi 1994) and in my own interviews. The second narrative, used as a legitimizing narrative by many forest department critics and dominant among historians writing since the 1980s (Rangarajan 1996a; Sivaramakrishnan 2008, 2009), views the history of the forest department as one of colonial exploitation, including destruction of forests and expropriation of rights of forest users, who are often seen as the real conservationists. While there is not space for a comprehensive review of this literature here, a basic familiarity with the historical origins of the forest department and of the major laws and programs currently in effect serves as a foundation for understanding the implementation challenges the forest department faces.

2.3.1 Colonial roots of the forest departments and the Indian Forest Act of 1927

Scientific forest management as an organized system of land management in India originated with the British in the mid 19th century. Relatively little is known about forest management prior to the arrival of the British, although ethnographic and historical reconstructions generally support the idea that forest dwellers were relatively free to utilize forest resources without government interference (Elwin 1992; von Fürer-Haimendorf and von Fürer-Haimendorf 1979). Such uses rarely had major negative impacts on the forest, either because of strong community-based institutions (Gadgil and Guha 1992) or low population densities and limited commercial pressures (Skaria 1999; Prasad 1999; Satya 2004; Guha 1999; Sundar 2008). Although there were earlier attempts to develop systems of forest land management in India (Grove 1995), these were not institutionalized until the 1860s, when the British hired a group of German foresters to organize the forest department. A primary drive for the establishment of a forest department was the increasing importance of wood as a supply of sleepers and fuel for India's rapidly developing railways, seen as key both to the commercial aspirations and military control of the British government. These foresters formed the original core of the Indian Forest Service¹⁷ (Guha 1983, 1989; Gadgil and Guha 1992; Negi 1994; Stebbing 1922; Forest Research Institute Dehra Dun 1961; Guha 1996; Rangarajan 1996; Barton 2002; Sivaramakrishnan 2008, 2009). German forestry was focused on maximizing the yield of a narrow range of timber species (Lowood 1991; Scott 1998), and was thus ideally suited to the British goal of maximizing their revenue from forest lands that were otherwise viewed as financially unproductive, while simultaneously preventing the local exhaustion of timber that had accompanied the construction of some railroads. The actual silvicultural techniques, however,

¹⁷ Although the elite corps of Indian foresters is also called the Indian Forest Service now, the Colonial Indian Forest Service was discontinued in the 1930s, in favor of state forest services. A national service was reinstated in the 1960s.

had to be adapted to the much more ecologically diverse forests of India. The colonial forest departments focused on timber production, the main value that is emphasized by the forest department's legitimizing narrative.

The Indian Forest Act of 1878, which was written after much debate about the appropriate role of local communities in forest management (Guha 1996), was re-written, with minor changes, in 1927 (Government of India 1927). This law remains in effect today, forming the basic groundwork under which forest management has been practiced for 150 years. This law regulates access to and major uses of the forest, transport, processing and trade of forest products, establishes categories of forest crimes, and provides for a procedure ("settlement") through which forests are surveyed, rights are established, and forest boundaries are set into law. Many foresters I interviewed credited the strictness of the Indian Forest Act for the persistence of forest in India inspite of high pressures from a dense and rapidly growing population. Forest department critics have long complained that it criminalizes the everyday livelihoods of forest users, making it a crime for villagers living near the forest to harvest goods to which they should have traditional rights to, and which their livelihoods depend on (for example see comments by the then Union Forest Minister - Ramesh 2011). They also complain that settlement procedures are in practice biased against poor and frequently illiterate forest users, such that rights that should have been recorded according to the law never were recorded (Springate-Baginski et al. 2009; Reddy et al. 2010). Finally, critics have pointed out that the heavy regulation of forest product markets – including even the harvesting of timber of native species planted on private land – acts as a disincentive to investment in these sectors (Corbridge and Kumar 2002; Milne et al. 2005). A substantial portion of forest department time and resources are devoted to enforcing

the restrictions on forest uses, policing and maintaining boundaries, and filing criminal cases pursuant to this act.

Accounts of the Indian forest departments in the years immediately after the passage of the Indian Forest Act in 1878 make the act's strict regulations sound more aspirational than real, however forest departments differed by administrative jurisdiction in the speed and effectiveness with which they were able to achieve the territorial control called for in the act. Successful experiments in one region of British India were soon copied elsewhere, however, so that a basic uniformity of structure could be found across the country, in spite of some local structural variation. The most important distinction in this period could be made between the areas controlled directly by the British, and those under the control of princely states, which generally possessed weaker governance, and where reforms arrived later.

In this study area this contrast can be seen between the parts of Maharashtra included in this study, which belonged to the British Central Provinces and Berar, and the parts of Andhra Pradesh included in this study, which belonged to the princely state of Hyderabad. By the time of the passage of the 1878 Act, the Central Provinces already had a British Conservator of Forests, assisted by British divisional forest officers and local range officers and beat guards (Rangarajan 1996b). Yet the staff was tiny compared to the large areas they aimed to manage, and Rangarajan's account makes clear that the initial impact of the forest laws was small, although there was resistance early-on to forest settlement operations (Satya 1998). However the department grew steadily in its power and influence, and Rangarajan reports that by the early 20th century the forest had effectively been "fenced." Accounts from the 1920s and 1930s show that the restrictions on forest use were having a significant impact on the lives of forest dwellers in the region (Baker 1984; Elwin 1992). Some forest officers I spoke with believed that forests

on the Maharashtra side of the shared border were in better condition than those in Andhra Pradesh today in large part because of the greater effectiveness of the Central Provinces in imposing forest regulation in the early 20th century.

Hyderabad was the largest and wealthiest princely state (Luther 2006), and its reform-minded prime minister, Salarjung I, established a forest department along British lines shortly after the British, in 1867 (Abdul Thaha 2009), thus making Hyderabad one of the better organized forest departments among the princely states. In addition to a desire to imitate the good governance practices of the British, Salarjung was concerned about the “reckless exploitation of the forests” (*ibid*, 34) in the teak-rich Telangana region, driven by increasing demand for railway timber. In spite of this early start, however, clear legislation and effective territorial control lagged behind the neighboring British territories. Hyderabad’s forest act, closely modeled on the 1878 Indian Forest Act, was not passed until 1900. The law remained “a dead letter” (*ibid*, 42) as late as 1915, and it was not until the passage of a new law, in 1917, that actual implementation of the forest act began. The impact of this law did not reach remote tribal areas until the late 1930s and early 1940s, when reports of peasant resistance became widespread (von Fürer-Haimendorf 1943, 1945; von Fürer-Haimendorf and von Fürer-Haimendorf 1948; Sastry 1984, 1989).

Historical resistance to the forest department, emphasized by forest department critics, arose in several forms. The new forest departments had to compete with the established revenue administration, which earned money from land taxes, and was thus eager to use forestlands to either increase agricultural land or increase the profitability and stability of existing agricultural settlements¹⁸ (Saberwal 1999; Rangarajan 1996b). They also immediately came into conflict with established systems of customary forest uses. Agriculturalists and forest dwellers resisted

¹⁸ i.e. through enabling greater use of forest land to meet local needs for fodder, fuelwood, timber, etc.

forest department restrictions on their uses of the forest through formal protest, both peaceful and occasionally violent, as well as through widespread noncompliance with restrictions.

Collaboration between sympathetic administrators and resistant locals led to changes in rules in some regions, most notably in the Himalayan foothills, and also to the recrafting of forest laws between the 1865, 1878, and 1927 forest laws (Guha 1989; Gadgil and Guha 1992; Guha 1996; Rangarajan 1996b; Sivaramakrishnan 1999; Saberwal 1999; Baker 1984). Ethnographic accounts of this period emphasize the ways in which forest users' customary governance structures and livelihoods were interrupted, and the resulting negative consequences for ecological balance (Elwin 1992; von Fürer-Haimendorf and von Fürer-Haimendorf 1979; Skaria 1999; Sundar 2008). By contrast, the legitimizing mythology of the forest department focused on the ways that forest department control protected forests from agricultural encroachment and increased their commercial productivity. Again, historical accounts of resistance in the Central Provinces (Rangarajan 1996b; Baker 1984; Prasad 1995b, 1999; Sundar 2008) appear to place this resistance earlier than the resistance reported in Hyderabad (Abdul Thaha 2009; Sastry 1989), reflecting the earlier and more comprehensive forest department control achieved in the area that would become Maharashtra, relative to the areas that would become Andhra Pradesh.

Initially professional forestry training was available only in Germany and France. Later a forest academy was opened for training Indian forest managers in England, with instructors imported from The Continent. But in 1906 the campus of the Forest Research Institute was opened in the Himalayan foothills at Dehra Dun, already a center for elite educational institutions and the military. The ability to offer forest officer training courses within India aided the Indianization of the elite forest force. The opening of a number of smaller academies aimed at training subordinate officers also helped to professionalize the growing forest force. In the

period before the Second World War, Dehra Dun emerged as a global center for forestry research, the anchor of the British empire's international forestry research and training network (Barton 2001; Barton 2002; Rajan 2006). Emphasis was placed on the development of detailed "working plans" (D'arcy 1898; D'arcy and Caccia 1910) which used scientific silvicultural techniques to maximize yield of timber. In actual practice, such plans were often not implemented as intended, both because desired levels of territorial control could not be obtained, and because of the pressure to meet emergency timber needs during the two World Wars (Guha 1983; Gadgil and Guha 1992; the shortcomings of this era's working plans are also noted in many current day working plans. See for example Singh and Mishra 2004). The resulting cultural combination of an elite Anglo-military tradition and pride in techno-scientific accomplishments continues to infuse forestry training programs and, by extension, the entire forest establishment in India (Hannam 1999, 2000a, 2000b).

2.3.2 Independence and the extension of Colonial forest policy

Although the emphasis on techno-scientific management with the goal of extracting resources continued after Indian independence, the post independence period saw an increasing focus on nationalization of forests. This shift occurred both in rhetoric, as arguments of commercial profitability of forests were increasingly subordinated to an abstractly defined "national interest," and also in practice, as alternative forms of forest tenure in princely states and zamindari estates¹⁹ were eliminated, resulting in an increase in the government forest estate from 41 to 67 million hectares (Sarin 2005). Unfortunately, the history of forest management in the period between the 1920s and the 1980s is poorly documented, and documents from the post-

¹⁹ Zamindars were large semi-feudal landlords, often known in the Central Provinces as Malguzars (for more background on British land management and tenure systems see Banerjee and Iyer 2005; Banerjee and Somanathan 2007; Banerjee et al. 2008; also Guha 1981; Bayly 1987)

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independence period are particularly difficult to locate, however in this section I offer an outline of those changes that can be documented.

The shift in emphasis towards defining forests in the interest of the abstract nation has been glossed over by most commentators, who argue that no changes were made after independence (Guha 1983; Gadgil and Guha 1992, 1995; Pathak 1994). The Colonial statement of forest policy, written in 1894, stated:

The sole object with which State forests are administered is the public benefit. In some cases the public to be benefited are the whole body of tax-payers; in others, the people of the tract within which the forest is situated; but in almost all cases the constitution and preservation of a forest involve, in greater or less degree, the regulation of rights and the restriction of privileges of user in the forest area which may have previously been enjoyed by the inhabitants of its immediate neighborhood. This regulation and restriction are justified only when the advantage to be gained by the public is great; and the cardinal principle to be observed is that the rights and privileges of individuals must be limited, otherwise than for their own benefit, only in such degree as is absolutely necessary to secure that advantage. (Inspector General of Forests 1894)

By 1952, however, when independent India wrote its first policy, while the emphasis on central-state versus local control was, if anything, strengthened, emphasis had shifted from tax-payers to an abstract “national interest.”

Village communities in the neighborhood of a forest will naturally make greater use of its products for the satisfaction of their domestic and agricultural needs. Such use, however, should in no event be permitted at the cost of national interests. The accident of village being situated close to a forest does not prejudice the right of the country as a whole to receive the benefits of a national asset. The scientific conservation of a forest inevitably involves the regulation of rights and the restriction of the privileges of user depending upon the value and importance of the forest, however, irksome such restraint may be to the neighboring areas. (Government of India 1952)

The new policy also coincided with a shift in the emphasis of production towards large state-run industrial enterprises, consonant with Nehru’s developmental philosophy. Unfortunately, this shift is not well documented (but see Gadgil and Guha 1995). At the same time, democratic government brought new forms of supervision to the forest department from

elected officials, a process of change that has not been documented in the forest department, but has been studied for the civil service more generally and has been associated with increased corruption (Potter 1996; Zwart 1994; Saxena 2010; Krishna 2010; Mitra 2010).

During the early years after independence forest departments sought to control all aspects of production, and by the 1970s, most states had nationalized production of commercially valuable non-timber forest products, which was controlled directly by the forest department or by closely associated state-run enterprises (Tewari 2006; Mishra 2008), and had eliminated private contractors in timber harvesting operations, with timber harvests either being directly supervised by the department, newly created parastatal forest development corporations, or by closely allied forest cooperative societies (Tewari 2006; Dogra 1986; Maslekar 1980; Joshi and Parasnis No date). These changes were justified as being beneficial for the welfare of poor forest users, but critics charged that the benefits they brought were primarily to forest department officers who could now control revenue flows, patronage benefits to local business people and forest villagers, allowing them to divert funds into their own pockets (Fernandes and Kulkarni 1983; Gadgil and Guha 1995; Tewari 2006), and that the resulting government regulation provides an additional disincentive to private investment (Milne et al. 2005; Corbridge and Kumar 2002).

As mentioned above, the government forest estate expanded dramatically during this period as forests formerly controlled by princely states, zamindars, and other private landowners, were nationalized. The effect of this process on the governance of these forests varied. Princely states such as Hyderabad (including the regions of Andhra Pradesh included in this study), already had professional British run forest departments similar to those in British India, although often less well organized (Abdul Thaha 2009), but smaller and more resource-poor states, as well as zamindars, had limited forest governance (for example, see accounts in Sundar 2008; Shah

2010). According to informants from NGOs who had expertise on forest settlement procedures, the procedures followed by the British forest departments, while often deeply flawed, were regular and predictable.²⁰ By contrast, even such well organized states as Hyderabad followed irregular settlement procedures (Abdul Thaha 2009), and in the smaller states and zamindari areas, rights may never have received formal recognition, or may have been recorded only by very local authorities.²¹ According to several sources, including published studies (Sarin 2005; Springate-Baginski et al. 2009; Reddy et al. 2010), and my interviews with activist-intellectuals who had studied the history of this period (interviews with informant 139, November 18, 2010; informant 121, December 11, 2010), when these forests were incorporated into the national forest estate in the 1950s and 1960s, settlement procedures required by law were often not followed or were done in a sloppy and cursory manner. In Andhra Pradesh I discovered that some forests of the former Hyderabad state remain in legal limbo, with final settlements and legal notification pending. The result is that as the government forest estate increased in size, the number of conflicts and uncertainties increased as well.²²

The Indian states were reorganized along linguistic lines in the late 1950s, and the resulting recombinations had important implications for forest administration. Andhra Pradesh

²⁰ Forest settlement refers to the method by which existing forest rights are either eliminated or established in law as the government takes control over forests. The procedures are specified in the Forest Act of 1927, described above. interviews with informant 139, November 18, 2010; informant 121, December 11, 2010.

²¹ In the zamindari areas of the Central Provinces, including the areas of Maharashtra included in this study, rights of local villagers to use the forest were recorded in a document kept in the village called a “nistar patrak,” apparently a tradition that dates back at least to Mughal rule in the 16th century. These documents are still recognized, but my interviews with villagers, NGOs and political leaders, and government officials revealed numerous different interpretations of the legal status of these documents and the substantive rights they could provide. Although other scholars who have studied forest land use in the former Central Provinces have also mentioned nistar (Ghate and Chaturvedi 2004; Prasad 1995b; Baviskar 1994; Sundar 2000; Sundar et al. 2001), a detailed study of the formal and informal practices and popular understandings of these rights remains to be done, and goes beyond the scope of this study.

²² Brara (2006) documents the reservation of former village grazing land as forest during this same period in Rajasthan. I did not come across similar reports in the study region, perhaps reflecting different histories of land tenure administration in the small princely states that became Rajasthan relative to Hyderabad and the Central Provinces, however it is possible that similar processes took place.

was the first of the new states, created in 1956 through a merger of the Telugu-speaking regions of the old Madras Presidency and Hyderabad State. Maharashtra was created in 1960 as a merger of the Marathi-speaking regions of the Bombay Presidency, Hyderabad State, and the Central Provinces. The processes through which new forest departments were created through combining elements from the older departments has not been documented. Maharashtra included two former British colonial capitals – Bombay and Nagpur, and thus inherited central elements of the well-organized forest administrations of Bombay and the Central Provinces. By contrast, Andhra Pradesh inherited only politically peripheral parts of the Madras presidency, together with the weaker administrative structure of Hyderabad state, which was devastated in its last years of nominal independence by a large Marxist revolt (Elliott 1974; Gupta 1986; Rao 1988) followed by a serious confrontation with newly independent India (Luther 2006). These different inheritances may help explain why the Maharashtra Forest Department remains, to this day, a staunch follower of the traditional model of scientific forestry pioneered by the British, while Andhra Pradesh's Forest Department has been more open to new approaches. In both states, however, the regions under study, Vidarbha and Telangana, are widely perceived to have become economically and politically marginal within the state context, and there have been widespread calls for creating a separate Telangana state (Rao 2010; Haragopal 2010)

2.3.3 The modern era of forest reform

The last 40 years have been an era of reforms and political challenges in forest management. While these reforms changed what the forest departments do and how that is perceived by the politically active public, they have not changed much about how they do things. While in 1970 the forest department was primarily concerned with policing its lands and extracting timber, today the forest department has added new themes to its central concerns.

Wildlife protection and management, forest regeneration, commercial plantations, and community development have gone from peripheral to central concerns of the forest departments.²³ Furthermore, forest department activities have come under increasingly intense public scrutiny. At the same time, changes to administrative structures have been minimal, with the existing pattern of administration being adapted to serve multiple purposes. In this section I briefly outline the origins of these new programs, as well as their fundamental structure, and I show how many of these programs have been failures. Some of these programs are examined in greater detail later in the dissertation.

Although the history of this era is not well documented, it is apparent that cracks began to appear in the Indian forest management system by the early 1970s. Fragmentary records and allusions in later sources make it apparent that deforestation was rampant in this period, driven by government policy that encouraged the conversion of forest to agricultural land as part of efforts to increase India's agricultural output. Illegal encroachments of forest land were regularized by politicians eager to take credit for policies that appeared to be populist (even if many encroachments were not by poor farmers but by larger industrial concerns).

In the early 1970s, a combination of factors contributed to the enactment of a series of new laws and programs aimed at protecting wildlife. Indira Gandhi, the prime minister at that time, was known for her interest in protecting the natural world, and she wished to take advantage of the United Nations Conference on the Human Environment in Stockholm in 1972 to demonstrate her international leadership on the issue. She was supported by a number of politically influential conservationists, some of whom were former rulers of princely states who had been serious hunters, but saw the damage hunting was doing to the populations of

²³ This is a contrast to patterns observed in many other developing countries, where new activities, such as wildlife management, were administered by newly created government departments, or departments divided off from forest departments.

charismatic wildlife species. A new wildlife protection act in 1972 outlawed hunting and established clearer standards for protected areas and zoos (Government of India 1972; Upadhyay and Sane 2009). Since the passage of this law, a large number of national parks and wildlife sanctuaries have been created, and wildlife protection has become entrenched in the forest department. In the same year, "Project Tiger" brought international funding to India for the protection of tiger populations, and the project achieved rapid success in its first 10 years (Panwar 1982 boldly titled his review of the first ten years of Project Tiger, "What To Do When You've Succeeded").

These early success were to be followed by a string of disappointments and controversies, including declining populations and disappearances of tigers from high profile tiger reserves apparently caused by poaching, harsh critiques of the scientific techniques and administrative practices utilized to monitor and improve tiger populations, and broader disillusionment among conservation biologists and environmentalists with the forest department's management techniques and the focus on single charismatic species instead of broader ecosystem properties (Sankhala and Chauhan 1997; Seidensticker et al. 1999; Narain et al. 2005; Damodaran 2007; Karanth et al. 2003; Ghate 2005; Walston et al. 2010; Shahabuddin 2010; Rangarajan and Shahabuddin 2006; Madhusudan et al. 2006). These authors blame forest department officials for implementing wildlife conservation strategies in a top-down fashion that ignores emerging scientific evidence, discourages research on and questioning of existing techniques, and damages relationships with local communities, thus creating strong incentives for locals to destroy forests and kill wildlife rather than be subjected to wildlife protection regulations. Regardless of these criticisms, forest officers have come to see protection of wildlife, and the education of the public about the value of wildlife, as a key part of their jobs.

During the 1970s, plantation forestry also began to emerge as an important activity of the forest departments. The history of plantation programs is given in much greater detail in chapter 5, but to summarize briefly, the Indian government, spurred by food crises in the late 1960s, initiated an effort to increase the productivity of agriculture. One of the recommendations of the resulting studies was to increase the productivity of forest lands by replacing natural forests with supposedly higher productivity planted forests (National Commission on Agriculture 1976). Although the forest departments had been experimenting with tree planting since the early British period (Stebbing 1922), most silvicultural prescriptions had relied primarily on coppice regeneration,²⁴ and prior to the 1970s the annual area planted was very small. Early plantation programs attracted significant funding from international lenders to help develop technical capacity to produce large numbers of high quality seedlings. By the 1980s, this had evolved into a focus on “social forestry” programs which focused on planting trees outside of forest areas, combined with intensive plantations on forest land (Misra and Bhatty 1990; Dove 1995; Anderson and Huber 1988; Robinson 1998; Saxena 1994; Agarwal 1986). In the 1990s, the justification for tree planting morphed again, as they became mainstays of the emerging Joint Forest Management programs, described below. As I will show in chapter 5, the implementation of these plantation programs left much to be desired.

The period of Indira Gandhi’s leadership also saw two changes to forest law that increased the relative power of the central government in forestry in the late 1970s. First, in the late 1970s, forestry was moved from the state list to the concurrent list of the constitution, giving the national government an official role in the formulation of forestry policy.²⁵ Shortly thereafter, Indira’s government passed the Forest Conservation Act of 1980 (Government of India 1988).

²⁴ i.e. regeneration of trees by sprouts growing from the stumps of cut trees.

²⁵ Forestry was made a state subject by the Government of India Act of 1935, which also eliminated the Indian Forest Service, which was resurrected in the 1960s. Unfortunately, these changes are not well documented

This very short law restricted the ability of state governments to use forest land for any “non-forest purpose,” or to convert reserved forest to agricultural land, without first obtaining central government permission. The law was aimed at halting deforestation, but it had profound consequences for future forest policy. First, social activists, ecologists, scholars, and some forest officers began questioning the basis for such a law, expressing concern that it failed to address the root causes of deforestation, while inhibiting the livelihoods and possibilities for official recognition of forest dependent people (Fernandes and Kulkarni 1983; Fernandes 1984; Centre for Science and Environment 1982, 1985; Agarwal and Narain 1989). The continued degradation of forests indicated that the policy was not effective even in its own terms, but to this objection, critics added complaints that the emphasis on industrial production was damaging the natural environment (Guha et al. 1984) and obstructing the livelihoods of the rural, forest-dependent poor. The intellectual and social ferment around this movement contributed to the reinterpretation of the forest department’s history, described above, that is now current among many department critics, and also played a key role in fostering the joint forest management and forest rights act movements, described below (Corbridge and Jewitt 1997).

The Forest Conservation Act turned out to be a sort of hidden time bomb, however, and perhaps its most important consequences were not to be felt for another 15 years, when the Supreme Court began adjudicating a case known by the name of its first appellant, Godavarman, or sometimes simply as “The Forest Case” ("T.N. Godavarman Thirumulkpad Versus Union of India & Ors. J.S. Verma and B.N. Kirpal, J.J. (In W.P. (C) No. 202/95 with W.P. (C) No. 171/96 Decided on 12.12.1996" 1996; Sanctuary Magazine 2003; Nair 2005; Rosencranz et al. 2007; Thayyil 2009; Upadhyay 2009; Upadhyay et al. 2009; Sivaramakrishnan 2011).²⁶ In the course

²⁶ The website <http://www.forestcaseindia.org/> provides regular updates on new developments in this ongoing litigation.

of this case the Supreme Court has asserted vast powers to regulate forest department activities, as well as the use of funds deposited with the forest departments in compensation for diversion of forest land for developmental uses (i.e. such as building roads, irrigation projects, mines, etc). Rosencranz and Lele (2008 p. 11) write, “The Supreme Court’s assumption of such vast powers has no precedent, either in India or in other developing countries.” Supreme Court orders in this case, and in related litigation surrounding wildlife laws, have altered the use of working plans, the regulation of forest product processing industries, the designation of buffer zones around protected areas, and the regulation of alternative uses of forest land. The primary justification for this judicial assertion has been the failure of the forest departments to follow forest laws and halt deforestation.

The Forest Case effectively gives forest departments and the central Ministry of Environment and Forests authority to block all kinds of rural development projects – from mines and reservoirs to roads and schools, as well as the regularization of titles – because they are proposed on designated forest land. When diversions of land are allowed for other uses, the beneficiary of such diversion is required to provide alternate land to the forest department, as well as to deposit money with the department to provide for reforestation and compensate the department for the net present value of the land. These monies were not initially made available to state forest departments, however after a long series of litigation, the money is now being released to the departments, under the name “CAMPA”, or compensatory afforestation, providing departments with a flush of cash.²⁷

The Forest Conservation Act is probably the forest law that receives the most attention in the Indian press today, where it has reportedly earned the forest department the nickname of the

²⁷ For example, shortly before I began my fieldwork, the Andhra Pradesh forest department used these “CAMPA” funds to purchase new 4 wheel drive open jeeps for every range office in the state. Prior to this, range offices in Andhra Pradesh did not have their own vehicles. In Maharashtra, range offices still do not have their own vehicles.

“department of no,” since it so often refuses permission for development projects. It is important to point out that nowhere in this law is there any requirement that the government forest land be forested. The law and subsequent court rulings protect the land from being privatized or transferred from the forestry department to another branch of government, but do not protect it from deforestation.²⁸

The decade following the initial passage of the Forest Conservation Act saw a rapid evolution in official forest policy. While various bills to halt deforestation, conserve wildlife, or aid forest dwellers were debated, administrators began to take action to reshape fundamental aspects of forest policy. During this period, an official ban on clear-felling was passed by the government of Rajiv Gandhi. A few years later, a new national forest policy was written by a newly created central Ministry of Environment and Forests to replace the document prepared in 1952 (Ministry of Environment and Forests 1988). Although this document, written by a ministry, has no clear legal status, the new policy had a large impact for three reasons. First, many policy-makers apparently share the opinion senior IFS officers shared with me, that laws should be subordinate to the expressed goals of a comprehensive forest policy goal statement, such as the 1988 forest policy. Thus, the new policy is widely respected and cited by senior IFS officers as a statement of purpose for their agency. Second, the 1988 policy represented an about-face in forest policy priorities, with the needs of local communities and natural resource conservation being placed above the needs of industry for the first time in a national policy document. Third, the 1988 policy was reinforced through a series of government orders and

²⁸ Sometimes the term “disforestation” is used in India to describe the change in legal status of land when it is transferred away from government forest department control. This is distinct from deforestation which refers to the loss of forest cover, as legal forest status does not necessarily imply forest cover, so the change in legal status may or may not be associated with a change in land cover.

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funding schemes which affected a fairly radical change in the operations of the forest departments.

These government orders and funding schemes, beginning with a central government circular in 1990 (Ministry of Environment and Forests 1990), laid the groundwork for Joint Forest Management (JFM), in which forest departments share some authority over forest management with local village-level forest user committees. The emergence of this national program followed successful small-scale experiments in sharing local governance and benefits in several states, which were supported and initiated by forest officials (Joshi 1999, 2000), NGOs (Shah 2001), and to some extent, funding agencies such as the Ford Foundation and the Wastelands Development Board (Campbell 1992; Poffenberger and McGean 1996). Each state has its own program, and these programs continue to be altered and fine-tuned to meet the needs of the forest department and donors and alleviate the criticisms of activists.

During the 1990s, both Andhra Pradesh and Maharashtra had World Bank loans which pushed the concept of Joint Forest Management, and project documents indicate that Bank officials pushed for a rapid scaling up of initial trials (Agricultural Operations Division 1991, 1994; The World Bank 2000; Sector and Thematic Studies Group: Operations Evaluation Department 2002). World Bank funding for the Maharashtra JFM program ended in 2000, and since then there has been no major donor involvement in the Maharashtra Forest Department, although JFM continues with state and national government support. By contrast, the Andhra Pradesh Forest Department and the World Bank both pushed for continued collaboration, and in 2004 a second World Bank forestry program was initiated in Andhra Pradesh, which ambitiously renamed Joint Forest Management as “Community Forest Management,” intending to indicate that communities would now have complete control over their forests. Andhra Pradesh was the

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only Indian state to receive a renewal of a World Bank forestry program, and would be the last state in the country to receive such funding, although several other donor agencies, notably the Japanese International Cooperation Agency, have recently gotten involved.

There have been numerous scholarly evaluations of Joint Forest Management. Evaluations have found some positive impacts from JFM, including alleviating conflict, reducing and in some cases reversing the deforestation rate, improving some local livelihoods, and fostering conservation. At the same time, critics find that JFM has fallen short in terms of its ability to address historical rights deprivations, decrease poverty, and improve forest quality (for useful reviews of a vast literature see Poffenberger and McGean 1996; Campbell 1992; Jeffery and Sundar 1999; Sundar et al. 2001; Springate-Baginski and Blaikie 2007; Khare et al. 2000; Ravindranath and Sudha 2004; Behera and Engel 2006; Behera 2009; Bhattacharya et al. 2010; Saito-Jensen and Nathan 2011).

The status of JFM, as well as the details of the program, vary substantially by state. Andhra Pradesh has been hailed by the World Bank as a leader in JFM (Milne et al. 2005; Sustainable Development Department 2010), an image that senior forest officers work hard to promote. Some NGOs have also promoted the successes of JFM in Andhra at improving livelihoods and forest cover and alleviating conflict (Centre for People's Forestry - CWS 2003; Centre for People's Forestry 2003, 2005, 2008; "Proceedings of State Level Stakeholder Consultation on Impact of Andhra Pradesh Community Forest Management" 2010). As I will show in more detail in chapter 4, credit for this success is due in large part to the strong political support the program received. At the same time, independent evaluations find that the Community Forest Management project, like the earlier Joint Forest Management project, has failed to foster genuine local decision-making (Bandi 2009; Saito-Jensen et al. 2010; Saito-

Jensen and Jensen 2010; Saito-Jensen and Nathan 2011; Reddy and Bandhii 2004; Reddy et al. 2007), has had limited livelihood impacts (Rossi 2007), and has failed to address underlying inequities that influence forest management (Forest Peoples Programme and Samata 2005; Reddy and Bandhii 2004; Reddy et al. 2007).

By contrast, Maharashtra's much less studied Joint Forest Management Program is widely perceived to have achieved very limited results (Jha 2004; Ghate and Chaturvedi 2004; Ghate 2008a). These authors share an opinion expressed by several senior informants in the forest department²⁹ that the state forest department has failed to "institutionalize" (Ghate 2008) JFM – i.e. that it has failed to integrate the program into their regular work procedures. On the ground in Maharashtra, the forest department's own random sample surveys show that few JFM committees are active (Maharashtra Forest Department 2008, 2009, 2010). I observed a small number of very active JFM committees, most of whom were active primarily due to the efforts of local leaders or NGOs, and not due to forest department involvement. At the same time, a senior forest officer responsible for administering the state JFM program reported to me that, "Now we have realized that with this kind of population pressure and poverty, you have to get the participation of the village. There is writing on the wall. The Forest Department has realized that ultimately Joint Forest Management Committees will be all powerful... it is irreversible." (interview with informant 150, September 27, 2010). This quote from a senior officer shows that even if the state's program is weak, there is an official rhetoric that places the program at the center of future plans.

Reading the academic literature on forest management in India would lead one to incorrectly assume that JFM was the main activity of the forest departments. From the perspective of the field officers, however, JFM is only one of many important activities.

²⁹ Interviews with informant 12, July 10, 2009, informant 13, July 17, 2009

Although early reports found that there was substantial resistance on the part of field officials to the addition of JFM (Vira 1997), the program is now more than 20 years old, is an established part of the working routine of the department, and is popular with many forest officers who see it as effective way to work with communities and improve forest outcomes.³⁰ At the same time the literature indicates that at least some of the shortcomings of Joint Forest Management are the result of officials not actually doing what they are supposed to do – for example, studies in Andhra Pradesh found that local micro-plans – supposed to be prepared by the village forest committee through a participatory rural appraisal in which they identify local priorities, and communicate those to the local forest officers – were prepared by forest officers without any public input in direct contrast to official intentions (Reddy et al. 2007; Bandi 2009).

By contrast to forest officers who seem to have grown more enthusiastic about JFM over time, many of the social activists who promoted Joint Forest Management in the early 1990s became disillusioned by the end of the decade.³¹ While JFM had offered hope of improving the lives of the forest dependent, the programs that were implemented by the forest departments did not address the underlying inequities activists hoped to see addressed. This disappointment came to a head in the early part of the 2000s when a court order in the Godavarman Case was interpreted to require rapid eviction of people living on forest department lands. Many social activists viewed these people unjustly deprived of their rights to the land through the problematic settlement procedures described above, and a large scale political mobilization ensued. In 2006, this mobilization succeeded in securing the passage through the national parliament of The

³⁰ In fact, as Joshi (1999, 2000) has shown, field-level forest officials have been driving forces behind JFM since its initiation in West Bengal in the 1970s – in part because the conflict alleviation substantially improves their working conditions.

³¹ To take one example of a widely published author, Sarin's early writing on JFM (Sarin 1993; Sarin 1995, 1996) offers significant praise, coupled with critique, while in her more recent work she appears to be a thorough critic (Sarin et al. 2003).

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Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (for a more complete description of the origins and politics of this law, see Bose 2010; Kashwan 2011; Kumar and Kerr 2012).

The Forest Rights Act, as I will refer to it through the rest of the dissertation, aimed to undo historical injustices acted upon forest dwelling communities by restoring rights to which, the act's proponents claim, they had been historically denied. In particular, the focus was on forest settlement procedures which had labeled certain land uses as illegitimate, and which had failed to account for other land uses. The act created a procedure through which village assemblies could verify and approve the claims of individual villagers, or the village as a whole, to rights in forest land. These claims would then be reviewed at the sub-district and district levels by a committee led by the local office of the tribal department, but assisted by the land revenue and forest departments. The most widely publicized right was to individual agricultural land. Individuals had to prove that they had been cultivating the land since before 2005, and had to either belong to one of the scheduled tribes, or prove that their families had been in residence in that area for 3 generations (the idea being that this showed that they were traditional forest users). Villages and communities were also granted the right to claim use and management of forest products, based on similar criteria of long-term residency and use. Finally, the act carved out a minor exception to the Forest Conservation Act of 1980, allowing the development of small areas of forest land for use as school buildings, health centers, or other public purposes, in areas where no other land was available. Because activists who drafted the law did not trust the forest department, most of the work of implementation was specifically delegated to the revenue and tribal departments, which were perceived to be more sympathetic to the needs of the rural poor.

Implementation of the law was ongoing, and highly controversial, at the time of my field work. Few forest officers were entirely in favor of the law. While some saw aspects of the law as beneficial, others viewed it as fundamentally destructive, and a group of retired forest officers was playing a leading role in opposing the law.³² As a result of political pressure during a highly competitive election season in Andhra Pradesh, agricultural land claims had been processed very rapidly in that state, however subsequent inquiry by a National Commission (Saxena et al. 2010) found that as a result of political pressure, the claims had been handled in a sloppy manner, and the ability to apply for community claims had not been adequately publicized. Thus, when I arrived in Andhra Pradesh I was told that the implementation was completed, but by the time I departed, I heard that implementation was beginning again. Maharashtra's tribal department, led by a forest officer serving on deputation, designed a very thorough internet-based platform for recording and evaluating claims. This slowed implementation, and brought political pressure on the tribal department to abandon the system, which it eventually did, in favor of a more ad hoc approach. The Saxena Commission report found irregularities in the implementation of the Forest Rights Act in most states, and forest officials were widely blamed for obstructing implementation (Saxena et al. 2010; additional studies of the implementation of the forest rights act include Reddy et al. 2010; Kashwan 2011).

Although this review captures the major currents of formal forest policy reform, forest policy is also influenced by broader changes in Indian society. The much lauded economic reforms of the early 1990s had little direct impact on the management of government forests, but the rapid economic growth and changing socio-economic climate of the country are having an

³² Details of this opposition, as well as debates among forest officers about the merits of the law, are regularly reported on in the monthly magazine, *Vana Premi*, the Journal of the Association of Retired Forest Officers, Andhra Pradesh, edited by Qamar Mohd. Kahn, and published out of the Principal Chief Conservator of Forests office in Hyderabad.

impact on forest management. Although rural forested areas remain among the poorest regions of India, rural people are increasingly aware of economic opportunities outside of their villages. Similarly, educated youth who once might have seen government employment as their best option may be increasingly attracted to jobs in the private sector. The forest product sector has grown, and Ballarpur Industries Limited, based in the study region, is the first Indian company to be listed among the 100 largest forest products companies in the world (Dauvergne and Lister 2011). Although Ballarpur's mill continues to purchase bamboo from the forest department, forest products companies are increasingly reliant on pulp produced on private land, and on timber imported from southeast Asia and Africa.

Technological change has also contributed to decreased isolation of the forest region. Poor villagers now are connected by cell phones, and forest guards have motorcycles and Facebook accounts. Hard-top roads and electric lines (though often ones that rarely carry electricity) reach to formerly remote villages. The resulting enhanced communication has in many ways made the work of the forest department easier – supervisors can travel in a short time to inspect their subordinates' work, and new policies spread via email. Andhra Pradesh publishes a listing of forest officer's cell phone numbers on the departmental website, and in theory, this makes officers more available to the general public.

At the same time, the continuing poverty of the region has fed into a Maoist movement that has ebbed and flowed through the forests of central and eastern India for several decades. For reasons of personal safety, I avoided areas in which this Maoist presence was strong, however the past presence of armed conflict, and the current presence of armed conflict in neighboring areas, has a distinctive influence on the region. Historically Maoists have attacked the forest department, but current reports indicate greater accommodation between rebels and the

forest department. Forest officers I spoke with who had worked in Maoist territory reported to me that the Maoists were fighting with the police, not with the forest department. Nonetheless, the Maoists do participate in and tax non-timber forest product collection (Suykens 2010), and are sometimes reported to be involved in timber smuggling (to make money) or halting planned timber harvest (to preserve forested hideouts).

2.4 Conclusion

The last several decades of reform have transformed Indian forest management. Although the administrative system in place would be familiar to a British official of the early 20th century, the intrusion of democratic politics into bureaucratic practice has changed the way the administrative system works (for an analogous account from Pakistan see Hull 2012b). Furthermore, the programs undertaken by the forest department have changed dramatically. While at the time of independence, foresters' primary job was managing timber resource, today's foresters spend much of their time managing wildlife and rural development policies. Many in India argue that the British bureaucratic machinery, designed for timber management in the Empire, is poorly suited for the challenge of today's democratic government and conservation and development goals. In the next chapter I examine the role of that bureaucratic structure in the failures of the forest departments to implement public programs.

Chapter 3: Organizational Influences on bureaucratic behavior

Abstract

Forest management agencies around the world are responsible for making important decisions about the management of forest resources at local to global scales, yet many analyses of common-pool resource management pay little attention to how forest bureaucracies are structured, how these structures influence the implementation of forest policies, and how bureaucratic structures and policy implementation influence the management of local forests. This paper is part of a larger project examining the influences on bureaucratic decision-making in forest management in India, a country with one of the oldest large-scale public forest bureaucracies in the world. I begin this paper by examining a classic work of public administration focused on forests: Herbert Kaufman's *The Forest Ranger*. Kaufman observed that the United States Forest Service of the 1950s was a highly effective policy implementer, and posited that characteristics of its organizational structure enabled it to manipulate the preferences of field-level officials so that they aligned closely with organizational goals. I then show that the structure of contemporary Indian forest departments is remarkably similar to the structure of the US Forest Service in the 1950s, but the outcomes reported in government documents and by forest officials are not nearly so good. I argue that the difference is due to contrasting types of political influence. The finding that political influences dominate over bureaucratic values is in contrast to much work in contemporary public administration, and is, I argue, the result of studying bureaucracies which operate in very different political environments.

3.1 An Example of the Influence of Organizational Structure

On a warm morning in early March, 2011, I joined a divisional forest officer (DFO) in his air conditioned sport-utility-vehicle for a visit to two of his forest ranges. From the large town where he was headquartered, we drove out along a narrow blacktop road, dodging bicycles, busses, and bullock carts loaded

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*down with harvested toor dal. The upland cotton fields were already parched and brown, but in the lowlands, where irrigation was available, young paddy rice glowed iridescent green. We drove through a low range of hills covered with rough scrubby palas (*Butea monosperma*) trees and closely cropped pasture. The DFO told me that this was forest department land which had been encroached for agriculture in 2006 or 2007, before he arrived in the division. I speculated that prior to that the large trees had been harvested by the forest department or by timber smugglers working in collaboration with the forest department, leaving the land an easy target for agricultural conversion. Now the land was back in control of the department, but still largely devoid of trees. Although we were driving through one of the poorest regions of Andhra Pradesh, the air-conditioned car and soft music made it seem luxuriant and beautiful.*

After an hour we arrived at the first range, and were greeted by the Range Forest Officer (RFO), a tall, thin man with slightly graying hair, dressed smartly in his greenish brown uniform and cap. As we sipped milky-sweet tea on the porch of a guesthouse that had seen better days, the DFO told me that this RFO was his best officer – as a young man he had earned money in another business. Unlike most of his peers he had joined the forest department out of a genuine interest in the work, rather than from a desire to make money, and therefore was not easily corrupted. After tea, I followed the RFO and DFO to the range headquarters for the Range staff's monthly meeting. Approximately 25 portly graying men in their early 50s, but also a few men and three women in their 20s were gathered around the headquarters, leaning on their motorcycles and talking, but when they saw the DFO, they stood at attention, and saluted as he walked by. The DFO and RFO took their seats behind the desk, while the staff filed into a crowded line of benches and plastic chairs.

The DFO began the meeting by asking the Deputy Range Officer (DyRO) what work was occurring in his jurisdiction, and emphasized the urgency of completing the work by the 15th of the month, in advance of the end of the fiscal year on the 30th. If funds could not be transferred in time, there was additional money available under CAMPA that could be used for building firelines, maintaining boundary pillars, and advance operations (i.e. preparations for plantations that would be planted at the start of the rainy season in June or July) in the short-term. The DyRO reported that they had hired crews to clear firelines by hand, and the DFO asked him to see what was happening in neighboring ranges, where fireline clearing was being done by tractor. In this way, the cleared firelines were visible for 6 months or more. The DFO was not certain of the details, so asked him to consult with the RFOs from neighboring ranges.

The DFO then turned to the 3 section officers and 20 or so beat guards. He asked each officer to report their work so far in completing their diaries, and achieving their targets for fines issued for illegal activities. All the guards reported that their diaries were complete up until the previous week, and nearly all had already achieved their annual targets for fines. In a few cases he asked to examine their beat felling registers, in which they are supposed to record any trees that are felled illegally, the dimensions of the felled pieces, and the projected dimensions of any pieces that were missing. In theory, the value of the

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missing pieces can be recovered from the guard's salary, providing a strong incentive for the guards to either prevent illegal felling, or underreport it when it occurs. However, in this particular division, the DFO had placed an emphasis on accurate reporting, assuring the guards that he would not deduct anything from their salary. The registers were properly filled out. After interrogating each officer, the DFO made notes in English in a large notebook. Two of the section officers reported that they had stopped agricultural encroachments into forest department land, and the DFO applauded the range office at large because according to the recently published "Andhra Pradesh State of Forest Report" (Andhra Pradesh Forest Department 2010), remote sensing had recorded no new encroachments in the previous year. The DFO concluded the meeting by reminding all of the officers that they must complete their work by the end of the month, and reminding the section officers that they, and not their subordinate beat guards, would be held responsible for unfinished work.

I followed the DFO and RFO back to the SUV, and together we drove to the neighboring range. The same RFO was in charge of this range, as an additional charge, because the position of range officer of this second range was temporarily vacant. As we drove they told me that while the first range we visited was in good condition, they were worried about this second range. The new Cartosat data showed that there had been large amounts of agricultural encroachment in this range during the previous growing season. We pulled into the forest office, a small building standing next to a police station surrounded with high walls and barbed wire, a throwback to the early 2000s when this area was controlled by Maoist rebels. Again, the range staff saluted us as we arrived, and then followed us into the office. Unlike in the previous range, nearly all were middle aged men, the large belt buckles of their uniform bulging as if to accentuate their pudginess. The office was far too small for the 25 men, so while most squeezed onto rickety benches, a few men stood outside in the doorway.

The DFO began interviewing the first of this range's 2 DyROs. This officer, it turned out, was woefully behind on his targets for collecting fines. He was also supposed to be supervising a tree nursery, where small polythelene bags needed to be filled with dirt so that seedlings for the monsoon plantation would be started. Only 10% of the required bags had been filled. The DFO checked in the range's notebook to see what he had noted the previous month about this DyRO, and found that no progress had been made since the last meeting. A similar pattern followed with the second DyRO. He had encroachments in the area he was responsible for, and these had also been reported the previous month, but no offense reports or charges had been filed in those cases. The DFO became visibly angry, and shouted at the two men, accusing them of not doing any work at all, of not even leaving the headquarters to go out to visit the field areas they were responsible for. He said that he would ask the RFO to report within 10 days, and if no progress was made, he would file charges against the DyROs, and try to have them suspended. He then asked the Beat Guards to report their work. Most had proper diaries, with current entries, but several had not updated their diaries in 3 months. Finally, as we prepared to leave, the DFO announced to the range staff that the satellite photos had shown that this range was leading in

encroachment, and that if he found that any officer was responsible for not prosecuting encroachers, either because of negligence or connivance, he would see that that officer was dismissed. (field notes, March 4, 2011)

3.2 Theories of organizational structure

Around the world, forest management agencies and other large organizations face analogous problems to the one described above: while some of subordinates behave as intended, others deviate. Such deviations are reported to play a major role in the shortcomings of policy implementation, and therefore, understanding their origin is important. Since its beginnings, public administration theory has given a prominent role to organizational structure in determining how bureaucrats behave. In order to understand the role of organizational structure in influencing policy implementation in Indian forest departments, in this chapter I apply a classic theory about organizational structure's influence on policy implementation that was developed in a study of a remarkably similar organization - Herbert Kaufman's (1960) study of the United States Forest Service (USFS). I focus on Kaufman's work on organizational structure for two reasons. First, it is one of the most widely cited statements of the importance of the influence of bureaucratic structure on public administrators in the discipline of public administration. Second, Kaufman studied an agency that was remarkably similar to the Indian forest departments, so his theory would be expected to be applicable to this case.

Kaufman's study retains its importance in the field of public administration 50 years after its original publication. The Public Administration Review has published two new reviews of the book in the last 5 years. According to these reviews, "The Forest Ranger is not only a model case study but also a model for public administration research and researchers. It is intensely engaged with complex and important issues in a way that has engaged others in this field to think and talk about it for decades (Luton 2007 p. 168)" and "remains well thought of and often cited, with reviews still occasionally appearing in journals nearly 50 years after its publication..."

Kaufman's work, like that of his mentors Simon and Gulick, has become a staple of public administration (Burton 2012 p. 1)." Wilson (1989 p. 166) described the book as "the best known study of a government agency trying to manage the behavior of operatives working in remote places." The book has had a similar influence on studies of forest administration, where it is cited to support claims of the efficacy of hierarchical control in forest management (Primmer and Karppinen 2010), although many works also detail how the context of forest administration has changed in the US since the 1950s (Tipple and Wellman 1991; Carroll et al. 1996; Koontz 2007).

Kaufman describes an agency remarkably similar to India's state forest departments in terms of structure and history. One of my informants, a retired forest official who had read *The Forest Ranger* while on a study tour in the US, told me that, "I got chills down my spine reading it," (interview with informant 127, August 17, 2010) because what Kaufman described about the USFS in the 1950s was so remarkably similar to his experiences working in remote forest department offices in Maharashtra during the 1980s. The organizational similarities between the two countries' forest management systems are not coincidental. Many of the organizational characteristics typical of the USFS were originally copied from India by USFS founder Gifford Pinchot, himself a student of Dietrich Brandis, the founder of Indian forestry (Miller 2001; McGeary 1960; Barton 2001; Balogh 2002) . As I showed in the previous chapter, recent reforms in Indian forest law have not been accompanied by significant administrative reorganizations. This is in contrast to the USFS, where environmental movements have successfully altered the organizational structure (Koontz 2007; Tipple and Wellman 1991). If Kaufman's theory is correct, it could help identify structural reforms that Indian forest departments could implement to avoid pervasive deviations from intended goals. If Kaufman's theory does not apply to the Indian case, it would raise questions about the generalizability not

only of Kaufman's findings, but also of the broader emphasis on organizational structure as a key predictor of policy implementation outcomes.

This chapter is divided into four sections. First I explain how the methods of the study, described in chapter 1, were applied to the analysis of administrative structure. Second, I introduce the core argument Kaufman made about administrative efficacy in the USFS. Third I compare the practices, outputs, and outcomes of the Indian forest departments with Kaufman's theoretical predictions. I find that although the Indian forest departments' organizational structures conform to what Kaufman would predict would lead to excellent policy implementation, actual policy implementation in India is quite poor. Fourth, I examine whether the relatively small structural differences between the Indian forest departments and the USFS explain the differences in outputs. I find that they do not, undermining support for the theory that structural characteristics of the Indian forest departments explain their relatively poor performance, and I suggest directions for further investigation which are examined in the succeeding chapter.

3.3 Methods

In his recent review of *The Forest Ranger*, Luton (2007) locates the lasting influence of Kaufman's case study not only in the important questions he asks and the lucid analysis he uses to answer them, but also in his choice of methods, a carefully focused set of case studies which provide a deep view of the experiences of forest rangers, but "he did not attempt to assert absolute causal relationships (Luton 2007 p. 166)." Kaufman built his theory up first through the study of the formal documents produced by the USFS, followed by intensive week-long visits to 5 ranger districts in which he both interviewed and observed the work of the district rangers and their staffs. My study follows closely in Kaufman's methodological footsteps in the in-depth

examination of the work of field forest officers, but as described above in the methods section of chapter 1, my study covers 8 forest divisions in 2 states.

Although visiting several sites allowed me to see different aspects of forest administration, this chapter focuses on aspects of forest administration which vary little between forest divisions, and, for that matter, between states. As I showed in Chapter 2, the administrative structure of the Indian forest departments, developed during the colonial era, is well established and remarkably similar across regions. My visits to 8 forest divisions found few differences in how administrative structures worked in practice (although, as the example described above in section 4.1 shows, there are variations in how well the system works). This relative uniformity is in contrast to the complex variation in political influences which I will describe in chapter 4. Uniformity in organizational structure is not surprising in a bureaucracy, as a basic goal of a bureaucratic hierarchy is to provide for predictable and controlled interactions between actors (Weber 1947; Williamson 1975, 1985), but it cannot be taken for granted.

The relative uniformity of organizational structure within India provides a clear basis for making comparison with Kaufman's theoretical claims, which are based on the uniform structure he found within the USFS. As I will show, most of the conditions which Kaufman theorized led to effective policy implementation in the USFS are present in India, yet the outcomes in terms of policy implementation behavior in India are much poorer than those reported by Kaufman. The comparison in this paper suggests that Kaufman's theory is not capable of explaining the Indian case. Within a hypothesis testing framework, we can describe Kaufman's theory as falsified, as his theory would predict that the administrative structure of the Indian forest department would lead to successful local-level implementation of centrally designed policies, and it does not. The problem with such falsification is that it is not clear which element of Kaufman's complex and

multifaceted theory is falsified: the theory as a whole or some part of it. Kaufman described an organizational structure as a whole that led to success, I describe a somewhat similar system that leads to failure. Are the small structural differences the cause of divergent outcomes, or are the divergent outcomes related to elements left out of Kaufman's theory?

As described in Chapter 1 this dissertation emphasizes an abductive logic of theory development. Kaufman's theory provides a starting ground for this theoretical development. Given the similarities between the system Kaufman studied and the one under study here, the failure of Kaufman's theory to explain this case is unexpected. An abductive logic, in which theoretical anomalies are used to provide the basis for new case-based theory development, leads me to explore two directions to explain the theoretical anomaly. At the end of this chapter I examine the possibility that small structural differences lead to big differences in outcomes. I find that these structural differences are important, but are insufficient to explain the divergent outcomes. In the following two chapters I explore two factors Kaufman largely ignored which may play an important role in explaining the poorer outcomes in India: the nature of political influence on policy implementation and the values held by bureaucrats. I find that individually, none of these factors are sufficient to explain the poor outcomes of policy implementation in Indian forests. Instead, the interactions among these elements jointly contribute to the poor outcomes.

3.4 Kaufman's theory

Kaufman argued that the organizational structure of the USDA Forest Service (USFS) led to effective policy implementation by District Rangers, the key field level officials in the organization. Kaufman's conception of organizational effectiveness was that field officials carried out the intent of central policies without requiring detailed supervision or coercive action. In the words of modern political science, the Forest Service had solved the principal agent

problem that exists between agency directors and their field staff. In spite of the remoteness of forest offices and the great variation in on-the-ground conditions, “Rarely does one hear it said that Rangers behave in a fashion inconsistent with Service policy” (Kaufman 1960, p. 4). These officials made discretionary choices which were consistent with the national goals of the organization, giving the organization the ability to take advantage of local knowledge while maintaining loyalty to central goals. Thus Kaufman’s measure of organizational effectiveness was tied not so much to the ability to produce identical behavior among bureaucrats through strict hierarchical controls, but the ability to adapt behavior to highly variable local conditions while still achieving the goals that leadership embraced. “The men in the field are apparently doing what the top officers want done in the field... Field compliance in the Forest Service is not total, naturally, but it is so high, despite powerful factors tending to reduce compliance, that it cries out for study” (*ibid*, p. x-xi).

Kaufman’s definition of effective policy implementation thus avoids some of the conflicts that later arose in the study of policy implementation between “bottom-up” and “top-down” perspectives (Sabatier 1986; Matland 1995): Kaufman’s successful agency aligned the perspectives of central policy makers and field level officials so that there was no conflict between their perceptions and goals. Although Kaufman’s study remains the definitive account of the USFS of that era, and studies of the early 20th century USFS lend support to the idea that the USFS was a powerful and effective agency (Carpenter 2001), it is not possible to evaluate whether Kaufman’s interpretations were correct. In the 1980s a new group of scholars described the USFS as an agency held captive for many years to narrow special interests (Clary 1986; O’Toole 1988; Wilkinson and Anderson 1985; Hoberg 2001), a description which does not necessarily undermine Kaufman’s claims that the organization was effective, but does call into

question whether his observations, which explicitly avoided political conflict and do not mention agency capture, were complete.

Kaufman chose to study the USFS because he believed that it was an unusually effective organization. Kaufman identified several “challenges to unity,” (*ibid.*, p 66) which would be expected to lead to fragmented policy implementation: these included now familiar problems of discretion in street level bureaucracies (Lipsky 1980; Maynard-Moody and Musheno 2009): it was impossible to design directives specific enough to be applicable to all field situations, directives were often inconsistent or conflicting, and field offices worked in such great geographic isolation from headquarters that communication was slow and consistent monitoring virtually impossible. There was a risk that field officials might be “captured” by local interests, that personal preferences might run counter to agency policy, and there was an official ideology of administrative decentralization.

What contributed to the USFS’ exceptional effectiveness in spite of these “impulses toward disintegration?” (Kaufman 1960 p. 86) Kaufman (p. xiii) argued that, “The success of the Forest Service in welding the behavior of hundreds of geographically dispersed and relatively isolated Rangers into a unified organizational pattern apparently rests heavily on manipulation of the perceptions, thinking, and values of members of the Service.” Kaufman divided his analysis into three categories: “procedural devices for performing decisions,” “detecting and discouraging deviation,” and “developing the will and capacity to perform.” Of these, Kaufman clearly considered the first two necessary preconditions for the most important third category.

Procedural devices for performing decisions refers to the rather extensive system of formal rules governing bureaucratic behavior. These formal rules, including statutory laws written by Congress, regulations governing general administration issued by staff agencies (e.g.

the Civil Service Commission, the General Services Administration), and regulations written by the USFS national office, were contained in a “Forest Service Manual” which was the “bible” of the District Rangers Kaufman studied (1960, p. 95). Additions could be made at a more local level by regional foresters and forest supervisors, who also published technical manuals to deal with specific technical issues. Below this level, each ranger district prepared a number of plans – at a minimum one for fire and one for timber – which “set long-range... quantitative and qualitative goals, break these down into shorter-ranger objectives...” and define “steps and stages by which the goals are to be achieved.” (ibid p. 99) These formal rules were further complemented by “a steady flow of ad hoc instructions from higher headquarters... memoranda, letters, circulars.” They were also complemented by regular review of lower decision-makers actions by higher level officials, formal procedures for dispute resolution, and detailed budgets which provide further direction as to administrative priorities.

Although these procedures were rather elaborate, Kaufman (1960 p. 124) was at pains to point out that “there is no obvious reason why advance decisions... should induce Rangers to act in the prescribed fashion.” Instead, the preformed decisions were reinforced by elaborate procedures for detecting and discouraging deviation, Kaufman’s second category. The first procedure was extensive formal reporting, including the keeping of official diaries. Although this was mostly designed to facilitate financial accounting and future planning, it also enabled higher level officials to keep tabs on the actual activities performed. Falsification of reports was rare because covering your tracks was difficult given the multiplicity of overlapping reports, and because of an ethos that encouraged reporting of mistakes, rather than covering them up. The second was regular inspection. A variety of specialized and general inspections were carried out at 1-5 year intervals depending on the type of inspection. Most inspections were carried out by

the immediate supervising official, although there were occasional visits by higher level officials. Inspections were planned ahead of time, “surprise is not particularly important in an agency where slow biological processes set the pace (*ibid* 143.)” Inspections were not merely about catching wrong-doing – instead they were opportunities to confer, strategize, problem-solve, and suggest ways to improve, and were thus valued both by the inspectors, who got to see what was happening on the ground, and by the inspectee, who had an opportunity to get an outsider’s opinion on his work. In addition to formal reporting and inspection, frequent transfers helped insure that wrong-doing was detected – while an individual might hide his malfeasance from his superiors for some time, he would be unlikely to be able to hide it from his successor. Formal sanctions were available to managers for severe deviations by their subordinates, but Kaufman was at pains to point out that they were rarely necessary.

Kaufman believed that preformed decisions and detection procedures were essential aspects of the USFS’ effectiveness, but these alone were insufficient to explain the observed behavior. As Kaufman pointed out, it was inevitable that other influences would intrude into the carefully planned formal structures. For this reason, Kaufman emphasized the ways that managers “... try to control what goes on inside each individual organization member, to get them to do of their own volition what the managers want them to do...” (p. 160). The USFS followed a number of practices that had the effect of eliciting “voluntary conformity” (p. 198) such that formal rules and enforcement mechanisms were a secondary aspect of bureaucratic compliance. This began with recruiting of high school and college age students. This recruiting targeted young men who had interest and experience in outdoor work, and emphasized the difficult nature of the job – involving extensive time in the field in physically challenging situations. This kind of publicity helped get word out to “those who value the work itself and to

whom the agency as an organization is attractive,” while deterring “the impatiently ambitious, the seekers after the easy job and the comfortable and stable life, and the men who grow restless at the thought of positions within the framework of a large organization.” (p. 164)

Forestry training at the bachelors’ level was concentrated in a relatively small numbers of schools, and focused on technical issues – “biology, ecology, silviculture, and forest economics (p. 165).” Although recruiting for the competitive exams that determined employment was not restricted to foresters, 90% of the professional staff held forestry degrees and “many decisions and actions taken in the field are implanted in these men during their pre-service education (166).” Working for the USFS was generally considered a highly desirable outcome for foresters, although many also went to work in private or state-level forestry organizations. Training continued after staff were selected, however most of this on-the-job training was informal, conducted through the posting of junior staff to positions where senior staff could supervise their work.

Several practices also helped to build employee identification with the organization beyond training and initial employment decisions. Distinctive uniforms and signage – even in offices in Washington DC – built an identity for the USFS that differentiated it from other public services. Although transfers were usually not mandatory, they were encouraged as a way of broadening the outlook of foresters, and promotions usually required accepting a transfer. Thus, during a forester’s early years, “he never has time to sink roots in the communities in which he sojourns so briefly... Only one thing gives any continuity, any structure, to his otherwise fluid world: the Service... Thus, the Forest Service acquires a more or less fraternal aura for its newer members.” (p. 178) The vast majority of promotions came from within the organization, insuring that higher level officers have experience in the organization and sympathy with the difficulties

of their subordinates. At the same time, promotions were based primarily on merit (as judged by superior officers), such that those who conformed more closely to organizational ideals would rise rapidly in the ranks. Washington and Regional offices regularly sought the opinion of field staff on important policy issues, and “recommendations and complaints do get back to the higher levels, sometimes generate action, and do not (unless carried to an extreme) result in injury to the sources for being outspoken.” (p. 187)

The combined effect of these practices – the pre-formed decisions, the detection procedures, and the procedures to elicit voluntary conformity – were important. Relatively uniform background and training lowered barriers to communication that might arise in organizations employing multiple kinds of professionals, and frequent movement and promotion from within insured that employees had strong networks within the organization. Frequent transfers also prevented local capture, insuring that foresters were loyal to the organization rather than to their local communities.

3.5 Do Indian forest departments share key characteristics with Kaufman’s USFS?

At least on the surface, Indian forest departments share numerous characteristics with Kaufman’s US Forest Service that would lead us to predict that they would be similarly effective. They share similar types of “pre-formed decisions,” as well as procedures for monitoring and detection of deviations. Furthermore, these are complimented with very similar procedures for attempting to control the internal states of bureaucrats so that they will voluntarily comply with directions.

3.5.1 Preformed decisions / formal rules

Like all bureaucracies, the Indian forest department is structured by a fairly elaborate set of formal rules. These rules include forest laws, as well as those governing the civil service system, but also include a large number of orders and circulars issued by the Ministry of

Environment and Forests in Delhi, as well as by state forest departments. These orders and circulars fill in the blanks between laws, and provide detail on technical subjects. Joint Forest Management runs entirely based on orders and circulars, without any statutory law, while other circulars provide details on how nurseries should be run, what makes plantations successful, and other aspects. Funding schemes come with detailed circulars about how the money is to be managed and spent. Additional pre-formed decisions are made in the form of “Working Plans” which are prepared for a 10 year period, and specify silvicultural treatments to be applied. Working plans are accompanied by treatment maps and subdivided into annual plans which specify which areas should be treated which year. Actual fieldwork is accompanied by detailed documentation of work done – the precise numbers of trees planted, careful enumeration of standing trees, and registers that record every tree felled and every subsequent movement of the tree up to the sale at auction and actual possession by the purchaser. Budgets contain precise targets, which are often broken down to targets for individual officers.

Unlike in Kaufman’s USFS, these formal rules are not gathered in a single, continuously updated document. Some officials in Maharashtra told me that their work was as defined by the Bombay Forest Manual, but this document was last published 60 years ago (Koppikar 1950), and I could locate only a few, extremely ragged copies, although reportedly it is being revised. In the late 1990s, during the period of the first World Bank forestry project in Andhra Pradesh, Andhra Pradesh published summary manuals defining the roles of each type of official in the organization, however these also have not been updated since original publication, and are not widely available – most offices do not actually have copies of them. A recent 2 volume commercially published compendium on Andhra Pradesh forest law (Kishan 2010) is, however, present in many offices of higher level officials. Working plans, treatment maps, and other

records directly related to field implementation are generally kept at the relevant division and range offices, and are easily available.

This lack of a single system for recording formal rules, however, does not appear to be a serious obstacle to field-level knowledge of relevant law and policy. Circulars and orders are circulated to field offices with speed and regularity, and are reinforced by frequent inspections by supervising officials. Although these documents are not filed in a single manual, office clerks in the offices I visited knew the location of most of the recent files, and I frequently observed officers requesting their clerks to bring them copies of relevant circulars or government orders. Field-level officials, particularly in the college-educated professional ranks of divisional and range forest officers, are well-informed about their duties. To the extent that they are not, additional formal documentation does not seem likely to help. The recently passed Forest Rights Act (Government of India 2007a) contains provisions that grants rights to cultivate legally designated forest land to certain individuals based on their ability to show that they and belong to certain social categories. Field officials, both from the forest department and other related agencies involved in implementing the act, quoted to me widely varying versions of these requirements, many of them far more stringent than those in fact in the statute. However this particular law was heavily publicized, and written copies of it were widely available in English, Hindi, and local languages, throughout the study area, so the varying versions seem unlikely to be due to lack of availability of correct information, but perhaps instead due to intentional distortions of the law on the part of officials who did not wish to see the law implemented as designed, as has been reported elsewhere (Kashwan 2011; Reddy et al. 2010; Saxena et al. 2010).

3.5.2 monitoring

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Like the USFS, Indian forest departments have elaborate procedures for monitoring and reporting compliance with formal rules, and detecting deviations. These begin with a variety of procedures for formal reporting, and also include regular inspections and touring by senior officials.

Formal reporting begins with careful record keeping at the field level. Notebooks are kept with details of all major operations, such as planting and harvesting. Prior to harvesting, detailed enumerations are made of standing trees, and each individual tree is marked, so it can be traced. In Andhra Pradesh, I also saw this being done in forest areas which contained valuable timber which was not slated for cutting, but were vulnerable to illegal timber harvests, thus enabling visiting officials to rapidly assess whether any trees had disappeared by comparing records with the marked trees on the ground. Similar notebooks are kept recording trees once they are felled, and in fact, at every step of the process until the logs are sold at auction and removed from the depot. Illegally harvested logs that are seized by forest guards are similarly marked and recorded. Visiting supervisors can easily tell how much material has been lost by comparing the dimensions of the recovered pieces of wood with the dimensions of the stumps from which they were removed. These records, and similar ones kept for expenditures, labor costs, etc., are aggregated up by the large number of clerks at the division and circle level offices, allowing a steady flow of information up to headquarters about the daily activities of field-level officials, which should enable rapid detection of deviations.

This record-keeping and reporting is complemented with an extensive system of monitoring that is, if anything, more vigorous than Kaufman reported in the USFS. The departmental hierarchy is organized such that each official is usually responsible for supervising no more than three to five officers – for example, a single range forest officer is usually

responsible for supervising three or four forest section officers, who in turn supervise three or four forest guards each. Range forest officers are supposed to spend most of their time in the field, visiting each section approximately once per week, and all of the range officers I interviewed actually did this. Divisional Forest Officers are supposed to spend half to two-thirds of their time in the field, as are assistant conservators of forest. Some of the divisional forest officers I visited actually spent most of my visits to them dealing with administrative matters in their headquarters, or in the state capital, but most range officers told me they were visited a few times a month by the divisional forest officer, and more frequently by the assistant conservators of forest responsible for their range. When a divisional forest officer visits a range forest officer, they will usually go to some field sites along with the concerned section officers and guards, or they will hold a range meeting at which all the range's officials will be in attendance. At a higher level, divisional forest officers expect to receive a few visits each month from their direct supervisor – a conservator of forest at the circle office – as well as by other officers from state headquarters. As is the case with divisional forest officer visits to range offices, these visits usually include visits to the subordinate staff. Subordinate staff are also frequently called to attend meetings at their supervisors' offices. In all cases, these visits provide an opportunity for officials to confer about how projects are going, and share their insights and ideas.

There are several important differences between the Indian system of inspection and the one reported by Kaufman. Primarily these relate to different structures for the span of control of individual officials, however, they also relate to the ways that inspection and evaluation contribute to systems of transfer and promotion. The Indian forest department has more formal hierarchical ranks than the American one: Between the lowest ranking official, the forest guard and the state-level department head (the Principal Chief Conservator of Forests) are 7 or 8 named

ranks, while between the lowest ranking official and the USFS' national chief there are only 3 or 4 named ranks. This means that each Indian official is responsible for inspecting a smaller number of subordinates, and partially explains the greater frequency of visits. Combined with the generally greater respect for hierarchy and authority found in Indian bureaucratic culture, the large number of ranks means that there is less upward information flow. I observed that while conversations between officials separated by one or two ranks were generally free-flowing and cordial, beyond this they become much more formal. While a forest guard may express his opinion rather freely in the presence of his supervising forest section or range officer, he will salute the divisional forest officer, and answer his questions, but will not openly discuss the problems he has with his work, or suggest improvements. Similarly, if the divisional forest officer sees a problem with the work being done by a forest guard, instead of directly telling the guard what to do, he is likely to instruct the range forest officer about how to improve his subordinate's work.

These communication difficulties reflect the vast difference in status between low-level government employees and occupants of senior posts. Although the salary differential between a forest guard and divisional forest officer is not very large (a divisional forest officer earns 3-4 times what a guard earns), the divisional forest officer travels in an air-conditioned sport-utility vehicle provided by the department, driven by a full-time professional driver who is expected to be available for work at any hour of the day, and lives in a large government-owned home, while the forest guard drives a motorcycle which he has to pay for out of his pocket, and lives in a small government owned house with limited amenities. These differences are also reflected in less tangible ways – the divisional forest officer is a member of the elite Indian Forest Service, which provides him with a high social standing, a high probability of arranging an elite marriage,

opportunities to travel and study overseas, and, if he is a “direct recruit – i.e. someone recruited in his 20s directly into the Indian Forest Service, the opportunity to rise much higher in the departmental ladder, and a virtually guaranteed opportunity to become a senior policy maker in the state or national capital by the end of his career. The forest guard, if he is lucky, may get promoted at the end of his career to serve as a forest section officer, a position with only marginally higher levels of responsibility.

While in Kaufman’s USFS inspections served as an opportunity for senior officials to find out whose quality of work might mark them out as an exceptional officer worthy of promotion, promotions and transfers in the Indian forest departments are more a matter of routine. Kaufman does not provide data on how frequent the frequent transfers he describes for the USFS are, but he does describe them as irregular – some of his informants have been transferred many more times than others, and all transfers, while seen as important ways to advance careers, are voluntary. Promotions in Indian forest departments are based entirely on seniority. A divisional forest officer who has served a certain number of years (varying slightly by state – generally 14-16) will be automatically promoted to a conservator of forests, regardless of the availability of postings or his own success in his previous job. Furthermore, tenures in any given post are invariably short, and transfers involuntary, generally after 2-3 years. While such frequent transfers could insure that mistakes of previous officers will be detected, they also insure that new officers have few incentives to clean up a mess left by a predecessor – they will also move on in a few years, and several mentioned to me that in order to have a good career, they felt it was wise to keep their heads down and avoid any of the kind of trouble that might come from complaining about a colleague’s misbehavior.

3.5.3 Procedures for insuring internal motivation to comply

Kaufman argued that the key to the USFS' success lay not merely in its formal decision-making and review procedures, but in the ways that it worked to "control what goes on inside each individual organization member, to get them to do of their own volition what the managers want them to do..." (p. 160). Indian forest departments follow many very similar procedures. As in the USFS, Indian forest officials are recruited through competitive examinations, however the structure of this recruitment, and subsequent training, differs in ways that might be expected to have an even stronger impact on the organizational affiliation of officers in some cases, and less in others.

Indian forest officials are recruited to fill the ranks at several levels – as Forest guards, forest section officers, forest range officers, assistant conservators of forest, and divisional forest officers. Recruitment for the latter three categories, which are the closest equivalent in work to Kaufman's forest rangers, requires a bachelors level degree in science or engineering (though not necessarily forestry). Competitive examination for range officers and assistant conservators are conducted by the states, while divisional forest officers are recruited through nationwide exams conducted by the Union Public Service Commission. I found no evidence that the forest departments conduct significant educational campaigns to inform people about the types of work available in the department. Although there are widespread reports of bribery during the recruitment process at the lowest ranks of the forest department, corruption appears to be a much less important factor in recruitment by the national and state level public service commissions for ranks of range officer and above.

Thus, information about the availability of jobs in the forest department spreads through other channels. Many forest officials, particularly those in lower ranking jobs, reported that in the rural areas where they grew up, forest officers, along with police officers, were widely

known and respected, and thus employment in the department was seen as particularly desirable, as one of the few known jobs carrying a regular salary and job security. Higher ranking officials were more likely to be from more educated and urban backgrounds, and thus to be aware of other kinds of opportunities. Educated youth in India commonly write numerous competitive examinations, in hopes of getting selected into one or another desirable forms of government employment, which is generally viewed as far more desirable than employment in the private sector due to a combination of higher salary and greater job security. The Indian Forest Service is considered to be one of the most elite and desirable services, trailing just behind the generalist Indian Administrative Service and the Indian Police Service. Among 146 interviewed forest officials, only six mentioned a specific pre-service interest in nature or forests as a motivation for joining the department. Most simply thought that the job they got in the forest department was their best shot at a secure job. In the words of one recently retired officer, “people like me, coming from urban environments... I think I saw a forest first only after joining the Forest Department.” (interview with informant 127, Nagpur, August 17, 2010).

While this lack of a specific motivation for joining the department would seem to decrease the association forest officers have with their department and profession, the extensive induction training that officers go through once joining the department works in the opposite direction. While Kaufman described forest rangers going through only a week or so of formal training before being sent to work (the rest of their training being either given in their college studies prior to joining the service or imparted by their supervisors in their initial postings), forest officers of the rank of forest range officer and above go through 18 months to 3 years of formal schooling after joining the department, training that is generally considered to be equivalent to receiving a masters degree in forestry.

The structure of the training courses is designed to create a sense of loyalty to the department, and to create a uniform idea of what a forester should do. The syllabi for these courses are set at the All-India level by the Indian Council of Forestry Research and Education, a branch of the Ministry of Environment and Forests staffed by senior forest officers. The courses are offered at institutions run by the central government (for trainees entering at the rank of divisional forest officer or assistant conservator of forests) and/or state governments (for trainees entering as range officers). The teachers in these schools are almost entirely senior forest officers, and do not usually have additional training in forestry beyond that provided by their own training in the same or similar schools , so that the forestry academies do not serve as centers of research, study, and scholarly debate about forestry, but rather as professional training institutes.

In the mid 1990s, Hannam (2000a, 1999, 2000b) conducted an ethnographic study of the Indira Gandhi National Forest Academy at Dehra Dun, the academy for the elite Indian Forest Service. He found that the academy was “wedded to the ideal of building a strong esprit de corps that fosters a sense of solidarity which is frequently evoked in later life... The IGNFA training course has been designed to impart character first and foremost and practical and scientific training in forestry is seemingly a secondary consideration (290).” “Character” is developed through a combination of strict discipline and character-building activities that seem reminiscent of a 19th century British private school or military academy, including compulsory classes in horse riding and use of weapons (in spite of the fact that horses are no longer used in forest patrolling, and that in many states forest officers are not permitted to carry weapons). Hannam found that courses continued to rely on outdated texts (including ones written in the 19th century), and gave little emphasis to subjects such as joint forest management and social

forestry, which were at the time emerging as major activities of the department. Not surprisingly, the students he knew at the academy had little interest in the coursework, which they saw as outmoded, not clearly relevant to their future work, and not inherently interesting (since most had chosen forestry because it was the best job they could get, not because they were interested in the subject).

Review of present curriculum indicates that the curriculum has been updated to reflect the greater emphasis in today's forest departments on social aspects of forest management, but the emphasis on character building remains (Indira Gandhi National Forest Academy 2010; Government of India 2007b; Goyal 2004b, 2004a, 2004d, 2004c). Although no similar research has been conducted on the lower profile academies for Assistant conservators and range officers, it is likely that they are quite similar to the Indira Gandhi National Forest Academy, given the similarities in their syllabi and that the lower academies are invariably directed by graduates of the Indira Gandhi National Forest Academy academy.

Forest officers' reflections on their training support Hannam's observations. Several foresters with whom I discussed training reported that their coursework was relatively poor preparation for much of the actual work they had to do in the field. They had to learn this once they arrived on the job through a combination of trial and error and mentorship from more experienced colleagues. In particular, in the words of one forest officer I interviewed from another state, "you have to learn all the politics (informant 92, July 12th, 2010)," a topic that is not taught at all in any of the academies, but which many officers report is central to their job. On the other hand, particularly among graduates of the elite Indira Gandhi National Forest Academy, there is a strong sense of positive shared experiences which shaped one's attitudes and network of contacts. Graduates of this academy express a feeling of a shared bond to other

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graduates – even ones from other cohorts – as well as to graduates of other related service academies, including the Lal Bahadur Shastri National Academy of Administration, which is the primary training center for the Indian Administrative Services, offers courses on general administration which are taken by students from the Indira Gandhi National Forest Academy, and is located less than a 2 hour journey away from the IGNFA. Some officers also note that they developed or furthered an interest in particular forestry related subjects while in training, or developed what they view as the appropriate work habits such as rising early to go trekking in the forest, while at the academy. These statements of affiliation are much stronger and more common among graduates of the IGNFA than among graduates of the lower status academies, yet graduates of these lower level academies still have an impressive command of knowledge about Indian forestry that indicates that their training did provide them a strong and comprehensive introduction to the facts and philosophies of the forestry profession. Various in-service training and scheduled intervals of training every certain number of years help officers to stay current on policy issues.

An additional tool available to Indian forest departments in increasing the extent to which new hires identify with their work is through the designation of elite credentials from an early age. This tool was not available to Kaufman's forest service. Young people entering the department as divisional forest officers through national competitive examination are designated as part of the Indian Forest Service, and are allowed to add the designation IFS to their names. As mentioned above, the IFS is considered one of the most elite appointments in the Indian government. In 2009-10, the Union Public Service received 43262 applications for 85 available slots in the Indian Forest Service (Union Public Service Commission 2010). The ability to select from such a large pool of candidates insures that officers selected for the Indian Forest

Service are exceptionally good at examinations. Whether or not this is a meaningful test of ability to administer forests, it does seem to be a reasonable accurate method for insuring that IFS officers are people of high intellectual ability and have received excellent educations prior to entering the service. Although the direct recruits to the IFS who I interviewed had not attended the most elite colleges in the country, most had attended good colleges and many held advanced degrees, obtained both before and after the start of their service.

Officers who are appointed to the IFS feel the high status of their appointment inspires a “self generated expectation” (interview with informant 127, Nagpur, August 17, 2010) that you perform at an equally high level. While this is a powerful influence on the senior officers, the influence decays at the lower ranks. Officers that enter the service as Assistant Conservators of Forest are appointed to the State Forest Service, which is also considered a rather elite job, but has much less status than the IFS. Many of these officers will be appointed to the IFS as promotions later in their career. While a job as a range forest officer is also considered a fairly good job, it lacks the high status of the IFS, and I did not hear as much pride in their service from these officers.

Once an officer is appointed to the Forest Department, the department follows a number of practices quite similar to those followed by the 1950s USFS to encourage departmental identification. In some ways, however, the job is made easier due to the relative inflexibility of labor markets in India. Unlike in the US, where good jobs were available for foresters in the private sector, most Indian foresters assume that once hired, they will spend their entire careers working for the department because better options are not available and because changes in work are unusual. In fact, when asked why they chose forest work, several of my informants told me that it was simply the best job they could hope to find. A few highly talented IFS officers pursue

PhDs overseas, and while many of these return to the service after completion, a small percentage take faculty positions overseas. Among younger recruits in the lower ranks of the service, there is some hope that they may be able to obtain a better position – for example, I met a woman college graduate in her early 20s who was being trained as a forest guard – a low-ranking position requiring only a 10th grade education. I expressed surprise that she had taken such a position, and she told me that she was hoping that within the next few years, she would get a better job. These unusual stories, however, are exceptions. Nearly all forest officers are hired before turning 30, and nearly all expect to spend their entire careers in the department.

Furthermore, as in the USFS, transfers are quite frequent. In the USFS, these transfers served to reinforce loyalty to the department over local interests. This was one of the important reasons why frequent transfers were introduced among higher level officers in the British Indian administration, and this tradition has been inherited and extended in Independent India (Potter 1996; Zwart 1994). Frequent transfers continue to play this role for Indian forest officers, most of whom are transferred every two to three years. These transfers differ from the transfers in the USFS because they are mandatory, and largely unrelated to the promotion process. Under a law that went into effect in 2006 in Maharashtra (Maharashtra General Administration Department 2006), a “normal tenure” is defined as three years. This law both made it difficult to transfer officers before three years, and also defined an expectation that all officers would be transferred at the end of three years. Interviews with officers in the field indicate that this is effectively enforced – more frequent transfers are very rare, and I only interviewed one officer who had served more than 3 years in his post. He told me, “I could manage to get my name deleted” from the list of officers due for transfer, implying that he had used an unusual combination of political influence and/or bribery to stay in his posting for an additional year. He expected to be

transferred the following year (interview with informant 146, November 10, 2010). In Andhra Pradesh, there is no similar law, but departmental orders (Government of Andhra Pradesh 2001, 2009; Raj 2011) define tenure for most lower ranking posts as 3 years, and in senior posts as 2 years. While I heard some reports of transfers that were more frequent than this, I heard no recent reports of longer tenures. Transfers are most effective as a means of undermining affiliation with local interests among higher ranked officers, who are transferred statewide. In addition, many IFS officers come from out of the state, and thus have an additional separation from local interests. On the other hand, range forest officers and lower ranking officials usually spend their careers relatively close to their homes, and while they move frequently, may still develop close relationships with regionally important interests such as powerful politicians and businessmen.

Under the political imperatives of independent India, however, transfers have evolved to play an additional role. Transfers now serve as a means for politicians and senior officials to control the bureaucracy, both with the ends of achieving policy goals, and of extracting bribes from bureaucrats. Politicians can earn money from bureaucrats willing to pay for postings. By transferring their allies into key posts, or transferring away bureaucrats who do not obey the politicians, they can control important aspects of the policy implementation process. Since forest officials have strong civil service protections, they cannot be fired or disciplined without following prohibitively difficult processes, but within the constraints described above, they can be transferred at will. Several commentators have noted that transfers are the predominant means that have enabled elected officials in Independent India to influence the strong bureaucracies inherited from the Colonial era, with questionable impacts on the effectiveness of

policy implementation (Banik 2001; Iyer and Mani 2008; Zwart 1994; Potter 1996; Krishna 2010; Saxena 2010; Wade 1982a, 1982b, 1985).

The power of transfers rests on the fact that the desirability of bureaucratic postings is highly variable: some postings are in desirable locations (typically larger cities that offer a larger mix of services such as good private schools for children, or locations near the bureaucrat's home and family), while others may offer greater opportunities for extracting bribes, developing political connections, or other forms of personal advancement. Other postings have uninteresting responsibilities, offer few opportunities for obtaining services for the family or for professional and personal advancement, or, quite commonly in the forest department, are in remote and isolated locations, at least some of which carry an added risk from an active Maoist rebellion affecting remote forested areas. It is well documented that in some departments, obtaining a desirable posting can require a bribe to senior politicians or bureaucrats worth several times the annual salary of that position (Wade 1985), a differential that the appointed bureaucrat can make back through the bribes he will receive in the field. In my own interviews I heard repeated references to similar bribes in the forest department – for example, in one story, a group of senior officers held an auction for an initial appointment of forest guard, a post carrying an initial annual salary of approximately rs. 150000 (approximately \$3300). The officers stopped the bidding at rs. 700000 (approximately \$15500) because they got afraid they would get caught for demanding such an exorbitant fee, however there were actually multiple people willing to pay that fee, and the ones who lost the auction complained to the anti-corruption bureau, so the officers were caught. (Interview with informant 346, February 28, 2011). It is difficult to know how predominant such behavior is, although in this case my informant believed that this bribe was unusually large.

An important difference between the Indian forest departments and the USFS lies in the different procedures for promotion. Promotion in the USFS was predominantly based on merit. There was no guarantee that an officer who entered at a certain rank would ever rise above that rank, while some officers rose quite quickly. By contrast, the rules for promotion in the Indian Forest Departments are based entirely on seniority. Once an officer has served a certain number of years in a certain post, he will be promoted. Since there are not always a sufficient number of positions available at a higher rank, officers may not actually receive a higher ranked job when they expect it, but are still supposed to receive the pay raises associated with their higher status. This is particularly a problem in Maharashtra, where many range forest officers complained to me that they had served 30 years without receiving a promotion. However, when positions become available for promoting range forest officers in Maharashtra, the ones who will be promoted are the most senior, not the most talented or effective. Of course, since different postings are available at any given rank, there are opportunities for decision-makers to select the most talented officers for the most important postings, but there is no guarantee that an officer promoted, for example, from divisional forest officer to conservator of forest, has actually shown that he has an aptitude for his job. While all officers are promoted from within the ranks, the automatic promotion system means that those who rise to the top of the department are not those who proved most capable of doing their jobs, but rather those who entered the department at the highest rung of the ladder, through the competitive examination to join the IFS in their 20s.

Similarly, there appears to be relatively little consultation of field staff by senior officers. Although there is some back and forth discussion during field tours, most of what I observed when I saw high ranked staff in the field, or when I attended training sessions conducted by high ranking staff for lower ranking staff, was a one-way flow of information. I observed an

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illustrative case while I was visiting a forest division headquarters (fieldnotes, December 29th and 30th, 2011). A small group of senior officers from the state headquarters came for an inspection tour of the divisional forest officer's work. The senior officials were responsible for the implementation of a program, funded by the National Rural Employment Guarantee Scheme, to raise tree seedlings in nurseries. The goals of the program were twofold – provide employment to poor people, and raise seedlings that would be distributed for free to farmers. I joined the group for lunch after they returned from visiting some of the 30 nurseries the divisional forest officer was responsible for. Lunch was eaten in an awkward silence, interrupted only by the senior official's questions to me about what I'd observed in the field (I had previously interviewed this senior official and he was interested in my research) and by a text message with updated scores for the day's cricket match.

After the lunch was finished, we went to the divisional forest officer's office, where the senior official began questioning his subordinate, a session that rapidly turned into excoriation. Although both the fiscal year and the appropriate season for raising seedlings so that they would be ready to plant at the start of the rainy season were drawing rapidly to a close, this division had done only 20% of the work that had been accomplished in neighboring divisions, as measured by expenditure, and only 7% of the total. The supervisor said, "You have not made sincere attempts to implement the scheme." The scolding continued for almost an hour – covering several other aspects of the program which were in poor shape. The supervisor ordered the divisional forest officer to make an immediate visit to a neighboring division to view how the program was being implemented. The following evening, after the inspectors had departed, I sat with the sad and sobered divisional forest officer. He was nearing the end of a long career in the department, and he had seen many changes. He told me that there was a lot of pressure to implement this scheme

very rapidly, however the quality of work being done by the laborers was very poor, so that the seedlings were not being raised properly. Furthermore, he doubted the utility of raising the seedlings, since they were supposed to be for public distribution, but there was no demand from local farmers for such seedlings. The information that seedlings were not in demand in that district could have been used by the supervisor to modify the program, but the divisional forest officer did not provide this information. When confronted about this lack of upward communication, most officers blame it not merely on the organization of the department, but on Indian culture as a whole. They say that they are trained to listen to and respect authority, and are very concerned with not appearing to contradict their elders or superior officers. This is consistent with my own observations of Indian culture, as well as at least some research in comparative organizational psychology (Aycan et al. 2000).

3.6 Are Indian Forest Departments effective?

“We have failed as technical officers.” (interview with a senior forest official, informant # 227, December 4th, 2010)

As the quote indicates, there is a widely shared opinion among Indian forest officials of all ranks that their department is not very effective, an opinion that also seems to be shared by politicians, natural scientists, and the public at large. Officers report that they work in an organization whose goals are not very clear, whose programs are frequently ineffectual, which does a poor job of adapting those programs to local conditions, and which cannot insure that local officials act in according to organization-wide goals when those goals are clearly defined. In this section I show that the statements by officers I interviewed find support in secondary literature, forest department internal evaluations, and my own observations. The story at the beginning of this chapter about the two forest ranges with contrasting behavior in spite of close

geographic proximity and the same supervisors, and the story in the previous section about the inspection tour both illustrate the frequent problems the department has achieving its goals.

The secondary literature is replete with examples of failures of the forest departments to achieve widely discussed policy goals. In terms of wildlife conservation, the now famous story of the complete disappearance of tigers from the Sariska tiger reserve near New Delhi (Narain et al. 2005) is complemented with a broader nationwide failure to monitor wildlife populations, collaborate with scientists, and protect supposedly protected areas and protected species (Shahabuddin 2010). Villages relocated out of protected areas rarely receive the compensation they are entitled to (Rangarajan and Shahabuddin 2006; Shahabuddin 2010). Official estimates acknowledge that large areas of legally protected forests are highly degraded (Forest Survey of India 2009), and careful analysis of remote sensing data indicates that native forest cover continues to decline (Puyravaud et al. 2010a, 2010b), while the slight increases recorded in official estimates are due to increases in plantations, primarily of non-native species. Social activists have long blamed the department for disrupting and degrading the lives of forest-dwelling people, leading them to further impoverishment (Fernandes and Kulkarni 1983; Gadgil and Guha 1995; Elwin 1992). Joint Forest Management was rolled out in the early 1990s, and was intended to address both the problems of forest degradation and of the poverty of forest-fringe villages by involving villagers in managing and developing the forests (Ministry of Environment and Forests 1988, 1990). Recent reviews of the numerous evaluations of the program indicate that it rarely achieves either of these goals (Sundar et al. 2001; Springate-Baginski and Blaikie 2007). This is true even in Andhra Pradesh, which was considered by the World Bank (Sector and Thematic Studies Group: Operations Evaluation Department 2002; Sustainable Development Department 2010) to be a model for effective implementation (Bandi

2009; Rossi 2007; Nandigama 2009). A series of litigations over forest law and policy have resulted in the Supreme Court largely taking over from the forest departments significant areas of decision-making, since the court has found that the departments cannot be relied on (Upadhyay et al. 2009; Rosencranz et al. 2007; Thayyil 2009). More recently, Forest Departments have been blamed for failures to implement the 2006 Forest Rights Act (For discussions of the implementation of this act, see Kashwan 2011; Springate-Baginski et al. 2009; Reddy et al. 2010; Saxena et al. 2010; Kumar and Kerr 2012).

Although forest officers sometimes echo complaints of these failures in public, internal documents show that there is widespread concern about departmental failures. Internal documents that discuss the results of past programs are rarely made public, however in the course of my research, I was able to access forest working plans, which are the primary field-level plans for how the forest will be managed, and as such contain reviews of past management, as well as assorted internal evaluation reports. These documents echo the critiques found in the secondary literature. A typical quote comes from the working plan for Nagpur forest division, describing the results of the “selection cum improvement working circle” prescribed in the working plan in effect from 1992-2002:

“this type of working was not at all followed. Marking was done without properly adhering to the marking rules and many pre-selection trees were also felled. The plantations taken up have not been really successful mainly due to wrong selection of species, grazing and recurrent fires. Cutting back operations have not been carried out in many cases due to paucity of funds.” (Singh and Mishra 2004 p. 67)

The failures in this case are attributed partially to factors outside of direct departmental control (i.e. lack of funds, recurrent fires), but also to the failures of the department to follow its own prescriptions and make appropriate subordinate decisions about the type of trees to be planted. Evaluations conducted by the Maharashtra Forest Department’s evaluation wing of the

outcomes of plantations after the 3rd year, and of Joint Forest Management committees, come to similar conclusions. These reports were based on visits to a stratified random sample of plantations and joint forest management committees. Although plantations are modestly successful after 3 years (with at least some failures credited to poor rainfall, a factor outside of departmental control), evaluation reports indicate that required budgetary estimates and planting records are rarely kept, and that survivorship reported by field officials is dramatically higher than that found by the evaluation unit (Maharashtra Forest Department Evaluation Wing 2006, 2009, 2010). Similarly, reviews of Joint Forest Management find that required paperwork and planned activities are frequently not completed, and that villagers are usually unaware of their role as participants in the planning and implementation of projects (Maharashtra Forest Department 2008, 2009, 2010). The fact that these problems are reported in repeated evaluations without being addressed implies that the department also is not effective at responding to problems noted by its own staff, perhaps because upward flow of information is limited.

My field observations and conversations with forest officers reinforce the impression gained from these reports and secondary literature. Time and again, conversations returned to the feeling of helplessness officials feel in the face of obstacles to their doing their jobs as they believe they should. Some of these obstacles lie outside of the control of the department – driven by the large numbers of very poor people dependent on the forest for their subsistence or the political power of timber smugglers. Some of the laws and policies in effect may be unimplementable: for example, laws that restrict villagers' access to forests would not be implementable unless enforced by a vast uncorruptable police presence. But most of the examples given above relate to policies that should be implementable – for example, the forest department should be able to carry out plantations which plant the correct species, and it has a

demonstrated ability, in limited cases, to cooperate with villagers in planning JFM projects in a truly participatory fashion (Jha 2004; D'Silva and Nagnath 2002). But many of these problems clearly are the result of failures in policy implementation. Supervising officers complain that they are unable to get their subordinates to do their work, while subordinates complain of excessive demands and unrealistic expectations, and the results show that achievable goals are not met. In the example of the visit to the two ranges presented in the introduction to this section, I closed with the Divisional Forest Officer threatening to dismiss negligent officers. Later he admitted to me that he was unlikely to do this because even though the officers currently did no work, if they were fired, he believed they would turn to full-time timber smuggling, which their experience and connections would enable them to pursue effectively, particularly while their former jobs would be vacant due to the very slow hiring process of the forest department.

3.7 Discussion

I have shown that the organizational structure of the Indian forest department is very similar to the structure of the USFS as studied by Kaufman, yet the results are strikingly different. There are two potential explanations for this difference. First, it could be that the deviations from Kaufman's description – the different structure for hiring and training, the lack of merit-based promotions, the politicization of transfers, and the lack of bottom-up consultations explain the dramatic differences in outcomes. Second, it could be that aspects Kaufman did not consider, such as politics, cultural norms such as respect for authority, and the values held by individual bureaucrats, contribute to these differences. These explanations are not mutually exclusive – in fact, while many scholars have shown that organizational structures influence bureaucratic values (in addition to Kaufman see March and Olsen 1989; Meier and O'Toole 2006b, 2006a), organizational structures are also the outcomes of political processes and the values of policy makers, and bureaucrats often play key roles in shaping the organizational

structures in which they work (Moe 1990; Carpenter 2001). In this section, I examine the origins of the organizational structures that deviate from Kaufman's description, and examine what their role is in policy implementation failures. In the succeeding chapters I examine the role of politics and bureaucratic values.

In the early 20th century, it would appear that Indian and American forest departments followed similar patterns for recruitment, but training was organized in a different fashion from the start. As in Kaufman's account of the USFS, accounts of early British forest officers indicate that forest officers were recruited from among British youth with a strong interest in the natural world (Stebbing 1920, 1922). The job was considered to entail considerable sacrifice and hardship, as British forest officers would spend most of their careers in a remote part of a distant land, and access to adventure, in particular big game hunting, was a lure for middle class youth in England who had no similar opportunities at home (Weil 2006). Between the early 20th century and the early 21st century this changed, and as I documented above, most foresters no longer join the department with strong motivations or prior experience in forestry per se. Without these forest specific motivations for joining the department, foresters' opinions are arguably more prone to be structured by their experience within the department. This could be beneficial if the department provided a diversity of experiences for trainees that would teach them how to adapt to the diverse settings they face in their work environment. Unfortunately, the department does not do this well, particularly for lower level staff.

In India, that training has always been available exclusively within department run forest institutes. Without an independent forestry academy, and with very limited independent NGOs working on forestry issues (at least prior to the 1980s), there are few opportunities for critical engagement in forest policy. In the history of US forest policy, free thinking foresters in

universities, research institutes, and NGOs such as the Sierra Club or the Wilderness Society have played a critical role in re-shaping how the forestry profession views its work. By contrast, there have been few opportunities for the expression or incorporation of alternate philosophies in Indian forestry. A uniform training structure is poorly adapted to a forest management system which has to deal with such diversity of ecosystems and social conditions. Indian Forest Service officers are encouraged to work outside of the department to gain experience and knowledge of other aspects of Indian society. As a result, most of the more thoughtful and critical officials I met were at these higher ranks. The lower ranked officers who actually implement programs do not have this diverse training and exposure, and so are limited. Although relative uniformity of training and strong departmental identification helped the foresters Kaufman studied counteract the “centrifugal forces” that would have torn the department apart, the excessive uniformity of the Indian forest departments, combined with strong cultural values of respect for authority, may end up making them overly rigid and hinder the ability of field officers to adapt to diverse and changing environments.

What difference does the absence of merit-based promotions make to the performance of Indian forest departments? Kaufman’s work identified merit-based promotions as a key reason for the USFS’ successes because this insured that the department’s senior executives were experienced and well-qualified. More recent research has also identified merit-based promotions as one of the most effective ways to reward and encourage good performance in public organizations, especially as compared to pay-for-performance schemes, which often undermine public service motivation (Perry et al. 2009). Without such a system officers rise in the ranks exclusively according to seniority, and there is no guarantee that those serving in senior positions have proved their competence.

In India, however, transfers provide an alternative to promotions as a means for reward and punishment. Andhra Pradesh's "counseling" system, which allows higher performing subordinate officers first choice for desirable postings (Government of Andhra Pradesh 2009; Raj 2011) was initially proposed by an organizational consultant as a means to incentivize good performance among subordinate officials, and thus can be seen as a variant on the merit promotions idea (Maheshwari and Moosvi 1995). My interviews revealed divided opinions as to the program's effectiveness. Some officers were of the opinion that the program had improved morale and motivation, and had rewarded the best officials. Others believed that it merely rewarded those who were lucky enough to start in easy postings, and that it resulted in moving effective officers into the easier (and therefore more desirable postings).

It is not clear how the present system of promotions exclusively based on seniority arose in India, but it is clear that it does serve a purpose: it serves to insulate officials to some extent from the political pressures that surround transfers. As described above, transfers have become the most powerful tool possessed by politicians to manipulate bureaucratic behavior. As I will show in the next chapter, most of this manipulation has a detrimental effect on the achievement of policy goals. Many forest officials are comforted by the fact that strong protections for civil servants, including guaranteed promotions, protect them from politicians who could take advantage of merit promotions to promote those who cooperate in criminal enterprises, and demote those who work hard to achieve policy goals at the expense of short-term political priorities. Given the politicization of all transfers, it seems likely that creating a system where promotions would be based on subjective measures of merit, as described by Kaufman, would simply increase the extent to which postings were determined by politics. Instead of a mechanical system in which officers are automatically promoted based on seniority, they would

be promoted based on their closeness to powerful politicians, their compliance with short-term political agendas, or their willingness to offer the politicians expensive bribes. Thus, it is not clear whether expanding merit-based promotions would lead to improved performance through enhanced motivation and better quality senior officers, or whether it would lead to increased political interference of the type described in the next chapter.

Several authors have argued that the politicization of transfers is at the core of the shortcomings of post-independence Indian bureaucracies (Wade 1985; Zwart 1994; Saxena 2010). According to Zwart and Potter (1996), transfers rose to prominence as a means of political control in the wake of independence, as politicians sought ways to control bureaucrats who inherited powers from the colonial state. India, like many postcolonial countries, has “overdeveloped” bureaucracies (Alavi 1972; Haque 1997), meaning that rather than developing in the local social context (as happened in Europe and North America), the bureaucratic pattern was “imposed under colonial rule and reformed in the post-colonial period by imitating the same Western model.” (Haque, p. 434). The result is that the Indian forest department has an independent power base, separate from its theoretical political masters in the elected government. This separate power base enables the forest department to act independently from the influences on it. This hinders departmental effectiveness because the department does not receive adequate feedback from its environment. Haque argued that overdeveloped bureaucracy led to political control by bureaucracies and military dictatorships, but in India, this has not happened. Instead, politicians have used their ability to transfer officials as a means of controlling the implementation of programs and the behavior of government agencies. Thus, the frequent politicized transfers are a symptom of the same problem – an overdeveloped and unresponsive bureaucracy – that causes poor policy implementation, and not its cause.

Although transfers in Kaufman's USFS varied in their desirability, neither Kaufman nor other commentators mention political factors as major determinants of transfers or promotions, at least in the lower ranks of the USFS. If we accept the hypothesis that politicized transfers are a major cause of poor policy implementation, then restrictions on transfers should produce a marked improvement in policy implementation. Maharashtra & Andhra Pradesh have already taken strong action to curtail politicized transfers through the laws and government orders mentioned above. The frequency of transfers reported by interviewees in the forest department – ranging from 2 to 3 years – is substantially lower than the frequencies reported by Zwart (1994) and Potter (1987, 1988, 1996). Yet there are few signs that this has had a positive impact on policy implementation in the forest department. In fact, some officers believe these new systems have hindered policy implementation. In Maharashtra officials report that as a result of the restrictions on their ability to transfer contained in a recent law (Maharashtra General Administration Department 2006), they can no longer effectively discipline their subordinates. In Andhra, where the counseling system (Government of Andhra Pradesh 2001, 2009; Raj 2011) gives the officers with the best measured performance priority in selecting their next posting, senior officials complain that the best officers all select the least difficult postings, leaving the difficult jobs to the less competent officers.

Increased bottom-up consultations have been mentioned by some analysts as a potential way to improve forest department outcomes (Matta 2003; Matta et al. 2005b; Matta et al. 2005a; Matta and Kerr 2007). Bottom-up communications were important and encouraged in Kaufman's forest department, and do appear to be fairly weak in the Indian forest departments. Comparative research in organizational psychology has found that Indian organizational culture is very hierarchical (Aycan et al. 2000), so this may be less a characteristic of the forest

departments than of the culture in which they are embedded, although the hierarchical nature of the Indian forest departments may also trace roots back to the colonial state. In theory, a more collaborative work environment could contribute to improved information sharing between field officers and their organizational superiors, which would lead in turn to improved problem solving. On the other hand, my interviews with senior and subordinate officials revealed a lack of upward information flow to be a relatively minor concern among field officials. Senior officers believed that they were fairly well informed about what their subordinates were doing, and few subordinates complained that their bosses did not know what was going on in the field (although this could be the result of them being accustomed to a hierarchical culture in which bosses are not expected to be knowledgeable about the challenges of subordinates). Thus, it is difficult to assess the role poor upward knowledge flow plays in policy implementation failures.

An alternative view is that the differences are caused not so much by organizational structure, but by political context. Kaufman's USFS operated in an environment in which there was a broad consensus about the purposes of public forest management, and in which the authority of the forest management agency was widely accepted as legitimate. Although there may have been dissenters from this consensus, they had few forums to make their voices heard, and Kaufman explicitly ignored these political influences. The forest & related industries which were the primary beneficiaries of USFS programs were so close to the department that they had little need to demand help from politicians in achieving their goals. In any case, politicians were also sympathetic to the shared goals of the industries and the USFS. In effect the USFS was supported by a powerful "iron triangle," with supportive commodity interests and congressional committees (Clary 1986; O'Toole 1988; Wilkinson and Anderson 1985; Hoberg 2001). Although there have been high profile corruption cases in the USFS, and accusations that commodity

interests have undue influence on decision-making, bribery was unusual in Kaufman's USFS.

By contrast, forest management in India is typified by intense conflict not only over the management of resources, but even over which claims to rights are legitimate (Baviskar 2001, 1995), and the bureaucracy operates in an environment of pervasive petty corruption.

Furthermore, the broader political context of democratic engagement in India and the US of the 1950s are radically different. These differences should not be reduced to narrow stereotypes about developed versus developing countries. Natural resource politics in many parts of the rural US are still corrupt and clientelistic in ways that would be surprisingly familiar to students of Indian democracy today (McCarthy 2002), and this may have been more the case in the 1950s. Instead, the difference lies in the structure of relationships between public bureaucracies, their clients, and their potential adversaries.

If this explanation is correct it would serve as an important corrective to a recent trend in public administration to devalue the effect of political influence on administrative behavior.

Studies of regulatory agencies in the US in the 1980s and 1990s appeared to show that political influences on administrative behavior were very strong (Wood 1991, 1988; Wood and Waterman 1991; McCubbins et al. 1989, 1987), but more recently, Meier and O'Toole (2006b, 2006a) have argued that these models ignored the role that bureaucratic values played in shaping administrative responses. They show, using data on school districts in Texas, that when bureaucratic values are controlled for, political influences disappear. But in India, political context may dominate over various aspects of bureaucratic structure. The question should shift from examining whether political influence or bureaucratic structure and values are dominant to asking what circumstances enable political or bureaucratic dominance. Matland (1995) argued that low salience and high complexity would lead to bureaucratic domination, but like Meier and

O'Toole, Wood and Waterman, and McCubbins et al., his work focused entirely on the US.

Using a comparative lens enables us to see that susceptibility to political influence is also a function of the structure of the political system. This is the focus of the next chapter.

Chapter 4: Political Influences on Bureaucratic decision-making in Indian Forest Policy

Abstract:

Research on political influences on bureaucratic policy implementation is scattered among unrelated literatures on political control, clientelism, participatory programs, and policy implementation. This paper proposes a two dimensional typology of political influences on bureaucratic policy implementation, which ties these literatures together, differentiating between top down and bottom up political influence, and programmatic versus particularistic goals. Using examples from the implementation of forest policies in Central India, I show that these different types of political influences all coexist within a single policy arena, but with very different causes and effects.

4.1 Introduction:

One of the most important ongoing controversies in the study of public administration is a debate over the appropriate relationship between government bureaucracies and political processes. While Weber (1947) and Woodrow Wilson (1887) argued for insulating bureaucracies from political pressure, dissenting voices concerned with democratic representation have argued for reductions in bureaucratic power or for increasing direct political influences with the goal of enhancing democratic control over bureaucratic policy implementation (Ostrom 1973; Spicer 2010). Following on these normative debates, there is now a wealth of empirical documentation of the ways that political processes outside of government agencies influence policy implementation. Unfortunately, these empirical studies are spread across different literatures which are rarely cross-referenced, limiting their ability to usefully inform normative debates. American studies of “political control of the bureaucracy,” which assume that top-down political control of the bureaucracy is desirable, largely ignore

studies of corruption and clientelism, usually undertaken in developing countries, which make top-down political influences seem much less desirable. Neither of these literatures are widely referenced in research on programs which aim to enhance the participation of common people in policy implementation.

This chapter contributes to the study of political influences on bureaucrats by developing a typology which shows how different aspects of political influence on bureaucratic policy implementation are related. I classify political influences on the bureaucracy in terms of two variables: (1) the political status of those who try to influence the bureaucracy and (2) their goals. I show that these variables are important influences on the process of policy implementation in Indian forest policy. When political influences are deployed with the goal of influencing policy towards programmatic goals, policy implementation works better than when influences are deployed to achieve narrow, particularistic goals. Furthermore, I show that bureaucrats tend to be more responsive to pressures coming from their political superiors (i.e. high level elected officials) than they are to local influences. Because the most common form of political influence in Indian forest management is aimed at achieving narrow particularistic goals by the politically powerful, political influence is a major source of implementation failure in Indian forest management. In contrast to the separate literatures which have treated different types of political influence in the past, I show that multiple types of political influence coexist within Indian forest policy. Thus, while top-down, particularistic influences are an important source of policy implementation failure, other kinds of political influences may contribute to improved policy implementation.

The chapter proceeds as follows. Section 4.2 presents the methodology which was utilized to develop the typological theory, and section 4.3 presents the typology in greater depth.

Sections 4.4-4.8 describe the operation of the five types of political influence in greater detail, and section 4.9 concludes.

4.2 Method of Theoretical Development

The particular theoretical tool developed in this chapter is a typology. According to Collier et al. (2012), typologies play a key role in concept formation and development, allowing for clarification of the meaning of categories, and therefore serving as the conceptual basis for higher level measurements. According to Collier et al., the primary purpose of a conceptual typology, such as the one I develop here, is to clarify the dimensions of a concept. This should not be confused with an explanatory typology, in which the goal is provide explanation of outcomes. The typology presented in this paper shows that the phenomena of political influences on the bureaucracy is multidimensional. Based on the preliminary evidence available in the limited number of cases of political influence examined in this research, I develop a hypothesis that particularistic political influences on policy implementation are disruptive to the process of policy implementation.

Although Collier et al. provide detailed instructions for the construction of theoretically useful typologies, which I have followed, they follow most of the methodological literature in political science in not discussing the origin of concepts. Although there is no a priori reason why a typology such as the one presented here could not be derived deductively, the actual process through which this typology was derived was abductive. As described in the methods section in the introduction to this dissertation, this dissertation draws on ethnographic fieldwork to develop theory using an abductive approach, in which observations of interactions in the field are used to question existing theories and develop new ones. This process began during the course of fieldwork. I heard about political influences on administration on an almost daily basis,

and numerous informants emphasized to me the importance of political influences in understanding their work. This contrasted with the emphasis of the documents and many of the academic studies of Indian forestry I had read prior to beginning my fieldwork, which emphasized the formal structures of the bureaucracy and its colonial heritage and attitudes in driving its successes and failures. Returning from the field, I carefully analyzed my fieldnotes for patterns, and compared these patterns with literatures on political involvement with the bureaucracy in order to develop this typology.

4.3 The Typology

This typology divides political influences on public administration on the basis of the political status of those who try to influence the bureaucracy and their goals in influencing the bureaucracy. As I use the term in this paper, political influence includes all influences on policy implementation that originate from actors outside of the department itself. Of course the relations between different employees within the department can also be seen as political, but that is not the focus of this chapter. In addition, since the focus of the chapter is on policy implementation, I do not treat the design of legislation, government orders, or the creation of budgets and programs.³³ The key distinction I make in terms of political status is the relative power of the bureaucrat and the person trying to influence the bureaucrat. “Top-down” political influences are those that originate from players with more political power than the bureaucrat. For all government officials, this includes regional and national elected officials and their political appointees, or other large-scale political players, including politically powerful associations and NGOs, and for lower level government officials, this may also include local elites such as some elected officials or businesspeople. “Bottom-up” influences emerge from

³³ If I did, I would pay much more attention to a group of political actors that is largely ignored in this paper: international funding agencies, which have had a significant influence on policy formulation in Indian forest management, but whose influence on policy implementation is less important.

those with less political power – typically local villagers, associations, and elected officials, although for some higher level government officials, even some regionally important politicians or businesspeople may appear to come from below.

I classify the goals of political influence in terms of their relationship to official government policies and programs. Programmatic political influences are those that aim to improve or inhibit the implementation of a program. A classic example, discussed further in section 4.4, is US president Ronald Reagan’s attempt to decrease enforcement of environmental laws by the US Environmental Protection Agency – in this case, the President’s goal was to hinder the implementation of a program which Reagan believed was detrimental to economic growth in the United States. By contrast, particularistic political influences aim to benefit a narrow constituency in ways not sanctioned by formal policy. For example, a politician who seeks to insure that a government contract goes to his family members or to a particular political supporter is engaging in particularistic political influence. It is important to emphasize here that my focus is on the relationship between the influence and stated government policies, laws, and programs. If a government program requires that particularistic benefits be delivered to a narrow constituency (what is frequently called “pork-barrel” programs in the United States), a politician who seeks to influence bureaucrats to carry out that policy is engaged in programmatic political influence, even though the program he is trying to have carried out does not deliver broad-based public goods.

These two categorical variables can be combined to create a typology, which is presented in Figure 9, along with measurements of the frequency with which these different kinds of political influences appeared in my interviews and field notes.³⁴ I begin with programmatic top-

³⁴ The numbers reported in Figure 9 report the number of events in which a type of political influence was observed and discussed in my fieldnotes, as well as the total number of words describing those events. These are given to

down political influence, which, following the literature that focuses most closely on this type, I call “political control.” I then look at programmatic and bottom-up political influences which, following Scholz et al. (1991), I call “street-level political control,” although another similar term could be “participation.” I call particularistic, top-down political influence “clientelism,” as it fits closely with a large literature on this subject, while particularistic bottom-up political influence, which is rarely discussed in the literature, is described using Scott’s (1985) term, “weapons of the weak.” Not all bureaucratic decisions are affected by proximate political influences, and thus I add a 3rd column, representing “no political influence,” to insure the typology is both exhaustive and mutually exclusive (Collier et al. 2012). In situations where there is no political influence, bureaucrats will make decisions based on other influences on their behavior – organizational structures, the internal politics of the bureaucracy, their training and expertise, and their individual preferences.

Figure 9: Dimensions of Political Influence and their frequency in fieldnotes

	Programmatic	Particularistic	No Apparent Influence
Top-down	“Political Control” Number of distinct events: 16 Number of words: 3336	“Clientelism” Number of distinct events: 21 Number of words: 3375	No Apparent Influence Large number of examples (not coded)
Bottom-up	“Street-level Political Control” Number of distinct events: 14 Number of words: 3317	“Weapons of the Weak” Number of distinct events: 6 Number of words: 1329	No Apparent Influence Large number of examples (not coded)

provide the reader information on the data from which this paper was developed. Because a single long story can create many words, and multiple references to a single event can create many “events” in field-note data, these should not be misinterpreted as measuring the frequency of phenomena.

4.4 Programmatic, Top-down Political influence: “Political Control” and the implementation of Joint Forest Management

4.4.1 In the literature:

Contemporary American political science focuses on a particular solution to the problem of bureaucratic independence in a democratic society (Meier and O'Toole 2006a), a solution that I refer to as “political control,” following the dominant terminology in the literature, although Meier and O'Toole argue that “control” is probably too strong of a word. Adopting a principal-agent model from economics, they argue that relations between public agencies and political decision-making should be understood as the relationship between an elected principal (usually understood to be the legislature or elected executive) and a bureaucratic agent. This approach is best known for its application to US regulatory policy (McCubbins et al. 1987, 1989; Shipan 2004; Whitford 2005; Miller 2005; Wood 1988, 1991; Wood and Waterman 1991). From a normative standpoint, the idea is that elected officials represent the will of the people, and therefore should control the behavior of bureaucrats, whose democratic legitimacy derives from their creation at the behest of elected officials, an idea that dates back at least to Finer (1941).

Empirically, these studies, nearly all of which focused on the interactions between US federal regulatory agencies and the President and Congress, found that, “evidence for active political control is so strong that controversy should now end over whether political control occurs (Wood and Waterman 1991 p. 822).” Wood and Waterman focus on the power of political principals to appoint agency leaders, while others focus on structural controls such as congressional hearings, “fire alarms” which enable concerned constituents to notify their elected officials if agencies are not carrying out their mandates (McCubbins and Schwartz 1984) and “deck stacking,” or building in procedures which favor the allies of the enacting coalition

(McCubbins et al. 1987, 1989). This literature has been criticized in recent years for ignoring the possibility that bureaucrats' preferences are already aligned with political principals. Meier and O'Toole (2006b, 2006a) find that controlling for bureaucratic values eliminates any effect from political control, but the government agencies they study (Texas school districts) are so different from those studied in the older political control literature (US federal regulatory agencies) that it is hard to know what to make of this finding, nor what relevance it would have for Indian forestry agencies.

4.4.2 In The Field

Most Indians would probably express skepticism that their democratic demands could be achieved through politicians' influencing bureaucrats. Discourses about government in India focus on the corruption of both elected officials and civil servants (Gupta 2005), and bureaucracies developed in the colonial era were built with an explicit goal of insulating civil servants from public pressure (Potter 1996). Nonetheless, in the course of my research, I encountered several examples of high level politicians influencing policy implementation in much the same way as predicted by the theory of political control. The two most prominent examples involved two successive chief ministers of the state of Andhra Pradesh who used their political power to push the implementation of two different programs. Chandrababu Naidu, chief minister from the Telugu Desam Party (TDP) from 1994-2004, used his influence to insure widespread implementation of Joint Forest Management. A few years later, his rival, Y.S. Rajasekhara Reddy, leader of the Congress party in Andhra Pradesh and chief minister from 2004 until his death in 2009, used his influence to push for rapid implementation of the Forest Rights Act. In this paper I will focus on the first case, as the process it followed is better

documented. Apart from these two very important and prominent examples, “political control” is rare in Indian forest policy implementation.

Politics in Andhra Pradesh have been highly competitive between electoral alliances led by the regional Telugu Desam Party (TDP) and Congress. These parties were never primarily caste based (Suri 2002), unlike most political parties in India (Chandra 2004), and are now in the process of moving away from clientelistic ties, in which votes are exchanged for personal favors, towards a broader based populism, based on the ability of the state to provide for diverse social welfare programs with rapidly growing revenues, and the growing interest of the electorate in using their vote as an evaluation of the efficacy of the standing government (Elliott 2011). As such, these attempts by chief ministers to influence the implementation of forest policy by bureaucrats can be seen as part of a political context in which leading politicians in the state compete based on their ability to deliver welfare benefits to the public. The absence of significant similar stories in Maharashtra can be seen as symptomatic of its less competitive and more caste-dominated politics.³⁵

The story of Naidu’s role in the implementation of Joint Forest Management is illustrative of the kind of effect high level Indian politicians can have on bureaucratic policy implementation. Joint Forest Management expanded throughout India in the mid 1990s (Poffenberger and McGean 1996; Joshi 1999, 2000; Sundar et al. 2001; Springate-Baginski and Blaikie 2007; Ministry of Environment and Forests 1988, 1990; Maharashtra State Forest and Revenue Departments 1992; Additonal Principal Chief Conservator of Forests 2003;

³⁵ There is unfortunately very little literature on contemporary Maharashtrian politics. The state had one of the most powerful and established Congress parties in the country, supported by the numerical dominance of the Maratha caste and the economic power of sugar producing cooperatives in the western part of the state (Rosenthal 1977; Kamat 1980; Lele 1981; Lele 1984; Guru 1995; Dahiwale 1995; Deo and Sirsikar 2000), however in the last two decades an alliance between the Shiv Sena (a regionalist party with a stronghold in the capital of Mumbai) and the BJP (the Hindu nationalist party) has made significant inroads on Congress dominance, and was the ruling party of the state between 1995 and 1999.

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Government of Maharashtra 2003; Environment Forest Science & Technology (For.III) Department 2002). Both Maharashtra and Andhra Pradesh received significant funding from the World Bank to support JFM during this period (The World Bank 2000; Sector and Thematic Studies Group: Operations Evaluation Department 2002). Naidu saw in the program an opportunity to build his political strength in the state. Joint Forest Management fit well into his broader focus on participatory programs which brought benefits to villagers and attracted international funding and praise while bypassing competing party structures and providing training (and kickbacks) to the party rank and file (Mooij 2002, 2003, 2007a; Suri 2002, 2009; Reddy and Bandhii 2004; Reddy et al. 2007; Elliott 2011; Manor 2002, 2004b, 2004a, 2006; Powis 2003; Powis 2007).

According to officials and NGO representatives I interviewed who had been active in the JFM program during this period, Naidu used three primary means to focus the attention of the forest department on Joint Forest Management: appointments, funding, and personal appeals. He appointed officials who were enthusiastic about the new program to head the agency. Although promotions within the forest department are primarily based on seniority, the chief minister has the authority to appoint any official of appropriate rank to any posting commensurate with that rank, and Naidu used his authority in 1996 to appoint a Principal Chief Conservator of Forests (i.e. the head of the forest department) who was very enthusiastic about the JFM program. At that time, JFM was very controversial within the department. According to my interview with this now retired official, Naidu not only encouraged him to improve the JFM program, but also gave him full political support, allowing him to transfer and discipline uncooperative officials as needed to support program implementation, and keeping him in power for an unusually long 4

year tenure as department head.³⁶ Naidu also worked to provide additional funding for JFM above and beyond what was provided through World Bank and central government support (Sector and Thematic Studies Group: Operations Evaluation Department 2002). This additional financial support not only enabled the department to do more, it also provided a powerful symbolic statement of the powerful chief minister's support for the program. Finally, Naidu himself made efforts to raise the profile of the program in the public sphere. For a department accustomed to operating with a low profile in remote areas, Naidu's positive publicity was a source of pride. Many officials commented to me on how Naidu had personally visited many JFM villages, sometimes on planned high profile visits in company with the department head, but often as a complete surprise. Fear of an unexpected inspection by the powerful and popular chief minister reportedly motivated many officials to greater effort, complementing the greater pride they felt through his praise of their work.

Although Naidu fell out of power in 2004, and his successor did not continue promoting JFM, many years of sponsorship had shifted the priorities of the Andhra Pradesh Forest Department. Andhra became the only state in the country to receive a second round of World Bank funding for improving and extending JFM (Sustainable Development Department 2010), and this continued funding helped cement the renamed "community forest management" program as core to the department's mission.³⁷ Although independent scholars have raised important critiques of the conduct and outcomes of JFM in Andhra Pradesh (Reddy et al. 2007; Bandi 2009; Behera and Engel 2007; Rossi 2007; Nandigama 2009), the fact remains that the forest department sees JFM as central to its mission in a way that the Maharashtra forest department does not. During my field visits, I observed that forest department literature, logos,

³⁶ Interview with informant #137, September 9 2010. Most department heads hold their posts for only 1 to 2 years.

³⁷ Actually there was a 2 year gap between the end of the first World Bank project and the start of the second, a gap which some in the department reported had caused the department to lose momentum.

and slogans, emphasized poverty alleviation (a goal of JFM but not a goal of pre-JFM forest management) over more traditional forestry concerns such as revenue generation or conservation. When I went to meet field officers in Andhra Pradesh and asked them to show me what work they were doing, they almost always took me to a JFM project.

In contrast, no prominent political figures in Maharashtra took an interest in JFM. After an initial period of enthusiasm in Maharashtra, the program diminished in importance and is no longer central to Forest Department activities (Ghate 2008a makes a similar observation). According to my interviews with officials, including those responsible for managing current and past JFM programs, several NGOs with a strong investment in the JFM program, as well as internal forest department evaluations (Maharashtra Forest Department 2008, 2009, 2010), JFM is not well implemented or effective. Although there are well publicized examples of high functioning JFM committees in Maharashtra (Tofa and Hiralal n.d.; Ghate and Chaturvedi 2004; Ghate 2008b), these unusual groups are primarily operating independently of, and occasionally in opposition to, the forest department. When I visited field offices in Maharashtra, I was rarely shown anything related to JFM unless I specifically asked to meet a JFM committee, again, illustrating the much lower level of importance given to JFM in a state where it did not have top-down political backing.³⁸

4.5 Programmatic, bottom-up political influence: “street-level political control”

4.5.1 In the literature

Most of the American literature on “political control of the bureaucracy” assumes that political influence flows from elected officials downwards through the bureaucracy. What if

³⁸ In many ways Maharashtra’s implementation of JFM could be considered a case of clientelism, as described below. The main focus of forest officers is to buy the support of local leaders through bringing them government funds to implement JFM projects. The same could be said of many Andhra Pradesh forest officers’ view of JFM, but their greater investment in JFM is a result of the top-down programmatic pressure brought to bear by Naidu.

political influence flows instead from regular citizens directly to public officials? In one of the few papers in the political control literature to explore this possibility, Scholz et al. (1991) coined the term “street-level political control” to describe their observation that regulatory enforcement by US federal agencies varied with local political climates (there was less enforcement when local politics was dominated by the Republican party). Scholz et al. did little to investigate the mechanisms behind their observations. By referencing the large literature on street-level bureaucracies (Lipsky 1980; Maynard-Moody and Musheno 2009), they suggest that the interactions street-level bureaucrats have with their local clients shape bureaucratic behavior. In a fascinating study from the Indian state of Himachal Pradesh, Vasan (2002, 2006) documented how village-level political pressures limited the law enforcement activities carried out by local forest guards, the lowest ranking officials in the Indian forest hierarchy.

Although from these cases, it might appear that local influences primarily obstruct legal activities, around the world the normative idea that bottom-up demands from regular people should shape policy implementation by public officials is a driver of policy reforms associated with participatory reforms, decentralization, and “The New Public Management.” These movements have been influential in India, with many authors calling on India’s public services to adopt the customer orientation of New Public Management in other former British colonies (Das 2010; Varkkey et al. 2008; Sixth Central Pay Commission 2008), and widespread adoption of participatory reforms in many sectors. Joint Forest Management, discussed above, is an example of one such reform. Like many participatory and decentralized forest management programs around the world (Ribot and Larson 2005; Colfer 2005a, 2005b), JFM aims to take advantage of local knowledge and access to the forest, while maintaining governmental control through the central bureaucracy. There would be little point in engaging in such an exercise if

the policy designers did not believe that interactions with local people would change the decisions made by bureaucrats.

4.5.2 In the field

In spite of the existence of the JFM program, which was particularly prominent in Andhra Pradesh, I found very little evidence that bureaucrats' decisions were influenced by their interactions with local people. Many officials agreed that JFM had initiated a "totally drastic change in forest management in the last 15 years," (interview with a divisional forest officer, informant #251, in Andhra Pradesh, December 7 2010). Joint forest management had brought a change in focus of forest governance, moving away from a focus on timber production to benefit large entities to a focus on managing the forest for the benefit of local communities. However in contrast to widely stated goals of the program to manage the forest in a participatory fashion, based on the expressed needs of the local people, I found little evidence that the actual decisions made by forest officers were influenced by their interactions with villagers. I repeatedly heard from forest officers and villager members of JFM committees that in JFM projects "they planted the species suggested by higher officers," as opposed to species that were requested by villagers (interview with a range forest officer, informant 317, in Maharashtra, February 2, 2011).

Villagers I spoke to who were involved in Joint Forest Management projects usually described their participation in terms of the benefits they were getting from employment in government funded plantations, as opposed to access to decision-making authority. This finding is consistent with most recent literature on JFM in India (Springate-Baginski and Blaikie 2007), including a comprehensive study of 30 deliberately selected JFM committees in Andhra Pradesh (Bandi 2009).

A similar pattern is observable in the implementation of the 2006 Forest Rights Act (Government of India 2007a). This law, which set up a process by which villagers meeting certain criteria could claim rights for specific uses of forest lands, is frequently described as the result of a grassroots mobilization of forest dwellers to demand passage of a law to protect their rights (Bose 2010; Kashwan 2011; Kumar and Kerr 2012). However in spite of repeated tries, I could not locate a grassroots demand for the law – instead I found that information about the law was spread primarily through government officials, and secondarily through some NGOs, many of whom first learned of the law from government officials. The bottom line emerging from these observations is that creating participatory formal institutions does not necessarily lead to bottom-up influence on policy implementation. This is consistent with the thesis that India's bureaucracy is “overdeveloped” relative to the rest of society (Haque 1997; Alavi 1972), meaning that because of its colonial history, it did not develop in tandem with a developing civil society, but instead was imposed on the society as a means of social control. Haque and Alavi's critique implies that solving the problem of overdeveloped bureaucracies requires not merely a change in formal institutional arrangements that allow citizens to participate in bureaucratic processes, but a realignment in the relative powers of citizens and bureaucrats in broader social relations.

Support for the importance of reducing power differentials between citizens and bureaucrats in order to achieve street-level political control comes from the one anomalous forest division in my sample where bottom-up pressure on bureaucrats was changing their behavior. Division MH2,³⁹ in Maharashtra, seems in some ways like an unlikely center for citizen power. The heavily forested district, of which this division is one part, is not obviously different from the other districts in the study – like the other districts it is poor, predominantly rural, and does

³⁹ See Chapter 1 for summary information on the 8 forest divisions in the study.

not have obvious sources of elevated social capital. Unlike the other districts I visited, district MH2 has a number of well-organized social movements and NGOs who work with the rural poor, including on issues related to forest governance and land rights. In interviews, leaders of these groups credit their presence and success in division MH2 to the historical persistence of customary “nistar” rights (Bromley and Chapagain 1984; Prasad 1995a), a long history of Ghandian organizing in the region, and a lack of the political repression that has accompanied battles between police forces and Maoist rebels in many of the other districts in the region, including most of the others in this study.

Regardless of the reason for their presence, division MH2’s climate of political activism has a definite influence on the decision-making of forest officials. In the words of a highly placed forest official who has worked for many years in the different forest divisions in Division MH2, as well as in neighboring areas, “Everyone is involved in forest in district MH2... Everyone is a stakeholder in district MH2.” (informant 184, October 25th, 2011). Forest officials working in any of the forest divisions in district MH2 report much higher levels of interaction with the local populace than in the other districts I visited. Many of these interactions relate to the implementation of routine programs. For example, the same informant quoted above repeatedly emphasized to me that much of his staff’s time was taken up processing claims for compensation due to wildlife damage to crops and livestock. In fact, I observed that villagers were putting pressure on the forest department, as individuals and collectively, to process claims more rapidly, and to increase the amount given.

Villagers were also organizing around other issues in a way that got the attention of forest officials: The forest division I visited in this district bordered a Tiger Reserve, and much of the forest division was recently declared as a buffer zone for the Tiger Reserve. Forest officials built

a number of new gates on the roads crossing the buffer zone, which they told me were there to direct the flow of tourists into the park. Villagers interpreted these gates as ominous signs that they might be evicted, as had recently happened to villagers living inside of a nearby National Park (Ghate and Beazley 2007). In association with a district-wide social organization, the leaders of the affected villages organized a protest at the District Headquarters, demanding that the gates be removed. This protest was covered by the local papers. The following day the top forest official in the district received phone calls from his superiors complaining about the bad publicity, and reminding him that there were not supposed to be any additional restrictions on the villagers in the buffer zone.⁴⁰ Soon after, I interviewed the divisional forest officer, and he told me that he was planning a series of meetings to clear up what he perceived as the misconceptions of the villagers about what was happening with the buffer zone (fieldnotes, January 29, 2011).

Although these examples show that “street-level political control” happens, they also show that in the Central Indian context, the opportunities for street-level political control are very limited. In spite of the existence of public programs designed to facilitate street level control, such as JFM and the FRA, there is very little evidence of actual impacts. In the one district where street-level programmatic influences were visible, they were only observed in policy areas that were marginal to the main thrust of forest department activity, and were not primarily in the areas in which villagers had been formally empowered through participatory programs. Although officials in Division MH2 report that they have to step more carefully there due to the higher levels of grassroots political scrutiny, there is no observable difference between the land management practices in this district and neighboring districts which can be attributed to the actions of street-level actors.

⁴⁰ The information about this phone call was relayed to me by an informant who happened to be in the office of the official for a meeting on another subject when he received this phone call (field notes, January 29, 2011).

4.6 Responsiveness to top-down, particularistic influence: “Clientelism”

4.6.1 In the literature

The literature discussed so far on political control of the bureaucracy and citizen participation generally operates under the assumption that citizens primarily want the government to serve them in a programmatic fashion – i.e. by creating generalized programs that will benefit broad classes of people through the delivery of public, common-pool, or club goods via established legal channels. As the large literature on clientelism, patronage, and corruption shows, this assumption is not warranted. People who can get them might be just as happy to get particularistic benefits – most likely private goods – and are not necessarily concerned about whether those come through legal channels. The problem, as Kitschelt & Wilkinson (2007b) point out, is that providing private goods to a large number of people is expensive. However, in a society where bottom-up political mobilizations are weak, it may be quite possible for individuals with political influence to use the political system to obtain particularistic benefits.

Much of the recent literature on clientelism, including Kitschelt & Wilkinson’s excellent edited volume (2007a), as well as literature examining the politics of program implementation in Andhra Pradesh (Elliott 2011), focuses on electoral linkages between politicians and voters. Bureaucracies are the tools politicians use to carry out their policies, but scholars of clientelistic democracies largely ignore these linkages. By contrast, work on East Asian developmental states (Kang 2002; Hutchcroft 1997; Hutchcroft 1998, 2000; Evans 1995) has emphasized the fundamental role bureaucracy-business relations play in economic and political development. Since many of the states of interest are relatively authoritarian, this literature emphasizes the ways that bureaucrats use their power to enhance their own power and wealth, as well as their political stability, by building patronage relationships with powerful actors in the private sector.

These private sector actors take advantage of their close relations with government officials to obtain monopoly rents and other illegal privileges. As the case of Korea shows, this kind of patronage does not necessarily prevent the provision of public goods (Kang 2002), however it does insure that significant benefits flow to narrow, particularistic interests – in the case of Korea, government officials and leaders of key industrial houses.

4.6.2 In the field

When I asked forest department officials about political influences on their work, many told me a similar story. The primary political influence they reported came from higher level elected politicians. For highly ranked divisional forest officers these were typically members of parliament or members of the state legislative assembly, while for lower ranked forest guards, they might include district or subdistrict council members, or even politically influential party committee members or village sarpanches (elected chairpersons). These politicians rarely contacted forest officials with programmatic demands. Instead they wanted to influence forest officials with the aim of helping particular individuals – business people who worked with forest products, government contractors, government employees, or timber smugglers and illegal miners. While in some cases the situation obviously amounted to a corrupt and illegal practice,⁴¹ as when smugglers were let go due to their political connections, in other cases politicians merely put pressure on officials to use their legitimate and legal discretion to favor particular individuals. Clientelism is not synonymous with corruption. While the programmatic influences described above were isolated to particular political circumstances, these kinds of political

⁴¹ For example, the Reddy Brothers, who owned mines along the Andhra Pradesh-Karnataka border, were apparently able to influence senior forest officers in their districts to manipulate official reports and look the other way as they encroached on large amounts of forest land for their mines. (Srinivasaraju 2009) At that time, the brothers were not only wealthy and closely connected to the chief minister of Andhra Pradesh, they were also ministers in the state government in Karnataka.

influences were described by many informants, from the top of the department to the bottom, in every district I visited.

Particularistic influence does not occur equally in all policy areas. Not surprisingly, I only heard reports of top-down, particularistic influence in policy areas where individuals who have connections to high level politicians stood to benefit. Thus, I commonly heard about top-down particularistic influence occurring in areas related to personnel policy, land policy (i.e. decisions about the ownership and development of land), the awarding of contracts and sales of forest products, and perhaps most disturbingly, law enforcement. At the same time, large areas of forest policy are unaffected by this kind of political influence. For example, in spite of the large amount of money that has been funneled through JFM committees in recent decades, high level public figures exert little particularistic pressure related to how these funds are spent in either Maharashtra or Andhra Pradesh. When JFM money is spent by forest offices, the decisions about which villages will benefit do not appear to be driven by the political influence of that village.

Personnel policy is one major area where clientelistic political influences play a major role. The ability of politicians to influence personnel management also enables them to exert political control on bureaucrats for other purposes, thus forming the basis for top-down political control of forest officials. Forest department employees benefit from a strong system of civil service protections, but as has been well documented in other parts of the Indian public service, transfers and appointments are highly politicized, and have become a primary tool used by high level politicians to influence the bureaucracy (Potter 1988, 1987, 1996; Zwart 1994; Iyer and Mani 2008; Banik 2001; Wade 1982a, 1982b, 1985). Because postings vary greatly in desirability, officials are willing to invest substantial energy – in the form of bribes or other

means of political influence – in insuring that they get their desired postings. Cities and larger towns where access to services are good, postings near family or within commuting distance of major cities, and specialized jobs which allow opportunities for training, or provide unusual opportunities for earning bribes, are particularly desirable.

The authority to transfer officials generally rests in officials a few ranks higher than the official in question, although the particular laws and procedures vary from state to state. Since ultimate authority over transfers resides with the Chief Minister, it is possible for any political figure with a plausible connection to the Chief Minister to at least threaten a punitive transfer for any bureaucrat. For example, a divisional forest officer told me that his supervisor's office manager was incompetent (he claimed that she could not actually write, although I suspect this was an exaggeration). Once he scolded her for her incompetence. Soon after, he received a phone call from a locally influential politician who was the office manager's elementary school classmate. The politician warned him not to bother the office manager again, which he did not do, out of a desire to avoid potential trouble.⁴² External influence can also be applied to selection of officers, particularly at the lower level where selection is handled by senior forest officials rather than the public service commission. For example, the same informant reported that a senior politician had asked him to arrange that the politician's driver get appointed as a forest guard.⁴³

Particularistic top-down political influences are very important in certain areas of law enforcement and land policy. India's forest laws regulate a large variety of activities, including the harvesting of firewood and minor forest products, cattle grazing, saw-milling, and transport

⁴² Interview with informant 346, March 3, 2011

⁴³ Interview with informant 346. It is worth noting that there is a large amount of corruption involved in lower level appointments, and it is widely reported that to become a forest guard across most of the region, it is necessary to pay a hefty bribe that is worth a minimum of several months starting salary. However, most of this corruption does not involve high level political figures, but is rather negotiated between officials and job applicants.

of milled lumber. Given the dependence of many people in villages near forests on forest products for their everyday subsistence – for example, the vast majority still rely on firewood to cook their food (Pandey 2002) – there are large numbers of people whose everyday subsistence involves breaking forest laws. There are also numerous medium and large size business enterprises involved in processing and transporting timber and other valuable forest products, and while many of these enterprises operate entirely legally, others may be partially or entirely operating using illegally harvested forest products. Furthermore, many forest department lands are valued for other uses, from farmland to urban developments, and it is the responsibility of the forest department to prevent such illegal uses. The vast scope of government regulation gives forest officials many opportunities to collect bribes for overlooking illegal behavior, or to engage in illegal profit-making themselves (Robbins 2000b; Vasan 2002), however there are also many forest officials who do try to enforce the laws.

People engaged in illegal activity frequently work with politicians to put pressure on bureaucrats. As one enthusiastic young forest section officer in Andhra Pradesh told me, “If we catch someone – 10 minutes we will get call from political leaders.”⁴⁴ This experience was described to me by informants ranging in rank from forest guard to divisional forest officer. While I was staying in one district in Andhra Pradesh, I had the opportunity to observe two such incidents. In the first, a divisional forest officer discovered that land where a new engineering college had recently been built was in fact government land which had been designated by earlier administrators for reforestation. This DFO issued a notice to the owner of the engineering college, and the next day was greeted with a barrage of phone calls from powerful politicians in Hyderabad, seeking to resolve the issue in favor of the violator. A few days later, a DFO in a neighboring division was informed that a truck was going to be passing on the main road through

⁴⁴ Interview with informant 278, December 26, 2010.

his division carrying valuable *tendu* leaves⁴⁵ without appropriate paperwork. He sent his subordinates to apprehend the truck, which then sat in the forest office for the remainder of my visit while the DFO received daily calls from politicians who were working on behalf of the merchant who owned the truck and its illicit cargo. In both of these cases, the DFOs I met held firm to their decision to pursue the legally correct choice (at least for the 2 weeks I observed these incidents),⁴⁶ however I repeatedly heard from officials that they had to constantly calculate when they could resist political pressure, and when they would have to bow down to their political bosses.

The fact that politicians pressure bureaucrats not to enforce laws against the politically well connected has a major impact on implementation of these laws, although the precise effect is difficult to document. It is widely reported in the press, and was frequently discussed in my interviews, that politically well-connected timber smugglers have made away with large areas of valuable timber through the connivance of officials, but it is difficult to document how much forest was destroyed, and how much of this was due to political influence and how much due to bribery or connivance on the part of forest officials. Since high level politicians are also law-makers, these observations also imply that the incentives politicians face when making laws differ from those they face when dealing with implementation. One possibility is that politicians who are unable to change laws aim to programmatically undermine laws by exerting particularistic influence to undermine their enforcement. Alternatively, when voting on laws, they may favor making universalistic pro-environment statements, knowing that if the laws conflict with the interests of their constituents, their political influence will enable them to help

⁴⁵ Leaves of *Diospyros melanoxylon* are the most valuable non-timber forest product in central India. They are used for rolling beedis – an Indian form of cigarette – smoked by millions of Indians. Their harvest and sale is highly regulated in all central Indian states.

⁴⁶ I observed these incidents over several weeks during late February and early March, 2011.

those constituents who are politically powerful escape the law, thereby earning the gratitude of their supporters. If the environmental laws are effective, they can take credit, and if they are ineffective, they can lay the blame on the generally unpopular forest bureaucracy.⁴⁷

4.7 Responsiveness to particularistic bottom-up influence: “Weapons of the Weak”

4.7.1 In the literature

There is very little literature that examines the ways that grassroots actors influence bureaucrats for particularistic favors. While literature on patronage in democracies examines the ways that politicians use small favors to purchase political support from grassroots actors (Elliott 2011; Kitschelt and Wilkinson 2007a; Saxena 2003), these authors rarely examine how grassroots actors make similar demands directly on bureaucrats. The literature on clientelism in developmental states does not generally address the grassroots at all (Evans 1995; Kang 2002). To find a description of bottom-up influence, we have to turn towards studies of peasant communities and their interactions with larger entities, but again, much of this literature makes the assumption that these communities, when they make political demands, do so in a programmatic fashion – i.e. demanding recognition of land rights or provision of welfare schemes. I take the title of this section from the work of James Scott (1985, 1990) who draws our attention to the often hidden ways in which the poor and downtrodden resist. Baviskar’s (1995) ethnography of forest dwellers in central India, north of my study area, emphasizes that peasant resistance to forest department authority often takes the form of noncompliance with authority, petty bribery, and implicit threats: her villagers cultivate forest land illegally, and often bribe local forest guards, but may also try to attack guards who attempt to enforce the law. As

⁴⁷ According to Moe (1990), similar conditions prevail in relations between legislators and public agencies in the U.S.

Kashwan (2011) points out, resistors may accept the legitimate authority of the state, but still try to carve out spaces where they can carry out activities necessary for their livelihood.

4.7.2 In the field

While powerful politicians leave distinctive memories in the minds of government employees, the influence of the grassroots is not always as obvious. In fact, in most of the districts I visited, Divisional and Range Forest officers reported having few interactions with members of the general public. This does not mean that there is no bottom-up influence in these districts, as such influences may be felt in more subtle ways, or may make their way up the hierarchy from guards and section officers working in the field. Forest guards and section officers spend most of their lives posted in villages and small towns where their behavior may be closely observed by their neighbors, who have many ways to make their influence felt (Vasan 2002). The sarpanch of one village told me that he got along well with the forest guard precisely because the guard did not vigorously enforce the rules.⁴⁸

In addition, the small accumulated acts of resistance by millions of rural villagers have an important effect on the overall policy environment, one that forest officers are quite aware of. Acts of passive resistance to forest law are pervasive throughout the study region: small-scale commercial firewood harvesters carry their wares into town along every road, cattle graze in every forest with or without permits, rural homes and fences are constructed with rough-hewn lumber gathered from the forest, and every year farmers extend their fields a little farther into the forest edge. The vast number of minor violations overwhelms the capacity of the department to enforce its laws. In addition, for many officials, ignoring minor legal violations, or accepting small bribes, is morally preferable to depriving desperately poor firewood harvesters of their livelihood.

⁴⁸ Field notes, January 28, 2011

A less important but more overt form of particularistic influence from below consists of the direct requests of villagers for help. In many forest areas the Forest Department is one of the few sources of employment, and field-level forest officers report that they frequently interact with local people who request employment as laborers in various forest projects. It appears that many interactions between the forest department and poor villagers are mediated through small-time local leaders, similar to those described by Manor (2000) as “small time political fixers” or Krishna (2011) as “naya netas.”⁴⁹ Although villagers may desire other benefits from the forest and the administration, employment and payment are the only ones that many of them see reliably being delivered, and thus, these are the only issues most will petition the department about. One Divisional Forest Officer who proudly claimed to be working for the benefit of poor villagers told me that the primary demand of villagers in his district was employment in forestry operations.⁵⁰ Similar forms of bottom-up political influence were particularly visible in forest divisions MH1 and AP1 – divisions which contained large cities and thus a larger number of people with high levels of education and other forms of social capital, who are more likely to approach department officials for particularistic favors having to do with the regulation of forest product processing or the disposition of trees on private land, which is also regulated by the department.

4.8 No Political Influence

4.8.1 In the literature

Although many areas of decision-making are dominated by bureaucrats with little political influence, scholars who study these areas often do not examine why there is no apparent political influence. Existing theories suggest that issues with low levels of conflict (Matland

⁴⁹ Literally “new leaders” – i.e. young educated people, as opposed to traditional village authorities.

⁵⁰ Interview with informant 184, October 26, 2010.

1995) and salience (Gormley 1986), and high levels of complexity (*ibid.*) are likely to be dominated by bureaucrats or other policy elites. In these situations, we would expect that technically trained bureaucrats would make decisions based on their professional training, or on the norms of their employer.

4.8.2 In the Field

In fact, a large and important area of policy decision-making and implementation is made with almost no direct political influence or input: forest land management. The writing of working plans, detailed 10 year plans for how the forest should be managed, including planning timber harvests, tree planting, road-building, and other restoration and improvement activities, the decisions about where different projects and schemes should be implemented, and the on-the ground decisions about marking trees for harvest or deciding which particular species should be planted, are all undertaken without any public input. Members of the public, including politicians and forestry NGO leaders, are often unaware of this decision-making processes. As mentioned above in the discussion of “street-level political control,” this lack of public participation extends even to so-called participatory schemes. JFM microplans, supposedly the results of participatory rural appraisals conducted by forest officers to identify village needs, are in fact written with minimal, if any consultation. One field officer in Maharashtra described the process as follows: “species are suggested by higher officers, and the micro-plan is sanctioned.”⁵¹ Similarly, a study in Andhra Pradesh found that the microplans for neighboring villages were identical copies with only the names of the village changed (Reddy et al. 2007). The few exceptions prove the rule. For example, in the well-documented case of Mendha (Lekha), a village in Maharashtra which makes substantial decisions about management of surrounding government forests, villagers have had to fight the forest department for the ability

⁵¹ Interview with informant 317, February 2, 2011

to make such decisions (Tofa and Hiralal n.d.; Ghate and Chaturvedi 2004; Shahabuddin 2010 p. 118-140).

On the surface it would appear that Matland and Gormley's theories predict this outcome. There is little conflict or public interest in these issues, and working plans appear to be technically complex documents. However, there are three problems with this perspective. First, local actors, including villagers, express great concern about the location of timber harvests and the selection of tree species to be planted near their village, and many have detailed traditional knowledge about local forests. I have frequently observed that forest officers rely on the knowledge of wage laborers – local villagers - when they go to the field. Conflict over these land management decisions in the study region dates back to the colonial era (Rangarajan 1996b; Baker 1984). Second, working plans and forest department activities are not very technically complicated. When I asked forest section officers and beat guards, officials who usually have only a high school level education, whether they could read and understand the working plans, they assured me that they could. To the extent that field decisions are based on information about the locale, they are based on simple rules of thumb (i.e. teak grows well in only certain soil types) and a few simple measurements – information that is widely accessible. Third, similar issues in other societies are major points of contention and controversy (Sabatier et al. 1995; Nie 2008; Nie and Miller 2010).

An alternative explanation is that technical complexity, controversy, and political salience are the outcomes of political processes which keep these decisions private. Working plans are not public documents. I was repeatedly told by senior forest officers that their working plan was an “official document – it cannot be circulated – you cannot use it for any other

purpose,⁵² nor are the details of the plans for implementing most department schemes publicly available. In many villages, villagers are not even aware that their village has a sanctioned micro-plan. In other words, it is not the technical complexity that keeps these decisions out of the public eye, but rather the fact that the public simply is unaware of these decision-making processes, and lacks procedural tools to participate in them.

4.9 Discussion & Conclusion

Normative debates and empirical studies of political influence on bureaucratic decision-making have generally assumed that political influence is a unidimensional concept, but have defined it in different ways. In this paper I have shown that political influence is in fact multidimensional, and that different types of political influence occur in different policy areas within the same policy context, and have very different consequences. Figure 2 summarizes the argument, showing the four types of political influence, the described examples of each, the hypothesized causes, and the hypothesized effects. While the examples are well documented, the causes in some cases are poorly understood. For example, it is not clear why there is more bottom-up mobilization in Division MH2, and the identified variable (mobilized NGOs and social movements) merely seems to beg the question of why these do not exist in other districts. Further comparative investigation of these types of political influence can help determine when they are likely to occur, and whether their effects differ systematically.

According to interviews with forest bureaucrats, clientelism – top-down political influences from high level elected officials to bureaucrats with the aim of delivering

⁵² Interview with informant 295, February 4, 2011. This statement is particularly interesting because under the 2005 Right To Information Act, public officials are required to make most public documents public upon request. Similar statements were received from several other officials, although I also encountered officials who happily shared these documents with me, or asked me to make a formal request under the Right To Information Act. In addition, this appears to be a shift from the British era. There are numerous British era working plans available in libraries – not only in the US, but around the world, however it is extremely difficult to locate working plans from after the British era, even in the department's own libraries.

particularistic goods to influential individuals – is the dominant form of political influence in Indian forest policy. As work in East and Southeast Asia (Kang 2002; Evans 1995; Hutchcroft 1997) has shown, clientelism does not necessarily hinder positive developmental outcomes, but in the particular case of Indian forestry policy, one of the major beneficiaries of clientelistic practices are illegal timber merchants and mining concerns, who have a severely detrimental impact on forest outcomes.

Figure 10: Summary of political influences

	Programmatic	Particularistic	No Apparent Influence
Top-down	<p>“Political Control”</p> <ul style="list-style-type: none"> • Example: C. Naidu’s influence on JFM in Andhra. • Hypothesized Cause: Popular interest, competitive elections, and opportunities for politicians to enhance reputation for good governance. • Hypothesized Effect: more effective centrally planned programs. 	<p>“Clientelism”</p> <ul style="list-style-type: none"> • Example: Personnel and law enforcement policies. • Hypothesized Cause: Opportunities for politicians to earn rents, lack of popular interest and competitive elections. • Hypothesized Effect: undermines implementation of central programs and may hinder outcomes. 	<p>“No Apparent Influence”</p> <ul style="list-style-type: none"> • Example: land management policies and working plans. • Hypothesized cause: lack of public interest, high levels of technical complexity. • Hypothesized effect: effective planned implementation, but poor feedback from outcomes to policy design.
Bottom-up	<p>“Street-level Political Control”</p> <ul style="list-style-type: none"> • Example: Political Activists in Division MH2 district • Hypothesized Cause: Presence of well-organized NGOs and social movements. • Hypothesized Effect: increases local voice, and may improve outcomes, but may also undermine centrally planned programs. 	<p>“Weapons of the Weak”</p> <ul style="list-style-type: none"> • Example: Everyday resistance by rural people to law enforcement. • Hypothesized Cause: Disconnect between official policies and local needs. • Hypothesized Effect: Undermines implementation of programs and hinders outcomes. 	<p>“No Apparent Influence”</p> <ul style="list-style-type: none"> • (Same as above)

However, contrary to many popular discourses in India, this kind of corrupt clientelism is not the only kind of political influence on forest policy-making. Top-down, programmatic political influences exist, but only in contexts where high level political entrepreneurs see such influences as being beneficial to their long-term electoral prospects. Andhra Pradesh’s populist political environment has resulted in several examples of top-down political influence on forest

policy. Programmatic political influence has not, however, insured that policies are implemented in the ways that they are intended. As we have seen, Joint Forest Management has become central to the Andhra Pradesh Forest Department's mission largely due to the concerted efforts of former chief minister Chandrababu Naidu, however JFM in Andhra Pradesh has been a disappointment to many of the social activists who originally pioneered the program (Reddy et al. 2007). The same could be said for the implementation of the Forest Rights Act under Naidu's successor: while Andhra Pradesh implemented the act more rapidly than many other states, a national panel criticized the sloppiness of the rapid implementation, which appeared to be more driven by political concerns than by the genuine goals of the law (Saxena et al. 2010).

In recent decades the idea that local people should influence policy implementation has emerged as important both in natural resource policy and in broader policy context in India. Barriers to such bottom-up influences have been well-documented elsewhere (Ribot and Larson 2005; Ribot et al. 2006; Tacconi 2007; Crook and Manor 1998; Manor 1999), and these barriers are strong in central India. Joint Forest Management and the Forest Rights Act, both programs designed to increase local political control, are not effective at achieving these goals. Where NGOs and social movements are effective at organizing local people, they can have a significant effect on policy implementation, and while they may work through existing participatory programs, they may also find that there are other local priorities.

Significant areas of policy-making and implementation remain uninfluenced by external political forces. This is probably less a result of inherent aspects of these policy areas, such as their salience or complexity (Matland 1995), and more a result of historical conditions that have allowed bureaucrats to insulate particular kinds of deliberation – about logging and tree-planting, for example, from public scrutiny.

These findings point to several broader implications. First, increasing political involvement in policy implementation will have different outcomes depending on what kind of political involvement occurs. The dominance of clientelism, and its negative effects, shows that simple recipes derived from western political science and public administration, which emphasize the importance of top-down political control, are not likely to be beneficial in the Indian context. Increased top-down political influence by politicians, when politicians are frequently corrupt and closely aligned with criminal interests, is unlikely to be beneficial. Similarly, formal programs to increase political involvement from the bottom up are not sufficient to create effective bottom-up political influence on policy processes. It may be that, given the strong influence high-level political actors exercise on policy implementation by bureaucrats, the desire of local social entrepreneurs to increase their influence on policy implementation can best be met through increasing their pressure on elected politicians – people who are at least sometimes responsive to the public, and who have a demonstrated ability to influence bureaucrats for good or ill. In other words, it may be more effective to focus on changing the programmatic-particularistic dimension of political influence than to focus on the bottom-up versus top-down dimension which has preoccupied scholars of natural resource management for the last two decades. Indeed, one of the social movement organizations I described in division MH2 is pursuing this route by getting more of its own people elected to important offices at the district and sub-district level.

The net effect of political decisions on policy implementation in Indian forestry is large and of substantive significance. This contrasts with pictures of Indian forest management presented by official bureaucrats (who tend to emphasize the existence of a Weberian hierarchy), and by many social activists, who view the forest department as an unaccountable monster.

Instead, this research implies that the forest departments' actions are shaped by the broader political context. Since many actors are able to influence program implementation, rather than assuming an unresponsive organization, we should carefully examine who the department is responsive to. Unfortunately, the complexity of forest policy and the limited nature of the research design make it very difficult to assess which actors and tools the department is most responsive to. Limited evidence suggests that high level politicians usually have little interest in influencing forest department policies in a programmatic fashion, although they are effective when they take interest. Similarly, forest villagers are sufficiently excluded from the political process that their programmatic interests are only represented in unusual cases of local political organization. Most influence on the forest department is thus particularistic in nature. The fact that many of these influences – both from the bottom and from the top - are aimed at delivering private goods through illicit channels offers a major explanation of why forest policies in India have not been more effective at achieving their goals.

Chapter 5: Why foresters plant trees: an investigation of values and incentives

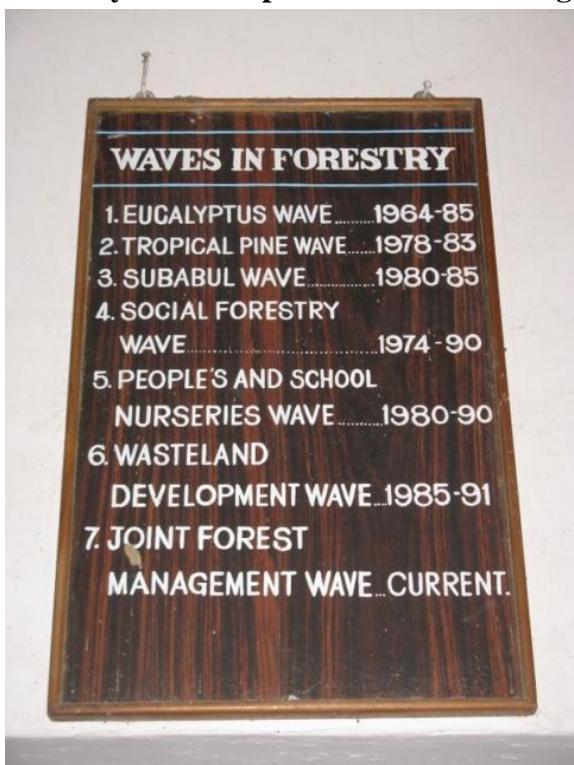


Figure 11: “Waves in Forestry” from a forest department rest house in Maharashtra.⁵³

Abstract:

The purpose of this paper is to examine why foresters in India plant trees. Tree planting is one of the few activities that Indian forest departments consistently carry out as planned. Planting programs are proposed to solve diverse problems, receive large amounts of funding from international funders and state and central governments, and are poised to grow as a result of the evolving regime for reduced emissions of greenhouse gasses through deforestation and degradation. However, I present evidence from Central India showing that tree planting is ineffective at achieving any of the goals for which it is prescribed. The paper rejects four plausible explanations for why foresters plant trees drawn from the literature: (1) A rational policy making perspective presumes that policies are solutions to problems. This is rejected

⁵³ Note how starting in the 1960s “waves” are defined by plantation tree species (Eucalyptus, pine, subabul) and subsequently by tree planting programs (social forestry, people’s and school nurseries, wasteland development, joint forest management). Photo taken by author, October 26, 2010.

because the logical connections between tree-planting and policy goals are missing. (2) A rent-seeking bureaucrat explanation is rejected because observations of field-officers are not consistent with the theory. (3) The multiple streams/garbage can theories describe situations in which problems and solutions lack logical relationship, but fail to explain why this occurs. (4) Similarly, resilience theory fails to explain the case because it focuses on how systems maintain their status, providing a description of what has happened, but does not explain why it happens in complex social systems. I provide a missing explanation by drawing on institutional theories which emphasize the way that training and experience shape bureaucratic values, and how those values are reinforced through incentives in the policy making and implementation process. This explanation has important implications for the design of future policies because it shows why certain policies are implemented well, and also helps explain why policies frequently do not have the intended results.

5.1 Introduction

5.1.1 Tree plantations in the field

Wherever I traveled in Central India, the forest department was planting trees in long, straight, single species rows. In Andhra Pradesh, they bulldoze thornscrub on the outskirts of villages to plant fast-growing *Eucalyptus* clones, and re-claim fields encroached by impoverished farmers to plant more *Eucalyptus* clones, mixed with native oilseed bearing *Pongamia*.⁵⁴ In Maharashtra they clear natural forests to establish teak (*Tectona grandis*) plantations. Both states plant “multispecies plantations” in the midst of patchy degraded forests, and more often than not the multiple species are laid out in straight rows and monospecific blocks. When foresters took me to see their work, they usually took me to one or another plantation. Money

⁵⁴ The proper scientific name for this species is *Millettia pinnata* (L.) Panigrahi (Acharya et al. 2004), however it is much more widely known among foresters in India by the name of its old genus, *Pongamia*, and so I use this term.

from the state and central government, and from International funders such as the World Bank is labeled for use in “social forestry,” “joint forest management,” “community forest management,” “compensatory afforestation,” “employment guarantee scheme,” and “greening India,” but in all cases, the money is spent primarily on planting trees. Research and evaluation wings focus almost exclusively on tree planting, and plantation success is one of the most important aspects of annual personnel evaluations. Between 1980 and 2005, the forest departments reported planting an average of 1.32 million hectares per year, a total of 34 million hectares (Chaturvedi et al. 2008) – more than 10% of the land area of India, and an area large enough to account for nearly half of India’s observed forest cover (Forest Survey of India 2009), although as we will see, areas planted with trees in the past, and areas currently covered in forest are not equivalent.⁵⁵

The focus on tree-planting would make sense if tree-planting was a direct solution to the chief problems facing the forest department. While travelling with forest officials through one of the wetter and more heavily forested districts of eastern Maharashtra early on in the course of my research, I began to see that the reality was more confusing. One evening, the Divisional Forest Officer took me to a patch of forest department land a few miles from the district headquarters, where we would be able to see blackbuck – an antelope that is a threatened species and has almost disappeared from central India (Mallon 2011). The blackbuck is an animal of open country (Prater 1965), but the forest department was already planning plantations throughout the barren “wasteland” where the antelopes were living. When I asked if this wouldn’t disrupt the habitat for this rare species, the officer replied that the blackbucks needed some forested areas to

⁵⁵ Unfortunately, data on long-term plantation survivorship is not available. If it were, it would likely show that a large percentage of plantations have failed, and many areas have been planted multiple times. Thus, the statement that forest departments have planted an area equivalent to half of India’s current forest cover should not be misinterpreted to imply that half of India’s forest cover is planted forest. No such data are available, but the percentage coverage of man-made forests is likely to be much smaller than half, given what is known about the poor survivorship of plantations.

rest in. This was a strange answer, considering that the open area was surrounded by forest, and that the plantations would cover the entire area, eliminating all of the open habitat currently in use (fieldnotes, November 9, 2010). Conversations with officers and scientists in this and other districts revealed further puzzles. Both an academic botanist living in the district and the forest officers themselves agreed that in the absence of disturbance, forests would quickly grow back. To the extent that plantations are successful, several foresters told me, it is because they are legally closed to grazing and surrounded with fencing that excludes cattle.⁵⁶ In Andhra Pradesh, a divisional forest officer asked me not to laugh at him when he told me that his job was to bulldoze degraded native forest to plant non-native *Eucalyptus* plantations (fieldnotes, February 19th, 2011). These officers were deeply skeptical of the value of their work for achieving policy goals, yet they continued to pursue their work with enthusiasm.

Decisions about which species are planted are similarly puzzling. When asked, most forest officers said that such decisions were made in the 10 year Working Plan. I was able to review the current working plans for all of the forest divisions I visited, and while they do designate large areas for potential planting, they rarely provide specifics of which species are to be planted where, or how scarce plantation dollars should be divided up among the large areas designated for planting. In fact, in Andhra Pradesh the main species planted, clonal *Eucalyptus*, was not even mentioned in current working plans. When I asked an officer about this, he explained that in reality, planting was driven by funding schemes, not by working plans, which were not binding (interview with informant 346, February 28, 2011).⁵⁷ The different states use funding provided for the same purposes to plant very different species, with Andhra Pradesh

⁵⁶ The most common form of “fence” is a “trench-cum-mound” – a deep, steep sided trench edged on the inside with a mound made of the excavated dirt, which is difficult for cattle (and people) to cross.

⁵⁷ Under Supreme Court orders related to the Godavarman litigation, working plans must be in place in order for felling to occur, but no similar restriction exists with regard to planting (Sanctuary Magazine 2003; Upadhyay et al. 2009)

focused on *Eucalyptus* and *Pongamia*, and Maharashtra focused on teak, bamboo, and other native forest species, even in districts with nearly identical ecological conditions.

5.1.2 Theoretical Introduction:

The purpose of this paper is to explain why foresters plant trees, and how they make decisions about the kind of plantations to plant. At first glance, it may seem obvious that foresters have to plant trees, but as the stories above illustrate, the kinds of tree planting undertaken in Indian forests are quite illogical, and do not serve policy goals – a finding that is consistent with recent reviews of tropical forestry generally (Le et al. 2012). Tree planting is important not only because it is one of the Indian forest department's major activities, and one that is likely to be promoted heavily with increases in funding to the forest sector as a result of REDD+ (Kishwan et al. 2012; Rawat and Kishwan 2008), but also because it is an area where policies are implemented effectively – i.e. where implementing officials actually carry out the activities described in policies - and, as I have shown in previous chapters, where political influences on implementation are weak. Tree planting, if done properly, may increase timber production and contribute to ecological restoration, but if done improperly, can contribute to habitat degradation with negative effects on the provision of ecosystem services and protection of biodiversity (Lindenmayer et al. 2012; Lindenmayer and Laurance 2012). Many authors have argued that shortcomings in forest management in India and other developing countries are the result of politics, corruption and poor implementation (see for example the arguments summarized by Dove 1995). If this argument is correct, then well implemented policies with little political interference should help solve core problems in tropical forest management. In fact, tree planting programs are usually well-implemented, but rarely achieve their policy goals.

In explaining this inconsistency I argue that tree planting fails to achieve policy goals because the logical relationship between policy goals and tree planting as a policy tool are weak.

Instead tree planting is consistently chosen as a policy solution because of entrenched institutional incentives that run from international donors and central policy-makers down to street-level bureaucrats, and create an organizational culture which blinds officials to the illogic of their actions. In describing this system I demonstrate the limitations of conventional Indian views of the policy process, which assume that policies are either rational solutions to problems or the result of rampant rent-seeking. I also demonstrate the limitations of two widely circulating theories that describe, but do not explain, the observed phenomena: resilience theory, a dominant paradigm in studies of linked social-ecological systems (Holling 1973; Gunderson and Holling 2002), and garbage can/multiple streams theory (Cohen et al. 1972; Kingdon 2003; Zahariadis 2007), an influential set of ideas in policy studies. I contribute to policy theory by demonstrating the underlying behavioral mechanisms that help to explain widely remarked policy patterns, and I contribute to the applied field of Indian policy-making by showing how incentives inside of the bureaucracy lead to ineffective policies.

Explaining the prevalence of tree-planting as a forest department practice requires attention to two distinct, but closely linked arenas. The first is what might conventionally be referred to as the policy arena or the policy formulation stage, where policy priorities are set by senior policy-makers, include elected officials and senior civil servants, in consultation with other powerful groups, including, notably, international aid agencies. This action happens primarily in the state and national capitals among elite bureaucrats, high-level elected officials, and international NGOs, funding agencies, and academics. Although much attention in Indian policy circles goes to debating and analyzing what policies are set, an equally important aspect of this arena lies in the translation of stated policy into directives for subordinate offices. How these directives are translated provides a base structure for the second arena, where field-level

officials convert these directives into actual on-the-ground work in a process usually described as policy implementation. In the field, centrally laid plans meet on-the-ground realities, including local political environments and individuals' preferences and training, as described elsewhere in this dissertation.

This paper begins with a historically informed account of tree planting programs in Central India. I show that since the 1960s, tree planting has emerged as the dominant policy solution that the forest department offers. The forest department is, by its own measures, moderately successful at implementing plantation programs and learning from past mistakes. Tree planting has been proposed to address numerous problems – ranging from wood scarcity to rural poverty to deforestation to water scarcity – but most tree planting does little to address any of these concerns. I then examine conventional theoretical explanations of tree planting, explain the problems with these theories, and draw on detailed ethnographic observations of forest policy implementation to develop a complementary theoretical explanation that emphasizes how attitudes shaped by training and professional socialization interact with incentives at multiple levels to shape and constrain implementation behavior.

5.2 A brief history of tree planting in India.

Although the first tree plantations in India were teak plantations established in the Malabar province of the British Madras Presidency (now Kerala) in the 1840s (Stebbing 1922; Tewari 1992),⁵⁸ large-scale tree planting did not emerge as a major focus of the forest administration until well after independence. During the first five year plan (1951-1956), 30350 ha were planted of all types of plantations, while in the second five year plan (1956-1961),

⁵⁸ Anderson and Huber (1988 p. 18) and Gadgil (2001 p. 180) mention teak plantations established by the Maratha empire in the 17th century. Gadgil's information is based on an old gazetteer for Ratnagiri district which I have not been able to locate. In any case, these early plantations do not appear to have had much influence on the later history of Indian forest management, as they find no mention in other sources.

20,000 ha were planted in commercial plantations (Forest Research Institute Dehra Dun 1961).

The combined total for this 10 year period is less than the 55967 ha the Maharashtra forest department, “artificially regenerated and afforested” during the 2008-9 fiscal year (Government of Maharashtra Forest Department 2009).

Unfortunately, it is extremely difficult to locate records from the 1950s, 60s, and 70s,⁵⁹ however, the shift from harvesting to planting accelerated after the National Commission on Agriculture’s report on forestry (National Commission on Agriculture 1976). This report noted that “Although the forest area is a little less than half of the cultivated area, the contribution of the forestry sector to the Net Domestic Product (NDP) is very small and is not commensurate with its potential.”⁶⁰ (*ibid*, p. 1). The report proposed an intensification of commercial forest production on forest lands, with a focus on creating “man-made forests,” (i.e. plantations) which were seen as more productive.⁶¹ Local needs for forest products would be met with intensive plantations on farmland, village common lands, and other areas which were considered to be unproductive.

A major outgrowth of the National Commission on Agriculture’s report was the externally funded social forestry programs in nearly every Indian state in the late 1970s and 1980s. These programs aimed to address perceived shortages in woodfuel through extensive

⁵⁹ For example, annual reports and working plans from this period are not available in any of the forest department libraries or record rooms I visited in Maharashtra or Andhra Pradesh.

⁶⁰ The report goes on to note that forestry and logging contributed only 1.5% NDP, despite covering nearly 25% of the land area. Part of the problem appears to have been the commission’s lack of data on the contribution of forestlands to other parts of the economy – i.e. by providing small timber and minor forest products to rural communities, grazing land, ecosystem services, etc., the contribution of forest lands was undoubtedly much higher than the commission recognized, but because there was no quantification available, the commission simply ignored these contributions.

⁶¹ “In the hardwood forests in Maharashtra the present net worth of the valuable teak forests (containing 20 per cent or so of teak) is only Rs. 57 to Rs. 113 per hectare on a rotation of 80 years. As against this, the present net worth of a stand of pure teak under identical conditions would be about Rs. 1580 per hectare.... From 1951 to 1972, the area planted was about 1.79 Mha, but even then... only about 2-3 per cent of the total forest area has been brought under man-made forests. Since man-made forests can contribute to much higher productivity, it is necessary to intensify efforts in this direction.” (National Commission on Agriculture 1976 p. 8-9)

planting of trees on private and community land, with the stated goal of helping the poor through increasing both the productive assets on their land and their supply of cooking fuel, while preserving public forests for high productivity plantations. At the same time, both Andhra Pradesh and Maharashtra initiated large scale programs to clear-fell natural forest and replace them with teak plantations, meeting with mixed success.⁶²

Contrary to expectations, social forestry was not successful at shifting the burden of production of low-value fuelwood away from government forests in order to spare these forests for commercial/industrial use (Dove 1995). Instead, it succeeded in shifting industrial production onto the private plantations of well-off farmers in the most prosperous regions of India, where the focus was on fast growing non-native species such as *Eucalyptus* and *Casuarina* (Saxena et al. 1991; Saxena 1992; Saxena 1994; Saxena and Ballabh 1995; Pathak 1995).⁶³ One senior policymaker in Delhi told me that this had in effect enabled a shift towards a more conservation and local development oriented forestry on public lands (interview with informant 36, August 4, 2009), although this view is not well documented. The poor did not have the land to plant trees, and sometimes lost labor opportunities when wealthy landowners shifted from labor-intensive food crops to low-labor perennial crops. With some notable exceptions (Robinson 1998), community groups were not effective at maintaining plantations. Although woodfuel scarcity was a serious problem for many households (Agarwal 1986), it was not

⁶² The plantations from this period that I observed in Andhra Pradesh had suffered a high failure rate, with extensive illegal cutting, which many foresters blamed on the extended Maoist occupation during the 1990s (although documents I obtained at the Forest Department headquarters in Hyderabad indicated that they were already considered a failure by the early 1990s (Euroconsult et al. 1992)). For reasons that were not clear to me, Maharashtra appears to have seen greater success with its teak plantations.

⁶³ In the Andhra Pradesh social forestry project, nonnative species accounted for 93% of the seedlings raised (47% *Casuarina*, 43% *Eucalyptus*, and 3% subabul (*Leucaena leucocephala*) (Canadian International Development Agency 1991). Similar data were not available in the documents I was able to obtain from Maharashtra, but they reported a heavy emphasis on *Eucalyptus*, which was only successful in limited areas (Misra and Bhatty 1990). Both reports indicate a heavy demand for grafted fruit trees. Most reports do not mention which species of *Casuarina* or *Eucalyptus*, which is frustrating since these are large genera, but some authors mention *Eucalyptus tereticornis* (Polk 1992; Saxena 1994).

reflected in market prices because wood continued to be available at low cost from de facto open access government forests, and many had access to inexpensive substitutes from dung and crop residues (Misra and Bhatty 1990; Saxena 1994; Pathak 1995). Today, most forest departments in India still have social forestry wings which raise trees for public distribution and for planting on non-forest government lands (such as road and railway right of ways and around schools), and some industrial concerns (such as large paper mills) also provide seedlings to large farmers so as to insure a steady supply of raw material.

Following on the heels of social forestry's limited success, the 1990s witnessed another wave of tree planting, this time under the auspices of "Joint Forest Management," or JFM. Although JFM was pioneered in the 1970s (Joshi 1999, 2000), the program grew only after a redefinition of National Forest Policy in 1988 shifted the focus away from commercial forestry and towards greater emphasis on resource conservation, habitat protection, and improving the lives of the rural poor (Ministry of Environment and Forests 1988). The core idea behind Joint Forest Management was that reserved forests would be better protected from illegal uses if the local community was engaged in their management. Thus, while social forestry was built on the assumption that trees must be planted in non-forest areas, JFM on its face requires no tree planting, and the initial orders that encouraged the program at the national level mentioned several activities that might be taken up, including, "inducement to natural regeneration of existing root stock, seeding, gap filling, and wherever necessary, intensive planting, soil-moisture conservation measures, etc." (Ministry of Environment and Forests 1990).

In practice, however, JFM in the two states under study came to be strongly associated with the establishment of tree plantations, and a high percentage of the allocated money was spent on plantations. The initial project appraisal document for Maharashtra estimated that 88.3

million dollars, by far the largest single line item on the 142 million dollar budget (62%), would be allocated to “Plantation development” (Agricultural Operations Division 1991). A few years later a similar document in Andhra Pradesh projected that of 89.1 million dollars to be spent, 20.8 million would be allocated to “production forestry,” 18.5 million to “participatory forest rehabilitation,” 8.3 million to “community and farm forestry,” and 9 million to “research and plant propagation,” totaling 56.6 million or 63.5% on activities primarily related to the establishment of plantations (Agricultural Operations Division 1994). The focus remains today. When I visited JFM villages with forest officials, I was inevitably taken not to the village, and not to the large area allocated for the village to protect and use, but to the plantation. Although JFM committees exist on paper in nearly every forest fringe village in the two states, foresters generally consider only those villages with recent plantations to be active JFM villages. Although the overall impact of JFM has been debated widely, with many quite critical of the program (for a recent review of this literature see Springate-Baginski and Blaikie 2007), most foresters now see the program as an effective means to establish successful plantations and alleviate conflict with villagers.⁶⁴

Today, the planting of trees is prescribed under a wide variety of activities. For example, of the 55967 HA of “regeneration and afforestation” in the 2008-9 fiscal year in Maharashtra (Government of Maharashtra Forest Department 2009), 17853 HA were planted under the “Forest development Agency,” a centrally funded scheme related to JFM (Ghate 2008a; Additonal Principal Chief Conservator of Forests 2003), and another 925 HA were funded under the state’s own JFM funding program. 9210 HA of plantations were included in the plan budget,

⁶⁴ In fact, many of the critiques center on the fact that the forest department sees JFM as only a plantation and conflict alleviation program, missing the broader purposes which many social activists hoped it would serve.

and 16615 HA in the non-plan budget.⁶⁵ Additional funding came from the National Compensatory Afforestation program⁶⁶ and the National Rural Employment Guarantee Scheme, and several other programs that were not named. Nearly all of the plantations in Maharashtra were listed as being mixed species plantations. Although the Andhra Pradesh Annual Administration Reports do not provide a similarly comprehensive list, the 2008-9 report describes a similar funding mixture, including significant plantings funded by the World Bank-funded Community Forest Management Project, which concluded in 2010 (Sustainable Development Department 2010), and a National Bank for Agriculture and Rural Development funded scheme to plant *Pongamia*, a native tree whose seeds can be converted to biodiesel, as well as several state-funded programs unique to Andhra Pradesh (Chief Conservator of Forests 2009)

5.3 Competing Theoretical explanations

5.3.1 Theoretical Explanation #1: Rational policy making

The conventional understanding of tree planting in India works from the assumption that tree planting is a logical solution to a clearly defined policy problem. This assumption is not supported by the data.⁶⁷ The most commonly cited problem – one mentioned in nearly every forest department policy document, aid agency report, and in numerous discussions with foresters, is deforestation and the perceived shortage of forest cover. The 1952 forest policy (Government of India 1952) created a goal of 33% forest cover nationwide, a goal that has been

⁶⁵ The distinction between plan and non-plan budget is similar to the distinction made in American public budgeting between capital expenses (which have to “planned,” hence the term) and recurring expenses (which do not have to be planned for). The non-plan budget usually covers civil servant salaries and routine maintenance, while the plan budget is perceived to be the place where the government “plans” for “development.”

⁶⁶ This is a fund created by the supreme court as part of the incredibly complex Godavarman litigation (Sanctuary Magazine 2003; Rosencranz et al. 2007; Thayyil 2009; Upadhyay et al. 2009; Sivaramakrishnan 2011) to spend money deposited with the government when legally designated forest land is diverted to non-forest uses.

⁶⁷ Many of the arguments of this section are repeated for tropical developing countries writ large by Le et al. (2012), who also provide a comprehensive framework for evaluating future efforts.

endorsed in subsequent official policies (Ministry of Environment and Forests 1988), and has become an article of faith among the forest policy community, in spite of the lack of a rationale for this goal.⁶⁸ Current forest cover, according to the latest report from the Forest Survey of India (Forest Survey of India 2009) is 21.02%,⁶⁹ a 4.75% increase since the 1999 report, when corrected for methodological changes, and a 7% increase since the first assessment in 1987.⁷⁰ Thus, concerns over deforestation seem exaggerated, and while the failure to reach the 33% forest cover is real, the goal itself is arbitrary. In fact, independent analyses of forest cover change in India come to somewhat different conclusions, pointing out that in the last decade there has been both a decline in forest density (a point of agreement with the Forest Survey reports), and also a decline in the extent of natural forest cover ranging from .8% to 3.5% per year. The reported increases in forest cover are due to dramatic growth in plantations (Puyravaud et al. 2010a, 2010b), which do not necessarily fulfill the same social and ecological roles as natural forest (Lindenmayer et al. 2012; Pathak 1995).⁷¹ The most recent national policy documents deemphasize plantations in favor of a more holistic ecological view of forests,

⁶⁸ The goal appears to have been adopted based on a spurious correlation. Joshi et al. (2010 p. 6) report that “The rationale for arriving at the ‘passing marks’—i.e. ‘a minimum of one-third of the total land area of country’ and ‘two-third of the area in hills’—was discussed in the background paper of the National Forest Policy of India, 1952. About this time forest policy-makers had analyzed the existing forest cover in various countries and regions of the world, which was to act as an ‘instructive guide to the proportion of forests in India to be aimed at’. European countries had 41.4% of the total land area under forest cover at that time while North America had 33.3%, Central and South America 38.9%, Middle East and East Africa 3.4%, Africa excluding North Africa 22.1%, South and East Asia 23.0%, the Pacific 6.3% and the world average 27.6% (GoI (Government of India) 1952). The close parallel between a high proportion of forest area and the general prosperity of a region was also noted by the policy-makers that time. After analyzing the existing forest cover in the states for which reliable data on forests were available, the policy makers in 1952 ‘aimed at increasing the overall percentage of area under forest to a minimum of 33.3%’ of the total land area (GoI (Government of India) 1952).” I have not been able to relocate the original document referred to here.

⁶⁹ An additional 2.82% of the land area of India has “tree cover,” meaning “tree patches less than 1 hectare with canopy density above 10%” (FSI 2009, p. 6)

⁷⁰ This is my own calculation, based on data from the first Forest Survey of India report (Forest Survey of India 1987), and does not account for methodological changes, so is less reliable than the 1999-2009 figure.

⁷¹ While Lindenmayer emphasizes ecological differences between natural and plantation forests, Pathak (1995) points out that while plantations provide high profits to their owners (including governments), the poor in India rely primarily on public natural forests for key elements of their livelihood, such as free fuelwood and non-timber forest products which can be a source of income or subsistence. Thus plantations are much less likely to contribute to the livelihoods of poor than natural forests.

however they still prescribe vast amounts of tree planting to improve forest cover and address climate change concerns (Ministry of Environment and Forests 2010), and prominent foresters continue to describe them as plantation programs (Kishwan et al. 2012).

Tree planting is neither necessary nor sufficient for increasing forest cover. Tree planting is not necessary in central India because, according to forest officers and others working in the field, most degraded forest lands have the capacity to regenerate forests naturally. In many areas, degraded forests contain abundant rootstock of forest trees, which send up abundant shoots. If those shoots are not grazed by goats and cattle, or hacked for use as firewood, forest officers told me that they will regenerate a scrubby forest of bushes and small trees within a few years, and if the trees are protected from illegal loggers, they will soon grow into a forest. While such a naturally grown forest might not contain the most desirable mix of species or the straightest trees for timber production, they could arguably satisfy stated forest policy goals of maintaining forest cover to protect water supplies, rural forest-dependent livelihoods, and conserving biodiversity, at much lower cost than plantation programs.

Tree planting is not sufficient for insuring forest regeneration for two reasons. First, as mentioned above plantations have very different biological properties than natural forests, and thus a planted forest cannot be assumed to be substitutable with an artificially planted forest in either social or ecological terms (Locatelli and Vignola 2009; Lindenmayer et al. 2012; Pathak 1995). Second, according to forest department records, tree plantations have a fairly low success rate, even after only 3 years (Maharashtra Forest Department Evaluation Wing 2006, 2009, 2010). In touring the forests of central India with forest officers, I frequently came across older plantations which were partial or complete failures. Although the Forest Departments do not

collect systematic data on the long-term outcomes of plantations,⁷² several historical timber plantation schemes have met with widespread failure. For example, in the 1980s the Andhra Pradesh Forest Department abandoned a program to clear natural forests and plant teak plantations because young teak plantations were extremely vulnerable to illegal logging (Euroconsult et al. 1992).⁷³ Forest officers emphasized that long-term success depended on the ability of the department to successfully exclude illegal loggers, land encroachers, and large numbers of firewood gatherers, and cattle and goat herders, as well as the luck of sufficient rainfall during the establishment period.⁷⁴ Since these factors are the same for natural and artificial regeneration, it is not clear that tree planting has any direct relation to reforestation, except where tree planting focuses on species that are not vulnerable to such pressures (such as *Eucalyptus* and *Pongamia*, which are not heavily browsed by cattle or goats).⁷⁵ There are probably some cases in which areas that have not had natural forest for a long time, and are far from existing forests would not naturally regenerate without planting, however my conversations with foresters about their past experiences revealed that these cases are probably the exception rather than the rule. Perhaps more importantly, tree planting is used to alter the species mix to create a forest with more socially or economically desirable species. Thus, in Andhra Pradesh, I frequently observed the use of heavy equipment to bulldoze scrubby and degraded forest patches,

⁷² The lack of data on long-term plantation success is revealing in and of itself. The widespread reporting of areas planted, and the scarcity of data on long-term success indicates a lack of interest in the long-term outcomes of plantations, or perhaps an intentional effort to hide failure. For reporting of a similar problem in an international context, see Le et al. (2012)

⁷³ For reasons that I could not figure out, just across the border, Maharashtra has a successful teak plantation program, and continues to clear natural forests in small quantities every year to create new teak plantations.

⁷⁴ This is consistent with a growing literature which sees monitoring and sanctioning arrangements as essential to successful forestry (Gibson et al. 2005b; Coleman and Steed 2009)

⁷⁵ While data from the Maharashtra Forest Department indicate that nearly all plantations are mixed plantations of predominantly native species (Government of Maharashtra Forest Department 2009), my informal observations in Andhra Pradesh indicate that many if not most plantations are single-species plantations of *Eucalyptus* or *Pongamia*, although I have not found comparable data from Andhra Pradesh.

which were most commonly planted with fast-growing *Eucalyptus* clones that could be sold to pulp mills for the manufacture of paper products.⁷⁶

Several tree planting programs have also envisioned tree planting serving social goals by alleviating rural poverty. Although tree-planting programs can benefit the rural poor by providing them with short-term wage employment, the causal relationships between tree planting and poverty alleviation are weak, and there is little evidence from either India or international experience that tree planting benefits the poor (Le et al. 2012). While tree-planting programs provide direct employment, they rarely contribute to building the kinds of long-term changes at the local level that enhance or stabilize incomes for the very poor. Poor people rarely have large areas of land where they can grow tree crops, and when they do, usually cannot afford to lose short-term production of subsistence food grains in exchange for the several-year-off benefit of timber harvest (Saxena et al. 1991; Saxena 1992; Saxena 1994; Saxena and Ballabh 1995). Furthermore, thin markets and intensive regulation of forest products mean that much of the profit in private-land forestry is likely to be captured by bureaucrats and middlemen even where the trees are owned by the poor (Saxena et al. 1991; Corbridge and Kumar 2002; Milne et al. 2005). Few villages have received substantial benefits from harvests of JFM plantations (Sundar et al. 2001; Springate-Baginski and Blaikie 2007; Milne et al. 2005; Kumar et al. 2000; Kumar 2002; Saxena and Kumar 2002; Kumar and Corbridge 2002). Due to slow tree growth, commercial harvests often have yet to occur. When they do, there are widespread reports of communities not receiving their expected benefits. The tenurial security of JFM committees is

⁷⁶ Even the argument that such *eucalyptus* plantations are needed to supply industry is problematic. I interviewed the purchasing agent at one of the largest paper mills in Andhra Pradesh, and he told me that the mill now receives nearly all of its pulp material from private plantations, which it views as more reliable than government sources. This is consistent with global trends in pulp markets towards high intensity private plantations (Dauvergne and Lister 2011). The AP Forest department does not even harvest all of the eucalyptus it plants when it reaches maturity, indicating a lack of demand for eucalyptus from government forests.

weak in most states (see sources cited above for reviews). The situation in Andhra Pradesh is reportedly better, due in part to the dominance of fast growing *Eucalyptus* which provides economic harvests within 7 years, and in part to greater commitment by the forest department to “Community Forest Management.” However, the evidence from Andhra indicates that benefits to the poor from CFM come from specific pro-poor spending, not from tree-planting itself (Rossi 2007; Bandi 2009; Sustainable Development Department 2010). Money earned from the sale of *Eucalyptus* by JFM committees usually is spent on community improvement projects which do not necessarily benefit the poor, particularly since JFM committees are prone to elite capture (ibid for Andhra Pradesh. More broadly, see Agarwal 2010). For many of the rural poor in forest areas, the opportunity to increase their agricultural land – potentially through the clearing of forest – or to supplement their income through illegal harvests of valuable bamboo and timber products may be far more appealing than any small increments to their income through improved forest quality (Baviskar 1995; Nagendra et al. 2006).

5.3.2 Theoretical Explanation #2: Rent-seeking bureaucrats

The observation that tree planting alters species mixes in ways that may be economically desirable suggests a second explanation for tree planting: bureaucratic rent-seeking. There are three possible routes such rent-seeking might take: budget maximization, increased commercial throughput, or corrupt activities, and in this section I will examine each of these explanations separately.

First, tree-planting might be a popular program because it enables the forest departments to increase their budgets, an argument similar to Niskanen’s (1971, 1975) “budget-maximizing bureaucrat.” In this explanation, the benefit of increased budgets to a department, or to an individual bureaucrat is not an increased salary, but increased power and prestige due to handling more business. Although Niskanen’s approach to modeling bureaucratic behavior based on

budget maximization has not fared well in subsequent empirical tests in the context for which it was designed (Brehm and Gates 1997; Meier and O'Toole 2006b, 2006a), it does appear to have some validity for explaining this case. In Andhra Pradesh the forest department has been successful at obtaining funding from a number of government schemes, including the National Rural Employment Guarantee, for funding tree planting. At least some in the department in Andhra Pradesh seem to feel that their department benefits by having increased funding from these and other schemes, which they also see as a way to increase their positive impact on rural life. Maharashtra's forest department has fewer such funding linkages, which may indicate that the existence of this incentive may vary between states for reasons that are not clear.⁷⁷

The second explanation is that tree planting by forest departments is driven by commercial needs. This would be similar to observations of forest departments in other countries. For example, between 1950 and 1990 the US Forest Service practiced forestry in a way that was heavily influenced by the politically powerful timber industry, which wanted the Forest Service to maximize the production of timber to serve private mills (Hoberg 2001; Clary 1986; O'Toole 1988; Wilkinson and Anderson 1985). Increased revenue from timber production in turn gave the US Forest Service greater influence on policy decisions at both local and national levels. India has a similar history of close linkage between forest department and commercial timber interests (Guha 1983; Gadgil and Guha 1995), however according to my interviews with businessmen involved in timber markets in Central India, the linkage has faded, with pulp being supplied primarily on private lands, and timber predominantly coming from

⁷⁷ A possible explanation is that the greater wealth of the highly industrialized state of Maharashtra enables it to give higher and more stable funding to government departments, while in relatively poorer Andhra Pradesh, the department needs to actively seek out funding. This is speculative.

imports from southeast Asia and Africa.⁷⁸ Although many of these business people still buy some material locally, they find that the quantity available in central India is too small to meet demand, and are thus focused on other sources.

Although the timber may no longer be as valuable to local industry, commercial activities may still play an important role in enhancing forest department power. A senior official responsible for supervising implementation of Joint Forest Management programs in Andhra Pradesh, when asked why so much *Eucalyptus* was being planted in JFM areas, replied that the advantage of *Eucalyptus* in Joint Forest Management was that the rapid harvests (new *Eucalyptus* clones grow to marketable size in 7-8 years and then regenerate from the rootstock for 2 more harvests at 4 year intervals). Assured markets meant that the villagers involved in JFM would realize a fairly rapid return from the program, and thus stay engaged in helping protect the forest (interview with informant #5, December 6, 2010.) This may explain some of the motivation for planting *Eucalyptus*, but many other kinds of trees are planted without having such a clear motivation. Furthermore, I observed that in parts of Andhra Pradesh the *Eucalyptus* plantations were not being harvested as scheduled because forest officers feared that if they cut the trees farmers would immediately encroach the lands. If trees are planted but never harvested, they cannot bring commercial benefit to the department, and thus, while the *Eucalyptus* explanation may explain a small amount of planting activity, it is not sufficient to explain all of it.

The third theory, which many in India would find plausible, is that bureaucrats plant trees because it enables them to earn money privately through corruption. Kickbacks and bribes are the norm in much Indian government contracting, and the amount of money bureaucrats can earn

⁷⁸ This is also consistent with global trends in timber markets in which India is a small player. India's largest forest products company, Ballarpur Mills, based in the study region, has recently entered the top 100 global forest products companies with its purchase of several companies from Indonesia and Malaysia (Dauvergne and Lister 2011).

from such corruption can be quite large (Wade 1982a, 1982b, 1985). However, tree plantations are not as lucrative areas for graft as other forest department activities, such as timber harvests, law enforcement, and contracting for the building and maintenance of roads and other facilities. The department raises all of its own trees in departmental nurseries, and plants them, hiring locals as laborers. Without contractors, kickbacks are limited, although local officials may still skim money off of laborers' wages. Outcomes – the quality of seedlings in the nurseries and in the plantations – are relatively easy to observe, making monitoring easy (as opposed to the roads and irrigation canals described by Wade, where poor quality materials could easily be hidden). This easy monitoring makes it more difficult for officers to directly pocket money. While forest officers can earn some bribes from laborers who want to be hired, for those wishing to make money, there are more bribes available in illegal timber harvests, land encroachment and other activities related to law enforcement. Because forest officers are rotated frequently and trees take a long time to reach saleable size, it seems highly improbable that they would plant trees in expectation of earning profits from illegal harvests many years down the line. Thus, while a desire to earn some bribes may play a small role in plantations, it appears unlikely to be a major driver.

5.3.3 Theoretical Explanation #3: Irrational Policy Making or The Garbage Can

The failure of these models to explain why foresters plant trees leads in other directions.

Given the apparent universal nature of the prescription to plant trees – which the forest department does to serve disparate goals such as reforestation, habitat improvement, carbon sequestration, participatory forestry, and employment generation, it might be reasonable to ask if there is any relationship at all between specific policy problems and the policy tool of planting trees. This description of Indian forestry fits Cohen, March, and Olsen's (1972) "garbage can model," in which "ambiguous goals, unclear technologies, and fluid participation," lead to loose

coupling in which solutions look for problems as much as problems look for solutions. This also seems to fit Kingdon's (2003) extension of the garbage can metaphor in his "multiple streams theory". Kingdon emphasized the ways that "policy entrepreneurs" connected their preferred solutions to problems. Cohen et al., Kingdon, and subsequent users of these frameworks (Zahariadis 2007) have all emphasized their utility for understanding policy adoption, and Kingdon and Zahariadis both look primarily at state and national level policy adoptions. The relevance of the framework to policy implementation is less clear, as the theory has not been used to explain the process of policy implementation, and is limited in its treatment of institutions (Schlager 2007). From a macro-policy perspective, multiple streams theory suggests that policy entrepreneurs may play a role in encouraging the adoption of tree planting as a solution to numerous policy problems, but the theory does not help us understand why they might advocate this solution, nor does it explain how compliance is induced among field staff during the process of implementation. Put in other words, the multiple streams theory provides a powerfully descriptive metaphor, but not a causal explanation, of the phenomena under question (Prindle 2012).

5.3.4 Theoretical Explanation #4: Resilience/Robustness

Another way of viewing the persistence of plantations is through the lens of resilience theory. Resilience theory was developed by ecologists trying to understand stability in dynamically fluctuating ecosystems (Holling 1973; Gunderson and Holling 2002). In a classic illustration, Wisconsin lakes maintain stability in two very separate states (clear water – oligotrophic or turbid water – eutrophic) and once in one state, can withstand a great deal of fluctuation in pollutant input without changing to the other state (Carpenter et al. 2001). The forest department seems to be a resilient agency, able to adapt its core practice to serve multiple needs, and thus survive in an ever-changing environment. A similar model has been applied to

understanding the organizational rigidity of forest management agencies in the US (Beier 2011) with some success, but this success is limited by the failure of the ecologically derived models to incorporate the complexities of humans conscious efforts to design the world around them (Carpenter et al. 2001; Andries et al. 2004). Andries et al. suggest use of the engineering term robustness to emphasize “the cost-benefit trade-offs associated with systems designed to cope with uncertainty,” however, the robustness perspective has not been applied to the study of large bureaucratic organizations, and the current operationalizations seem to improve little on resilience theory. While Beier is able to demonstrate that forest management in southeastern Alaska exhibits resilience to change in ways consistent with the resilience metaphor, he is unable to explain how these macro-scale patterns emerge from the interactions between stakeholders. A seemingly related literature in public administration focuses on organizational change (Fernandez and Rainey 2006), but has little to say about the causes of stability, except inasmuch as stability hinders change. As is the case with the multiple streams theory, it is thus difficult to use resilience theory in more than a metaphoric way to generate predictions about how bureaucrats will behave in complex policy environments.

The missing causal mechanism in the theories of multiple streams and resilience is an understanding of the ways that individual choice is shaped by institutions across time to create stable patterns of organizational culture. As I will show in the following section, individual decision-makers choose tree planting for a variety of reasons: it is familiar and requires no major re-tooling, it is appealing to political and administrative superiors and donors (and is frequently required by them), and it fits a certain ideological bent common in the forest departments, and emphasized in their training, which sees orderly stands of trees as the essence of a good forest.

The construction of a theory of individual choice within the highly constrained environment of a bureaucracy has proved difficult. Rational choice approaches have emphasized a principal-agent model of organizational politics which has yielded great insights into organizational behavior (Miller 2005), but has been widely criticized for their unrealistic behavioral assumptions and lack of attention to the complexity of values held by bureaucrats (Brehm and Gates 1997; Meier and O'Toole 2006b, 2006a), as well as their inability to model the complex multi-actor situations that bureaucrats face (Worsham et al. 1997; Meier and O'Toole 2006a). An alternative approach to individual choice within organizations builds on the Institutional Analysis and Development framework (Ostrom 2005; Ostrom 2007; Poteete et al. 2010) to model organizations as a “network of adjacent action situations” (McGinnis 2011b) in which boundedly rational actors make decisions subject to institutional constraints repeatedly across time, which in turn shape those actors’ values as they learn about their environment (Arnold and Fleischman 2012), in an approach similar to that followed by North (2005; North et al. 2009) to understanding how institutions and organizations shape cultural values.⁷⁹

This paper builds on the theory institutionalized incentives to construct a specific theory of individual action within constrained environments which explains the observed outcomes. I argue that the process that leads to tree planting begins with the inculcation of a core set of values in forest department officials during their initial training. These values lead foresters to view forestry primarily as a profession devoted to growing trees, while deemphasizing the

⁷⁹ One reader of this paper argued that the IAD framework treats values as exogenous. My argument here is that while the values that contribute to an individual actor’s decision making in any given context are exogenous to that action situation, networks of adjacent action situations shape individuals values. Individuals develop values through repeated interaction with others in constrained environments, and stable sets of values that result from stable institutions within organizations can be described as an organizational culture. This argument is essential the same as that made by institutional economists about the origins of values and preferences (Bowles 1998; Henrich et al. 2004; Bowles 2009; North 2005; North et al. 2009), and I believe it improves on theories of a “logic of appropriateness” (March and Olsen 1989) or “governmentality” (Foucault 1991) in being more explicit about the origins of such behaviors.

conceptual tools and practical skills that would enable them to see other aspects of forestry. Because training and socialization limits outside influences, it is fundamentally conservative, maintaining the focus on growing and harvesting trees through several generations. These values lead foresters to propose and work harder on certain kinds of schemes and, since forest officers also play a major role in educating the general public about forestry, the values of foresters influence the broader values of society. While this training creates a favorable environment for tree-planting, other programs that are favored by training are less well implemented, indicating that training is an incomplete explanation. Tree planting is additionally favored because the transaction costs of implementation and accountability are lower than for many other activities. Unlike many other forest activities, tree planting creates very measurable outcomes, and therefore money spent on tree planting can easily be accounted for. The top-down accountability issue is important because as in many street-level bureaucracies (Lipsky 1980), it is very difficult for forest department superiors to insure compliance from their subordinates. Thus, subordinates receive detailed instructions for establishing plantations, and are closely evaluated on their ability to follow through on those instructions. When this combines with their ideological training, there is little wonder that most tree planting programs are carried through rather effectively. The next sections describe this process in detail.

6.4 Institutionalized incentives for tree planting in the bureaucracy: from training through policy-making to implementation

6.4.1 Professional training and values

As described earlier in this dissertation, Indian forest departments have a high level of internal cohesion and shared values among their employees. The metaphor of resilience/robustness would seem to apply to this internal cohesion and strongly shared values which have persisted in spite of dramatic changes in the operating environment of the forest

department dating back at least to independence nearly 70 years ago. Yet simply describing these practices as resilient does not explain why they persist. They persist because the system has certain attributes that make it resistant to change. These include a uniform system of training which limits the extent to which new recruits are exposed to new ideas, a system of internal organization which favors shared experiences and limits exposure, and a comprehensive internal ideology which is able to account for challenges in the environment.

Although officers are not recruited in a manner that provides strong self-selection for interest in forests, the department is able to take advantage of this to inculcate a core set of common values during training. Training courses are run by the forest departments, and nearly all of the instructors are senior forest officers whose own knowledge of forestry derives from their seniors, as opposed to from academic study or scientific questioning. When the trainer's knowledge is derived from their trainers' knowledge, there are few incentives to update curriculum. Hannam (2000a) reported that in the mid 1990s courses at the flagship Indira Gandhi National Forest Academy were still using texts written in the 19th century.

This initial training provides a strong foundation which is further reinforced through years in the service. Forest officials are hired when young,⁸⁰ and thus most trainees undergo their professional course at a formative point in their lives: field officials attest to the fact that the values and perceptions of their professional identity learned at the academy shape their self-perception of their jobs. A retired officer told me, "People like me, coming from urban environments... I think I saw a forest first only after joining the Forest Department." He explained to me that being selected into the elite Indian Forest Service had created "a self-generated expectation" that he should perform at a very high level. Furthermore, he had been "indoctrinated" to believe that forest conservation was important: "If you see illegal cutting it

⁸⁰ Current rules restrict most hiring to people under 30 years of age. Few leave the department after initial hiring.

makes your blood boil" (interview with informant 127, August 17, 2010). Although he had known nothing of forests before joining the service, his training and work experience had shaped his attitudes such that, 35 years later, he now acted and talked like a professional forester. Like most government employees in India, few forest officers leave the service after joining. As was the case for the US Forest Service described by Kaufman (1960), frequent transfers mean that officers develop strong loyalty to the department and profession, rather than to other local ties. This is reinforced by housing - most officers live in government provided housing, most commonly in a "forest officers colony" where their neighbors are also foresters – and by the limited networks available of similarly educated people in the remote rural sites where most forest officers spend much of their career.

This shared professional identity manifests itself in a set of values that are almost universal among forest officers, even though they are highly controversial in broader audiences, and provide a comprehensive worldview for foresters to interpret their environment, and from which they can derive policy prescriptions. Foresters favor centralized state management over forests because they believe that their technical expertise is necessary for successful forest management, and because they are skeptical of the capacity of local communities to protect forests on their own,⁸¹ even though there is a vigorous debate about the potential and capacity of local communities to manage forests (for radically different viewpoints about community potential, see for example Kothari 2009; Tofa and Hiralal n.d.). Forest officers believe that forests are necessary to protect water supplies, even though there are no scientific studies from central India that would support this widely held belief, and scientific studies from elsewhere in

⁸¹ The strength of such skepticism varies, with some believing that Joint Forest Management programs might eventually enable local communities to act more independently, while others believe that JFM is a waste of time. I never interviewed a forester who believed, as many activists apparently believe, that turning forests over to local communities without extensive forest department supervision would lead to improved management.

India (Meher-Homji 1980; Meher-Homji 1991) and around the world (Pielke et al. 2007; Vanclay 2009; Locatelli and Vignola 2009; Ellison et al. 2012) find that the effect of forests on water balance is highly context dependent, with forests frequently contributing to decreased water yield. In spite of a wealth of recent scholarship arguing that colonial era forestry was driven primarily by commercial and state-making, as opposed to scientific interests (Guha 1983, 1989; Gadgil and Guha 1992; Rangarajan 1996b; Sivaramakrishnan 1999, 2008, 2009; Saberwal 1999; Vasan 2006), they believe that the introduction of planned management by British foresters inducted an era of rational “scientific” management, which is regarded as a highly favorable legacy.

Tree planting fits well into this forester worldview. The colonial “scientific” forestry legacy draws on a Germanic forestry tradition which emphasized replacement of diverse forests with uniform stands of trees grown in straight rows to maximize yield of timber (Scott 1998; Lowood 1991). The supposedly scientific plans of the colonial forest department emphasized the measurement and maximization of timber yield, primarily focused on a small number of high valued species, with little attention given to measurement or valuation of other aspects of the forest (D'arcy 1898; D'arcy and Caccia 1910), even values such as watershed protection which played a key role in foresters' public justifications for their work (Saberwal 1999). Today's working plans in Maharashtra and Andhra Pradesh devote substantial energy to measuring and improving the “crop”, i.e. the timber trees, but very limited information is available regarding other valuable forest outputs – no surveys are conducted of non-timber forest products or wildlife, for example.⁸² There is no measurement of ecosystem services such as watershed

⁸² In the many working plans I have read, information about non-timber forest products is limited to measurements of quantities sold through official channels, and information about wildlife is confined to a list of large mammal species present, occasionally combined with cursory information on abundance for a few charismatic species such as

protection, perhaps because foresters assume, based on informal observations or widespread prejudice, but not on any systematic evidence, that forests improve water tables. This bias is not confined to working plans, but also exists in training and education, where substantial energy is devoted to training foresters to measure trees, but little to none to surveying other aspects of the forest (Goyal 2004b, 2004a, 2004d, 2004c; Indira Gandhi National Forest Academy 2010; Government of India 2007b). Based on these aspects of training and daily professional work, that which is not measured may be valued in theory, but in practice it is the presence of trees, not their complicated ecological and social functions, which a forester comes to see as his job.

5.4.2 Translating values into policy direction:

As described in earlier papers in this dissertation, land management activities, such as tree planting, attract little interest from high level politicians in India. As a result, a substantial amount of decision-making about tree planting is left to senior forest department bureaucrats.⁸³ These senior Indian Forest Service officers have worked their way up from the forest divisions into the senior ranks, and thus their experience and knowledge of forests is likely to be deeply colored by the values described in the previous section. Although I have argued that the “garbage can” and “multiple streams” metaphors are apt descriptions of the lack of logical relationship between tree planting and forest department goals, forest officials’ values lead them to perceive a logical relationship. They thus act as policy entrepreneurs (Kingdon 2003) to propose tree planting programs as solutions to key problems. While we should expect them to make decisions that emphasize tree planting over other activities based on their training and values, other aspects of their work which their values reinforce, such as forest law enforcement,

tigers. This is, in fact, all that is required by the current National Working Plan Code (Government of India No date).

⁸³ As discussed earlier in this dissertation, this is particularly surprising when we consider the vast sums of money spent and vast land area affected by tree planting programs.

are not well implemented and receive little attention in the policy-making process. There are three other factors, international donor pressure, legibility of outcomes, and territorial control, which make forest officials even more inclined towards proposing tree planting as a solution to diverse policy problems. Of these, international donor pressure played an important role during the 1980s and 1990s, but seems much less important now. On the other hand, their participation in international epistemic communities is a factor that may lead them away from an emphasis on tree planting towards broader ecological understandings, and may help explain occasional policy shifts away from tree planting.

As described above, programs funded by international donors have played a major role in Indian forestry since at least the late 1970s. Available project documents indicate that there has been a major focus on tree planting activities in international donor funding of both social forestry and joint forest management schemes in both Andhra Pradesh and Maharashtra (Canadian International Development Agency 1991; Euroconsult et al. 1992; Principal Chief Conservator of Forests Andhra Pradesh 1993; Agricultural Operations Division 1994; Sector and Thematic Studies Group: Operations Evaluation Department 2002; Sustainable Development Department 2010; Misra and Bhatty 1990; Agricultural Operations Division 1991; The World Bank 2000). It is difficult to tell from the public record whether the focus on tree planting derived from the proposals of the forest officers, who I have shown had a preference for these types of solutions, or whether it derived from the funding agencies. The overall influence of international funders on the Indian forest sector is unclear, and it is probably less than in many other developing countries due to India's relatively low levels of development assistance. Either way, the funding agencies have been eager to endorse, fund, and provide technical support for tree planting programs, and have actively participated in the construction of these programs as

solutions to problems of rural poverty and ecological degradation. There also appears to be an evolution in the kinds of tree-planting funded, with an initial focus on social forestry programs, shifting towards joint forest management, shifting towards disengagement in the forest sector. At the time of my field work, neither of the states I studied were receiving or actively pursuing international funding for forest sector programs.

One World Bank official described to me how the agency had initiated its involvement in the forest sector in the early 1990s with a hearty endorsement of forest department plans, and had slowly learned over the course of its involvement with JFM that forest programs did not effectively meet World Bank goals. This process culminated in a published report which was highly critical of key Indian forest policies and the unwillingness of forest departments to address what Bank analysts saw as key sectoral reforms (Milne et al. 2005). After this, the World Bank backed out of all involvement in the forest sector except for the Andhra Pradesh Community Forest Management Project, which they continued to see as a model project (Sustainable Development Department 2010) (interview with informant #50, July 30th, 2009). Interestingly, even this last World Bank forestry project continued the emphasis on tree planting.⁸⁴ The World Bank retreat from the forest sector has not negatively influenced forest sector financing in India. The gap left by the departure of the Bank has been filled primarily with increased central government funding, along with grants to some states from the Japan Bank for International Cooperation – neither of which have pressed particularly hard for the kinds of reform the World Bank pressed for in its 2005 report. The evolving international climate regime (i.e. REDD+) is likely to provide a further increase in funding sources and availability for tree planting efforts, and prominent Indian foresters interpret the potential for REDD funding, as well

⁸⁴ 62% of project costs were designated for “forest management,” (Sustainable Development Department 2010 p. 29), and most activities listed under “forest management” were plantations (*ibid*, p. 41).

as the existing “Greening India” campaign, as major sources for new funding for tree planting (Rawat and Kishwan 2008; Kishwan et al. 2012).

Tree planting is not the only activity funded by the international funders. In fact, my interviews and review of project documents find that the international funders take pride in pushing the forest department to greater emphasis on the pro-poor aspects of their work (although the numbers quoted above indicate that the bulk of their funding goes to tree-planting). However, international funders and senior forest officials share a similar reason for emphasizing plantations: as described above, they create legible outcomes. It is difficult to quantify the contribution of a JFM project towards the achievement of goals such as ecological integrity or alleviating rural poverty, and it is equally difficult to evaluate whether distant field staff have worked diligently towards achieving these goals. It is, however, much easier to evaluate whether a certain number of trees or a certain land area were planted, and reports of planting can be checked relatively quickly by visiting evaluation teams.⁸⁵ These counts of seedlings grown and area planted provide a vital record for high level policy makers and funders, allowing them to hold their subordinates to account for the money they have been given.

Tree planting also has an advantage to forest department policy-makers of being a legible indicator to other actors – particularly competing government departments – of forest department power. The large areas of highly degraded forest – often little more than closely grazed grasslands with occasional patches of scrubby trees – are prime targets for conversion to other land uses. Local villagers and revenue department⁸⁶ authorities see these lands as potential agricultural lands, following a long conflict between revenue and forest authorities over the

⁸⁵ In fact, I was told by officers in the Maharashtra Forest Department evaluation wing that their only regularly scheduled evaluations were of plantations (Interview with informant 148, September 20, 2010, interview with informant 126, September 18, 2010).

⁸⁶ The revenue department, responsible for collecting land revenue, has been the primary regulatory authority of agricultural lands since the 19th century in India.

appropriate uses of such lands. Other departments see their potential for other kinds of development – urban land uses, hydroelectric projects, dams, roads. Although forest lands with trees on them certainly can be converted to other uses, it is easier to argue that land that is lying vacant should be converted to other uses. Having trees of any kind present provides a vivid visual reminder of territorial control, one that senior foresters are eager to reinforce on their departmental rivals.

Senior forest policy makers, however, also belong to broader international epistemic communities which influence their thinking in ways that are less favorable to tree planting. Indian Forest Service officers are given regular opportunities through the course of their career to train overseas, or to participate in training seminars by international visitors to India. A few pursue doctorates in various fields, ranging from anthropology and geography to ecology, forest economics, and engineering. Many also attend international conferences – as guests, as scholars, and as policy-makers. At such events, the senior management of the forest departments are exposed to a much broader array of views of forestry than those that dominate within the establishment. It would be difficult to summarize the influence of this international exposure on the department. In many cases, foresters travel overseas with the goal of improving existing practices, and invite experts who share their prejudices – thus, Andhra Pradesh's sophisticated nurseries for raising *Eucalyptus* clones in temperature controlled mist chambers are an example of a technology imported from overseas experts – but so are the increasing number of senior forest officers who are skeptical of the focus of tree planting, and who may have contributed to a focus in the most recent national policy documents on restoration of diverse ecosystem values, including not only forests but also grasslands and other habitat types (Ministry of Environment

and Forests 2010), even if there are still highly placed foresters who see this policy as being about planting more trees (Kishwan et al. 2012).

5.4.3 Translating policy direction and values into choices in the field

Given the emphasis I have given on tree planting as a policy directive and a normative value, it may seem to be obvious that trees will get planted. Field officers are told by their superiors to plant trees, and they are taught to believe that tree-planting is good. But as I have shown in previous chapters of this dissertation, field officers in the forest department do not necessarily do their job, even when their superiors tell them to do it and they believe that it is normatively correct. Other policies that are clearly established and normatively supported – for example, prohibitions on unpermitted timber harvest - are not well implemented. There are two important differences between tree planting, which is effectively implemented, and forest law enforcement, which is not implemented effectively.

The first difference between establishing a plantation and enforcing a forest law is that the establishment of the plantation is an observable and countable measure that can be used to assess an officer's effectiveness.⁸⁷ Officers above the rank of Range Forest Officer rarely venture far from their vehicles into the depths of the forest to observe if illegal timber harvests are occurring.⁸⁸ Thus, their field tours consist primarily of visits to plantations and nurseries where work is actively occurring. For an experienced forester, it is easy to see whether the seeds

⁸⁷ The law enforcement equivalent is a charge booked, case filed, or contraband material seized. False charges can be booked, and the criminal justice system moves too slowly to use prosecution success as an outcome. Even in the case of seized contraband, the most substantive sign of crime, it is possible, and reportedly common, for forest guards to seize other material unrelated to the crime in question. Since most rural homes are built with wood that is not legally documentable, virtually anyone is a potential target for seizure if a forest guard needs to meet a target. In any case, the actual goal (stopping crime) is not directly related to the number of law enforcement activities engaged in. An officer with a law abiding beat will have difficulty meeting his target, and thus targets for law enforcement activities run the risk of introducing a perverse incentive for forest guards to encourage crime so that they can meet their law enforcement targets.

⁸⁸ And even beat guards, the lowest ranked staff primarily tasked with field patrols for law enforcement purposes, tend to stay on the paths their motorcycles can follow.

in the nursery were planted early enough to insure sufficient growth by the onset of the rains, and it is easy to see whether the seedlings have been planted properly. I accompanied supervising officers – range forest officer, divisional forest officers, and assistant conservators of forest, on many inspection tours, and inspections of seedlings and nurseries was possibly the most common activity. Thus, while it is difficult for a divisional forest officer to detect deviations in law enforcement, it is easy to detect deviations in plantation activity.

The second difference between plantations and law enforcement is that tree planting is a simple technical problem, while law enforcement is a complicated social problem. Technologies for establishing nurseries and planting trees are well known in the forest department. Planting and nurseries are generally done under the direction of the forest section officer (one rank higher than a beat guard), with the close assistance of the beat guard and supervision from the range forest officer. If these officers show up and implement established procedures, the trees will get planted. Although some of the divisional forest officers I interviewed believed that some of their field staff did not even show up (except during inspection tours), showing up was not likely to fundamentally disrupt their lives. On the other hand, forest crimes are embedded in strong local social networks and institutions. Forest guards live in the communities where they enforce laws, and if they do their job and arrest people who harvest forest products illegally they risk alienating themselves both from their neighbors and from local power brokers who frequently are invested in illegal forest product markets, and may possess greater political and social power than forest department supervisors (Vasan 2002, 2006; Robbins 2000b). Furthermore, in many cases it is the forest officials themselves who are earning money from the illegal markets.

Tree plantations, however, are frequently unsuccessful at reestablishing forest cover. The reason is that a planted tree plantation quickly becomes a law enforcement problem. Budgets for

tree-planting include payments for weeding and other maintenance activities for the first three years, after which the trees are assumed to be well-established (although some officers complain that plantations were more effective in the past when maintenance was provided for 5 years). Some plantation budgets also provide for hiring daily wage laborers to guard the plantation from grazing animals during the first year, and JFM plantations are supposed to enlist the cooperation of the local community in protecting the forest. However, after 3 years, protecting the young plantation from grazing animals, villagers looking for firewood, or, as the plantation grows older, illegal harvest for use as poles or pulpwood, falls to the normal forest department law enforcement, and is subject to the problems described above. Unfortunately, the department does very little formal ecological monitoring of its older plantations – the only evaluations I could find, in which the Maharashtra Forest Department's statewide evaluation wing reported modest success from a random sample of plantations in Maharashtra (Maharashtra Forest Department Evaluation Wing 2006, 2009, 2010) only examined 3rd year plantations. While data indicating increased forest cover due to increased plantations (Forest Survey of India 2009; Andhra Pradesh Forest Department 2010a, 2010b; Puyravaud et al. 2010a, 2010b) indicate that some tree plantations are successful, these reports do not separate private and government plantations, nor do they provide evaluations of the rate of success in plantations. My own informal observations from travelling around central India with the forest department for nearly a year were that a high percentage of plantations were unsuccessful in the long-term.

5.5 Discussion & Conclusion

The purpose of this paper was to explain why foresters plant trees. I have argued first and foremost that while tree planting may be an effective means of achieving certain policy goals, the forest department does not plant trees because of logical relationships between stated policy goals and the practice of tree planting. Tree planting programs have tenuous relationships

with the two most widely cited policy goals for Indian forest policy and for tree planting programs – poverty alleviation and ecological integrity. Because tree planting is an expensive activity with significant social and ecological impacts, because a wealth of evidence indicates that tree-planting often fails even to establish tree-cover, and because international funders are poised to greatly increase the amount of funding available for international reforestation efforts, it is important to understand why tree planting has received such an emphasis in reforestation efforts in India.

Two theoretical perspectives appear to fit the pattern of tree planting in India. First the garbage can/multiple streams theory describes how policy solutions and policy problems are unrelated until policy entrepreneurs bring the two together. We can observe that although there is no logical relationship between tree-planting and policy problems, entrepreneurs, in this case primarily senior forest officials, but also international donors and occasional politicians, repeatedly propose tree planting as a solution. But this theoretical lens does not explain why senior forest officials repeatedly propose tree planting, as opposed to alternatives such as increased funding for forest law enforcement, which would enable more effective closures of the forest to facilitate natural regeneration, or increased funding for community development, which might aid the department in convincing villagers to protect their local forests. The second theory, resilience/robustness, describes how systems can maintain stable states for long periods. We can see that Indian forest departments have exhibited an enormous amount of organizational continuity in spite of massive social and political changes dating back to independence nearly 70 years ago. We can also see that since tree planting was introduced on a large scale in the 1970s, it has been used for numerous causes, and thus seems to have become a part of the departments' resilient practices. But as in other recent applications to organizations (Beier 2011), this

theoretical lens offers only an analogy to biological and chemical processes that are well understood but not similar to human interactions. It does not explain why organizational practices are resilient. As such, resilience and garbage can theories are descriptive metaphors (Prindle 2012) and not causal explanations (King et al. 1994).

My use of an institutional framework allows me to explain why foresters plant trees. The reason foresters plant trees, as I have shown, is that there is a system of institutionalized incentives that run from their training, through policy-making, to field-level implementation, which reinforce tree planting. Foresters are trained to possess values which are manifested in their policy-making and policy-implementing roles. In the realm of policy-making, they experience little political interference, while their interest in international funding, legibility of outcomes, and territorial control reinforce their tendency to focus on tree planting. Again, in the implementation stage, the lack of political interest in tree planting combines with its high degree of legibility and technological simplicity to insure that tree planting is carried out largely as planned. The observation that forest officers do seem to be influenced by a desire to increase departmental budgets and make political allies through tree planting is consistent with this broader institutional theory.

It has not been my intent to show that tree planting is bad. It can serve important purposes. High intensity tree plantations can be an important source of wood products for industry, although in India the success of private farmers in this sector seems to indicate that there is little need for such plantations on government land.⁸⁹ Carefully planned restoration plantings can stabilize areas vulnerable to erosion, increase biodiversity in areas subjected to decades of overharvest, and reestablish forests in areas in which seedbanks and rootstocks of

⁸⁹ Since 1998 China has followed a policy of eliminating all timber harvests in natural forests, while encouraging plantations. This policy, along with liberalization of markets for imports and exports, has been associated with China's rapid rise to prominence in international wood products markets (Dauvergne and Lister 2011).

forest species have been exhausted. But this is not the kind of tree planting which the forest department actually does in India.

International funders are preparing to greatly increase the amount of money available for forestry in developing countries, through the evolving regime to address climate change through reduced emissions from deforestation and degradation (REDD) (Parker et al. 2008; Irawan and Tacconi 2009; Phelps et al. 2010; Kashwan and Holahan 2011; Markus 2011; Rosendal and Andresen 2011; Huettner 2012). Government forest agencies are likely to play an important role in this process, and given recent history, it is probably safe to assume that Indian forest departments will try to use money to plant trees. International policy-makers, aware of the history and incentives described in this paper, should be very cautious about funding such programs, as they are unlikely to achieve the goals of REDD, and may have perverse consequences.

At the same time, the enthusiasm with which the forest departments carry out tree planting may provide useful lessons for future policy design. Policies which are consistent with departmental values, reinforced in training, receive support for international or domestic funders, help the department compete with other interests for control of territory, and which provide clear and legible performance evaluation mechanisms which enable accountability are more likely to be implemented well. Those interested in improving forest policy in India should take note to engage creatively with these problems. Changing the content of training is accessible to many senior forest officers who have an interest in reform (and in fact, several of the officers I met who are in charge of training at various levels are taking positive steps in this direction). International funders who make it clear what they are interested in funding may find at least some departments interested. For example, I observed that conservation organizations such as

the Wildlife Protection Society of India and the World Wildlife Fund have found willing cooperators with forest officers in and around the Tadoba-Andheri Tiger Preserve in Maharashtra for programs that increase patrols, investigate and catch poachers, and provide compensation to victims of wildlife damage to crops and livestock. NGOs and social movements that provide political support for reforms may also achieve similar success. Finally, developing accountability mechanisms for more complex technology may be the most difficult challenge for the department, but ultimately the most rewarding, as it would enable the department to reward those officers who achieve policy goals.

Chapter 6: Conclusions & Policy Recommendations

What have we learned about how government forest officials and their interactions with other actors contribute to failures of forest policy implementation in Central India? In this concluding chapter I will review the evidence presented in the previous four chapters, and examine the implications for the design of forest policy in the future.

6.1 Summary of the major findings

In the introduction I showed that the role of government officials in implementation has been under-theorized and understudied in the context of developing countries' natural resource policies, and in Indian forest management in particular. Drawing on literature from studies of public administration in the developed world, I suggested three primary avenues of influence on bureaucratic decision-making that required exploration: the influence of the organizational governance system, external political influences, and the values and internal characteristics of the bureaucrats themselves. As I have shown, each of these variables has an important influence on the behavior of bureaucrats, and each plays a part in explaining the failures of forest policy implementation in Central India.

Across all of the chapters of this dissertation I have shown that the forest bureaucracies I am studying are not effective at implementing many formal policies, but that there are some exceptions. Working through these chapters, I have shown that Joint Forest Management has been implemented vigorously in Andhra Pradesh, and that tree planting programs of various kinds are widely carried out. Neither of these programs have achieved expected outcomes, and have thus come in for criticism. But it is important that we pay attention to the factors that have led to these qualified successes. At the same time, significant failures are visible. Although total forest cover in India has stabilized (Forest Survey of India 2009), natural forest continues to be

lost at a rapid rate with significant consequences for biodiversity (Davidar et al. 2010; Puyravaud et al. 2010a, 2010b), while poaching of major species continues (Narain et al. 2005). Basic forest law enforcement is weak (Robinson et al. 2010) and illegal activities are rampant, including illegal logging. Social activists continue to see forest departments as an impediment to the social welfare of rural communities.

A major reason for forest department failure that is stressed by many other authors is that laws are often a poor fit for the actual environment. Forest officers also tend to stress the difficult conditions under which they work. This is true, and some problems are clearly related to poorly designed laws, conflicted property rights, and difficult working conditions. At the same time, forest departments are not effective at implementing policies that are uncontroversial and seem possible to enforce. For example, while critics contend that forest laws excessively restrict local forest uses, few support large-scale illegal logging. Unlike many important forest countries in the developing world, where forest guards are responsible for vast areas which they cannot reasonably be expected to visit in their daily work, the Indian forest departments have a large policing force deployed in the forest to prevent illegal logging, yet illegal logging is a common problem.

Theories of organizational effectiveness that focus on the structure of organizations would seem to predict that the Indian forest departments would be effective policy implementers. Kaufman's (1960) studied an organization remarkably similar to the contemporary Indian forest departments, and found it to be highly effective. Differences in the systems for hiring, training, promoting, and transferring officials, as well as in the ways that information moves up the chain of command appear to have some influence on poor performance, but are insufficient to explaining the observed poor outcomes.

Kaufman largely ignored the political environment outside of the US Forest Service, but fieldwork showed that political influences were crucial in understanding poor outcomes. There are a diversity of political influences on forest officials in Central India. Classifying political influences by their goal and the political power of the influencers relative to the officials they are influencing enables me to differentiate those political influences which have detrimental effects on policy implementation from those that have beneficial effects. I find that political influences which aim to achieve programmatic goals have beneficial effects, but the more common political influences are those which aim to achieve particularistic goals. These are particularly damaging because many of those who benefit from these influences are people involved in illegal harvesting of forest products. This finding contrasts with the focus of much policy discussion in India on increasing bottom-up political influences, because I find that the direction of political influence is less important than its goals.

Political influences play an important role in policy implementation, but not all areas experience significant political influences. What influences decision-making in these areas? In Chapter 5 I examined tree planting, an activity which is subjected to very limited political influence, is implemented with enthusiasm, but fails to achieve policy goals. I show that the failure of tree planting programs is related to the interplay of formal incentives and values that foresters develop while working in the department. These blind foresters to the negative effects of tree planting, while encouraging them to do more, in spite of widespread evidence that they are failing to achieve their goals.

6.2 Theoretical Implications of the findings

In the introduction to this dissertation, I argued that understanding the role of forest bureaucrats in policy implementation was important for two reasons. First, it helps to explain

aspects of Central Indian forest policy which have not been fully explained using existing approaches, which have largely ignored the roles played by contemporary bureaucrats. Second, it enables theory building about the role of government officials in tropical forest management – a particularly important topic given the vast transfer of funds currently being proposed for tropical forestry under the evolving global regime for climate governance. In this section I will address each of these issues in turn.

6.2.1 Explaining the Case: the contribution of government official behavior to policy outcomes

Indian forest management has been studied rather extensively in the last two decades, however few of these studies have explicitly examined the behavior of government officials. Government officials are hardly the only important influence on policy outcomes. Underlying biophysical, social and economic conditions, historical processes and the distribution of property rights are all important factors in driving forest outcomes. While government officials play many roles in the state-centric Indian forest management system, they are particularly important because authoritative attempts to alter other variables rely on the ability of government officials to carry out plans. For example, decentralization programs such as JFM rely on forest department officials to allocate power to village communities, while programs to reform property rights, such as the Forest Rights Act, require government officials, including forest department officials, to validate local claims. I have shown in the preceding chapters that government officials are not particularly good at carrying out these kinds of activities. Recognition of these failings of government officials are a major reason why many social and environmental advocates in India call for increased local democracy in the management of natural resources

(e.g. Kothari 2009). Yet these calls do not answer the question of how to create such local democracy when the agency to carry out governance changes is so weak.

Forest officials make a significant contribution to the failures of forest policy. In this dissertation I have emphasized the ways in which forest officials fail to implement policies. Senior forest officials also play a key role in formulating policies at the state and national level, and many of these policies may be poorly formulated to start out with, an argument that goes beyond my focus here (see arguments in Pathak 1994; Springate-Baginski and Blaikie 2007). As I have shown, the problem is not that forest officers are greedy or unethical – some may be, but many try to do their best. Rather, the problem is that they operate in a political and organizational environment that mitigates against good governance in several ways. Political leaders pressure them to favor their cronies involved in illegal land and timber deals, while important decisions are hidden from public view by bureaucratic procedure and the rural people with the most at stake in forest governance lack the political power to engage. Forester training is locked into a narrow mindset which is reinforced through organizational incentives, such that forest officials invest great energy in activities with few benefits, but that are consistent with departmental values and easily translated into incentives for field officials. The result is a system that resembles highly functional bureaucracies – such as the US Forest Service of the 1950s studied by Kaufman (1960), but which enables those who are greedy and unethical, while hindering those who wish to improve the system.

6.2.2 Theory building about forest bureaucrats

Case studies can serve as the basis for developing new theories when they suggest new variables, relationships, or causal mechanisms (George and Bennett 2005). In spite of their importance in understanding broader forestry outcomes, there are few studies of forestry

bureaucracies in developing countries. This dissertation suggests that forestry officials can play an important role in determining outcomes, and thus should be the object of further study. It also points to several variables that are likely to be important across cases. I have highlighted the role of organizational structures, political influences, and bureaucratic values in the chapters three, four, and five respectively. The relationship between organizational structure and effectiveness is not clearly supported in this research. Indian forest departments are remarkably similar to historical organizations in the United States, yet much less effective. Using the limited leverage of the cases examined here, it is impossible to determine whether the differences are caused by differences in organizational structure. Further research on other variants of organizational structures would be necessary to tease apart these relationships.

The relationship between political influence and policy outcomes runs in a different direction than that posited by most other analysts. There has been a great deal of emphasis on increasing bottom-up accountability in forest management throughout the developing world, but the analysis here indicates that an emphasis on increasing programmatic, as opposed to particularistic, influences may be equally important. Both senior elected officials and grassroots political pressure can play an important role in improving the quality of forestry programs if they have incentives to act in the public interest, rather than lining their own pockets. Conversely, both types of actors can play a role in hindering implementation of policies if they are incentivized to pursue narrow private interests. Studies of forestry in developing countries have emphasized the desirability of democratization of forest management, but have largely equated democratization with direct bottom-up control (Ribot 2008). This study raises the possibility that other forms of democratization – such as increased political competition at higher levels of government – may also have beneficial effects on forest management. Although the relationship

observed in this case runs emphasizes the goals of political influences rather than the political power of its origins, it is consistent with previous studies which emphasize that forestry outcomes are the result of political struggles.

Perhaps the most interesting theoretical outcomes relate to the importance of ideology in determining forester behavior, and in turn, the importance of training in inculcating forester ideology into new generations of recruits. Recent debates in public administration in the US have juxtaposed bureaucratic values with political influences in explaining organizational outcomes (Meier and O'Toole 2006b, 2006a), but this research suggests that bureaucratic values are themselves endogenous to the bureaucratic process. Bureaucratic ideologies reproduce themselves through bureaucratic processes which are highly resistant to change. This has hindered the ability of the Indian forest departments to adapt to shifting political conditions, and explains many failures. Are similar processes important elsewhere? Evidence from the few other studies of forest bureaucracies in developing countries indicate that ideology may play an important role in structuring foresters' adaptations and mal-adaptations (see for example Kubo 2010 for Indonesia; Mathews 2011 for Mexico). Is this role stronger because of forestry's scientific & imperialistic heritage? And can we find evidence of this endogenous development of organization-based ideology in the kinds of agencies which Meier and O'Toole and the authors they critique study?

6.3 Policy recommendations

Throughout the course of my research, my interviewees expressed the hope that my investigation would shed light on ways that forest administration in India can be improved. It is well known that the policy advice of policy researchers is often ignored. Past research has shown that policy scholarship has the greatest impact in changing the way people conceive of problems

and solutions, rather than in the specific application of specific advice (Weiss 1977, 1989; Dunn 1991; George 1994; Weiss 2000; Court and Young 2003; Albaek 1989, 1995). Thus, it may be that the most important contribution this dissertation makes to practical problem solving is in providing new tools for those tasked with problem solving to think about the challenges facing Indian forest management. Much past research on Indian forest management has focused on problems of markets, property rights, and power mismatches, and thus policy recommendations have tended to focus on reforms in these areas. I do not deny the importance of these, but since these were not the focus of this research, I will not repeat them here. Furthermore, policy advice is frequently directed towards centralized decision-makers (Weimer and Vining 2005), but this dissertation has shown that a more diverse set of actors, including street-level bureaucrats and local politicians, plays a key role in determining the success and failure of policies. In this spirit, I offer four key lessons from this research that can be applied by diverse actors – ranging from central policy makers down to local forest officers, NGOs, and citizens.

The first lesson relates to the relationship between the creation of formal institutions and their implementation in remote rural areas. Much attention has been focused on creating programs which would increase the participation of local people in forest management, yet these programs have often fallen short, in part because local people often lack the power and influence to interact with the agencies on an equal footing. The result is that the policies end up primarily serving the agendas of the powers-that-be. While creating formal policies to involve local people may be an important step, it has proved to be an insufficient means of shifting the rural power balance. Some activists blame forest departments for this shortcoming, and, drawing on a long history of injustice, advocate for elimination or dramatic curtailment of the role of the forest departments in rural life. But the evidence presented here shows that the power imbalance is not

merely between forest administrators and forest dwellers, as has been suggested, but is a symptom of a wider power gap within society, of which the forest departments are merely an agent. Merely eliminating or curtailing the forest department will simply open up new avenues for exploitation. My research points in the direction of two alternative and potentially complementary approaches that could help make rural people's participation a strong positive force in Indian society: bottom-up political movements and top-down political pressure.

First, I found that where well organized, broad-based political movements exist at the grassroots level in the countryside, they have the potential to affect the way that government officials carry out programs, as well as to change the incentive structure for local politicians away from a clientelistic focus on particularistic privilege. In District MH2, in Maharashtra, government officials told me how active political movements changed the way they worked. Many of these political movements are young, and it is difficult to measure the effects of these movements on policy outcomes, yet my initial observations were promising. My focus was not on studying these political movements, and thus, I have little to say about what conditions might cause them to arise or be successful apart from what they told me about themselves. The leaders of these movements focused on the absence of outright state oppression (a serious problem in the many districts where the presence of Maoist rebels is used as an excuse to crush all civil society groups), the presence of articulate leaders (often outsiders or locals with extensive outside experience) and modest amounts of funding from outside of the immediate community, and a shared history of political organizing. Further research is needed to understand the origins and causes of success among such groups. Movements such as the one I observed have been studied elsewhere in India, but they remain rare, with most local organizations focused instead on serving other interests: a particular caste or religious group, a less political interest, or, in the

case of the Maoist movement that is influential in the region, the violent overthrow rather than the reform of the state. Whether conditions are conducive to their emergence and growth remains an open question.

The second alternative approach to empowering the rural poor points to politicians. As I have shown in this dissertation, politicians have a significant impact on the implementation of forest programs at the local level. Politicians frequently pursue particularistic goals for themselves or their allies, and this results in pressure on government officials that diverts them from working toward stated policy goals. But occasionally politicians are also pushed by electoral incentives to advocate for broader programmatic needs that serve the public, as I demonstrated in the case of Chandrababu Naidu and JFM. Moving more politics into the programmatic camp would not only improve the character of the laws enacted by politicians, but would also improve policy implementation, as politicians would spend less time demanding particularistic favors, and would instead expend their political capital improving programs that they can take credit for. Indeed, some commentators believe that such a virtuous cycle has already begun in Andhra Pradesh, where intense electoral competition and abundant funding have pushed politicians to focus on programs that help them win election by improving the lot of the rural poor (Elliott 2011). As with my first suggestion, the process through which top-down programmatic political pressure develops and grows is beyond the scope of this dissertation. An extensive literature documents historical transitions in political processes which have led politicians to move towards greater programmatic focus. My point here is not to review that literature, but merely to show that representative democracy already sometimes serves the interest of the rural poor, and has the potential to do so more. Increased bottom-up mobilization,

as described in the case of district MH2, could be an important contributor to increased top-down political pressure, and thus, both of these alternatives could potentially be mutually reinforcing.

The second policy lesson of this dissertation relates to the importance of institutions in creating stable organizational cultures and ideologies which are maladaptive. In the section on plantations I showed how the internal institutions of the forest departments interact with other factors to reinforce a focus on planting trees which does not further organizational goals. Training and socialization in the forest departments focus on a certain vision of forestry which values tree planting and intensive management. This combination is not well adapted for the policy problems the department faces. While most foresters are aware of other values in forestry – for example, supporting subsistence in the rural population, or protecting wildlife – most officers have little knowledge about how these might be promoted, and organizational practices offer them few incentives to learn or, for those with knowledge, to put that knowledge to use.⁹⁰ Even strategies like the recent “Greening India” campaign, which emphasize more diverse social and ecological values are being reinterpreted by forest officers to focus on tree planting (Kishwan et al. 2012). Here I suggest two strategies that could be followed to break the forest department out of this resilient, maladaptive pattern: First, the department should create internal disciplinary expertise beyond its current focus on silviculture. Second, departments, politicians, and funders can work to shift the focus of work incentives away from trees and plantations towards a broader conception of forest management.

Creating disciplinary expertise outside of current focus on silviculture will require changes in the structure of recruitment and training for the departments. The current pattern of

⁹⁰ The lack of knowledge was reinforced to me by the numerous officers who complained to me that the abundant cattle population in the study region was a result of ignorance and laziness on the part of the farmers, since these cattle were generally neither productive milkers nor laboring animals. Of course, cattle can also serve as an ideal vehicle for savings for those without access to the banking system, and collect organic matter from the forest to serve as fertilizer in the fields, but most officers were unaware of these benefits of cattle.

recruitment for forest officials focuses on recruiting students who have a bachelors in any science or engineering discipline. These students then undergo a fairly uniform training module, so that most of the staff of the forest departments throughout India have nearly identical backgrounds. They are all forestry generalists, and although syllabi have improved, the preponderance of their training continues to focus on silviculture. Disciplinary expertise could greatly aid the department. The department lacks trained experts in key areas: working with villagers and improving their economic opportunities (e.g. social work), managing wildlife habitat, using modern GIS and IT technology, etc. To some extent the department has tried to address this by sending older officers for specialized training courses, but this knowledge is often not put to good use. For example, I interviewed a forest officer who had received masters and doctoral degrees from a well known university in the US, where he wrote a dissertation on JFM. However more than 10 years since his return to India, he had not worked in any job where his expertise on JFM had been utilized. I also met several officers with specialized training in wildlife who were serving in territorial posts in areas with little wildlife. Generalist expertise is important for management, but the department simply lacks the kinds of specialized experts it needs to address the complicated resource management problems it is trying to address.

India has numerous social workers trained to work in villages, and social scientists trained to study village-level problems. Wildlife study is popular, and in fact, many join the department due to an interest in wildlife, and are frustrated to spend their lives planting trees. India's government forests represent an enormous untapped resource for recreation and tourism, yet the departments seem unable to tap these opportunities (Mawdsley et al. 2009). And one hardly needs to mention India's abundant supply of IT expertise. There is even a well-regarded training institute chartered by the Ministry of Environment and Forests, the Indian Institute of

Forest Management in Bhopal, focusing on the social and political aspects of forest management, but the forest departments have never used this well-regarded academy to enhance the expertise of their officers (most graduates go on to careers in NGOs or international organizations).⁹¹ Recruiting officers with past training in specific areas, and/or training groups of young officers to be experts in these areas would greatly enhance the technical capabilities of the forest departments.

We can get an idea of what such reform might look like by examining a very different forestry agency which has undergone such a transition. The US Forest Service described by Kaufman (1960) almost exclusively hired young men from forestry colleges, however the passage of the National Environmental Protection Act of 1969 mandated that the Forest Service (and other federal agencies) perform interdisciplinary environmental assessments of all projects (Wilkinson and Anderson 1985). The Forest Service was thus forced to hire a wide array of experts in fields other than forestry – wildlife and fisheries biologists, botanists, ecologists, economists, archaeologists, etc. In the long term this had a transformative effect on the agency, turning it into an organization that valued, and had internal expertise in, a wide variety of subjects (Koontz 2007), and that was able to embrace and work toward different priorities.⁹² In the case of the US Forest Service change came from an external driver. In India, the forest departments and the Ministry of Environment and Forests have substantial authority over training, recruitment, and transfers, and could begin promoting a more diverse expertise, but such promotion could also be imposed as it was in the US, through laws that force the forest departments to consider more diverse environmental and social impacts of their activities.

⁹¹ According to some IIFM graduates I have interviewed, this was contrary to the original intent, which was to create an academy which would train a cadre of future forest officials to be experts in management and social science, rather than in silviculture.

⁹² Although the change has also been accompanied by a decline in morale and esprit de corps (Dialogos 2007).

This brings us to the second strategy for shifting the maladaptive focus on trees and tree planting. This would be to alter the incentive structure for forest officials in their work environments. Current monitoring and evaluation focus heavily on planting trees. For example, working plans generally require careful stock mapping of the trees, but only cursory examinations of topics such as wildlife, non-timber forest products, or social impacts (Government of India No date). Similarly, field officials are evaluated on the short-term success of their plantations, but not on the status of wildlife in their jurisdiction, nor on the ability of their forest to support the needs of the rural population. This insures that tree planting gets careful attention in the implementation process, while other activities do not. Changing these incentives seems superficially simple: working plans should require as detailed evaluations of performance indicators that include social and ecological impacts as they do of the standing stock of timber, and evaluations of field workers should pay as much attention to increases in forest density, wildlife abundance, and the quality of life of the rural population as they do to the success of plantations and halting agricultural encroachments. However, the current forest departments lack the ability to gather and interpret such information, so without a change in recruitment and training, the department would not be able to meaningfully evaluate their performance.

The third lesson emerging from this dissertation is that one particular institution within the forest departments is particularly problematic, and thus should be a focus for reform. Frequent transfers are supposed to prevent corruption by making it difficult for officials to develop strong local ties. Instead, transfers in the forest departments (and probably in other agencies) have become a source of corruption, enabling politicians to manipulate bureaucrats in order to hinder policy implementation and obtain bribes. Current tenure in most posts in the two states studied is 2-3 years, significantly longer than the tenures reported by Zwart (1994) and

Potter (1987, 1988, 1996), but still too short for forest officers to develop any real local knowledge of forests, or for them to make credible commitments to the local communities that they work in. While there are certainly postings in the department that involve greater difficulty – for example, postings in remote rural areas – the department already has some officers eager to serve in these posts, either because these posts are close to their families or because they have a deep interest in the forest life. A recruitment more focused on attracting people interested in the work might help the forest departments find more such people.

The length of tenure is an issue of balance. Increasing tenure too much could make forest officers too deeply imbedded in their local environment to credibly enforce laws on behalf of a broader interest, but the current practice of very frequent rotation is debilitating. It would seem that tenures of 5-8 years might more reasonably serve the dual goals of preventing local “capture” while providing officers the opportunity to develop the kinds of in-depth knowledge about local ecology and close relationships with local figures that would enable them to make positive change. Zwart (1994) argues that transfer reform is unlikely because politicians have such a strong stake in the system, but transfer reform has already occurred to some extent in Maharashtra and Andhra Pradesh. Politicians and senior bureaucrats might be willing to trade their power over transfers for other means of disciplining bureaucrats and influencing policy implementation which have less deleterious effects on the implementation process. For example, allocating greater funding decisions to local elected councils at the district, sub-district, and village level might satisfy local politicians that they have a greater voice in the process, while tying promotions to reliable performance indicators (such as measures of ecological and social success) might be a more effective way of rewarding the best officers (and insuring that senior posts are occupied by capable people).

Looking at a larger scale, a fourth lesson emerges from this dissertation. Indian forest departments, as they currently exist, are not good at carrying out the kinds of projects that they are increasingly being asked to perform. They are not very good at protecting and restoring natural forests and improving wildlife habitat, nor are they very good at village development. This should be a warning to all funders – be they the central government, aid agencies, or the newly emerging funders of programs for reducing carbon emissions through forestry projects that Indian forest departments remain unsteady partners. As I have shown, this is partly the result of the internal structure of the agency, and partly the result of the context in which they operate. I have suggested some changes that might improve the situation, and numerous other writers, foresters, and social activists have their own preferred policies. It is not yet clear if solutions within the forest department can be effective without broader improvements in the society at large – such as decreased poverty, increased literacy, and a better functioning judicial dispute resolution system. The truth is that we do not yet know what is needed to transform the Indian forest departments into effective, flexible, and adaptive policy implementers, nor do we know exactly what policies would lead to a more socially desirable mix of outcomes in terms of forest conservation, rural livelihoods, and democratization and empowerment.

Greater humility on the part of both forest department officials and forest intellectuals and activists is in order. To some forest officials, the problem is merely one of getting “The Policy” right, but as I have shown, even when good policies are in place, they often remain unimplemented. To some activists and scholars, my incremental suggestions for change will look like a justification of an inequitable status quo. Yet it is not clear how radical solutions that are sometimes proposed will in fact lead to better lives for the people involved. I agree with Corbridge (1998 p. 144) that “ordinary men or women’ are very often protected by pragmatism,

and are very often victimised when careful reason is dispensed with in favour of shouted slogans or hazy Utopias.” India’s political system that tends towards incrementalist changes within the structure of existing order, and I have tried to keep my recommendations limited to the realm of possibility. Given our limited knowledge of what works, experimentation rather than uniform solutions are in order. India’s forests are vast and complex both in their ecological and social dynamics. My survey of 8 forest divisions revealed the opportunity for quite literally dozens of dissertation length studies. Forest officials, social activists, and academics who claim to know “The” route to sustainable long-term forest management are deceiving themselves. Forest department policies which ask every district and beat to be managed identically, even when their social and ecological conditions vary dramatically, and national policies which expect every village to be equally capable of sustainable governance are equally arrogant and damaging. In situations where so little is known about ecological and social dynamics, we would be well served by an experimental approach which allowed the development of difference across the landscape. While some experiments might fail, others might reveal new sources of information or new opportunities for conservation and development. India’s greatest strength is diversity, and it is time for policies to recognize and take advantage of that rather than seeking to stamp it out in the name of the latest scheme, or through official ineptitude.

6.4 Limitations & directions for future work:

By focusing on aspects of Indian forest administration that others have missed, I believe I have brought a new understanding to the problems facing forest management in India and, more broadly, have illuminated some of the fundamental paradoxes faced by the study of developing societies. By applying theories of policy implementation and political influence drawn from the experience of the developed world, I also have brought new understanding to these theories. At

the same time, my study has obvious limitations. It focuses on a single region of India, comprising parts of two large, heterogeneous states, it does not contain precise measurements of outcomes, and it lacks detailed analysis of village-level interactions. Furthermore, the study has raised many difficult questions which it has not answered. In this final section I suggest several directions for further research which may address some of these limitations, and may also illuminate some as of yet unanswered questions.

To address the generality of my findings to other regions in India, as well as to double check my facts, it is essential to present these findings to forest officials and activists in India. I will be circulating the completed dissertation ahead of a planned visit to my study region as well as other regions of India during the next year. A more detailed comparison with other regions of India could also be revealing. I have highlighted the role that politics plays in policy implementation, and thus, I believe it would be particularly interesting to examine areas of India in which local politics are systematically different from the region studied. Three states would appear to offer opportunities to examine different forest politics. First, neighboring Orissa is well known for high levels of “community initiated” forest management (Nayak and Berkes 2008), yet continues to have very clientelistic state politics (Das 2008). Many put forward Orissa’s community initiated forest management systems as an exemplar, so it would be interesting to see whether these have an effect of altering forest department implementation practices in spite of the very clientelistic state politics. Kerala is a state that is well known for its high levels of human development, political activism, and programmatic political action (Heller 1999; Heller et al. 2007; Ramachandran 1997), so it might be expected that forest policies in that state would be implemented in a more programmatic fashion. Finally, Himachal Pradesh is a state that has a long history of diverse forest management institutions, including some that have

given real power to forest users (Vasan 2006; Agrawal and Chhatre 2006, 2007), and has also recently risen to have one of the highest levels of human development in India. My own brief observations on a week-long visit to one forest division in the state were that high levels of education and social empowerment among the rural population had led to a very different relationship between officials and citizens in that state, but the implications for policy implementation were not clear – for example, the forest officers I spoke with also described similarly corrosive effects of politicians on their ability to carry out programs.

No Indian state can provide an example which changes two of the key conditions that led to the outcomes studied in this dissertation: there appears to be no Indian state in which clientelistic politics do not have a major influence on forest policy, and there is no Indian state in which the forest department does not represent a powerful and relatively independent bureaucracy with a long history and stable institutions. Other countries can provide cases, and in this dissertation I have already drawn on two comparisons with other countries. I utilized Kaufman's (1960) study of the US Forest Service to draw theoretical lessons. Today's US Forest Service is very different from the one described by Kaufman. The US Forest Service remains a fairly strong agency with long traditions, but its policies and implementation practices are driven by more programmatic policy directives. Mathews' (2011) work shows that Mexican forestry agencies are younger, have weak institutional structures and limited capacity, and can be dominated by powerful community groups who have legal rights to manage forests. While politics in Mexico are heavily clientelistic, and many of the policies Mathews emphasizes are driven by particularistic goals, the forest departments have substantially less power and influence. Comparative studies between the US, Mexico, and India, would thus capture the full variation in these important initial conditions.

My research has also uncovered many limitations in our understanding of Indian forest policy and rural politics which are worthy of further investigation. The region I worked in has few serious scholars, and there are a vast array of potential topics. I will focus on three that I believe are analytically tractable: the process of preparing working plans, analyzing the outcomes of some policies using spatial data and remote sensing, and studying the causes and effects of bottom-up political mobilizations.

First, scholars of Indian forest management have largely ignored the working plans that foresters call their “bible.”⁹³ We do not know how these important documents are prepared, nor how they are used in the process of forest management. During the course of the fieldwork for this dissertation I obtained recent and current working plans in most of the forest divisions I visited, and in a few cases was also able to obtain draft documents and correspondence between working plan officers, regular territorial staff, state headquarters, and the Ministry of Environment and Forests working plan offices. I also conducted interviews with numerous officers involved in the preparation and review of working plans, particularly in Maharashtra where the process was ongoing. This should enable me to engage in a systematic study of the content of contemporary working plans, as well as the process of preparation. Such a study would be aided if I were able to observe more of the preparation of working plans in Andhra Pradesh (where no working plans were being revised during my field visits), and if I were able to obtain additional documentation of the process, including copies of draft working plans and related correspondence. It would also be interesting to trace the development of working plans over time, however doing so would require locating historical working plans from the region. Working plans from the colonial era are widely available, including in university libraries in the

⁹³ A few scholars such as Agrawal (2005) and Sivaramakrishnan (1999) have studied working plans from the colonial era, but I am not aware of any scholars who have studied working plans from the post-independence period.

United States, however I have had great difficulty locating working plans from the period of 1940-1990.

Second, In spite of numerous studies, we also still know little about the overall effects of programs such as Joint Forest Management and the Forest Rights Act. Much could be added to our understanding if we were able to use remote sensing to study how areas designated under these laws changed after designation, and in comparison to similar areas that did not receive treatment under these laws. Remotely sensed images from a variety of sources are widely available that cover the relevant time period.⁹⁴ The barrier to conducting such analysis is that spatial data designating local political boundaries, including the boundaries of designated forest areas, as well as areas designated for treatment under different programs, is not made available to the public. Forest departments possess such datasets, although they are variable quality, but have so far been unwilling to share such data with researchers. This is unfortunate, since by keeping this data private, the forest departments lose the ability to collaborate with independent investigators to improve their programs. Ground-truthing would be necessary to insure the reliability of existing data, and could be combined with household-level surveys to understand how changes on the ground are reflected at the household level. Because forest departments treat all such information as secret (in spite of the fact that under the Right to Information Act the legality of such secrets is questionable), such sharing would be greatly facilitated by high level pressures from senior bureaucrats, who might also be those in the greatest position to take advantage of the findings.

⁹⁴ For example, US-based researchers have free access to LANDSAT data going back to 1973. When I've discussed this with forest officers, they often told me that what I wanted to do would not be possible because they could not share Indian Remote Sensing Agency data with me, however access to Indian satellite data would not be necessary to study land use change in India, since so many other satellites provide imagery of India free or for reasonable charges.

Third, I have suggested that bottom-up political mobilizations may play a crucial role in refashioning the structure of forest governance, but that such political mobilizations are unusual. Since such mobilizations are unusual, and since the main focus of this investigation was not on such movements, I have not been able to thoroughly investigate the causes and effects of such movements, although my preliminary evidence indicated that they were important. Evaluating the origins and effects of such movements would probably require a more detailed comparative analysis. The one successful bottom-up political movement I profiled in this dissertation is in a district with many small NGOs who work on social welfare and poverty issues. Neighboring districts also have small NGOs, yet lack organized political movements. Understanding why this political movement has been more successful at bringing political pressure to bear on local politicians could begin with a historical and ethnographic study of the origins of this one successful group, and be complemented by studies of similar-seeming organizations in the same and neighboring districts that have not led to broad based bottom-up political mobilizations. Such a study could also be complemented by a more focused analysis of how the presence of bottom-up political pressure affects policy implementation by the forest department, and by other departments working on issues of relevance to the rural poor. Comparing between two neighboring districts with and without such social movements could help illuminate the role of bottom-up politics in reshaping regional political landscapes.

7.5 Concluding Thoughts

It has been my goal in this dissertation to make a useful contribution to the building of theory and the development of sound policy. By analyzing the internal organization of Indian forest departments, I have shone light on some of the fundamental challenges facing administration and forest conservation in developing countries. In many ways, my findings are

daunting. Forest management in India does not work as we would like it to work. The system is pervaded by corruption, and fails to deliver important goods and services – poverty alleviation, resource production, and resource conservation. I also believe that there are signs of hope – in the many efforts of numerous officials, activists, scholars, and local people to improve conditions. The road to improved forest conditions and reduced rural poverty promises to be challenging, long and controversial.

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Education:

Indiana University: School of Public & Environmental Affairs (SPEA) & Department of Political Science, Joint PhD program in Public Policy (enrolled Sept. 2007, ABD as of May 2010, degree expected September 2012)

Concentrations: Public Policy, Environmental Policy, Political Theory & Methodology

Committee: Elinor Ostrom (Chair), Burney Fischer, Armando Razo, Catherine Tucker, Arun Agrawal (University of Michigan)

Dissertation Title: The Impact of Political Control and Administrative Behavior on the implementation of forest policy reform in India: A comparative study of Maharashtra and Andhra Pradesh.

Stanford University: Coterminal MS and BS in Earth Systems with Honors in Environmental Science and Policy, June 2003.

Peer Reviewed Publications:

Fleischman, F.D., Kinga Boenning, Gustavo A. Garcia-Lopez, Sarah Mincey, Mikaela Schmitt-Harsh, Katrin Daedlow, Maria Claudia Lopez, Xavier Basurto, Burney Fischer, and Elinor Ostrom 2010. "Disturbance, Response, and Persistence in Self-Organized Forested Communities: Over-Time Analysis of Five Communities in Southern Indiana." *Ecology and Society* 15 (4):9.
<http://www.ecologyandsociety.org/vol15/iss4/art9/>

Coleman, E. A., & Fleischman, F. D 2012. Comparing Forest Decentralization and Local Institutional Change in Bolivia, Kenya, Mexico, and Uganda. *World Development* 40(4): 836-849.

<http://www.sciencedirect.com/science/article/pii/S0305750X11002300>

Manuscripts Under Review:

Arnold, Gwen A., & Fleischman, F.D. "The Influence of Organizations and Institutions on Wetland Policy Stability: The Rapanos Case." *Revise & Resubmit at The Policy Studies Journal*.

Andersson, K.P., Forrest Fleischman, Pamela Jagger, Marty Luckert, Ruth Meinzen-Dick, Esther Mwangi, and Elinor Ostrom. "Unpacking Decentralization: A Framework for Analyzing the Impact of Natural Resource Decentralization on Resource Condition and Local Livelihoods, Illustrated with a Case Study of Uganda's Forestry Reforms." *Revise & Resubmit as a CGIAR Systemwide Program on Collective Action and Property Rights (CAPRI) Working Paper*.

Working Papers:

Fleischman, F.D., in prep (*plan to submit to Public Administrtaion Review in 2012*) Organizational Influences on Administrative Behavior: Theory from Herbert Kaufman's *Forest Ranger* Fails to explain ineffective policy implementation among Indian forest officials.

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Fleischman, F.D., in prep (*plan to submit to Commonwealth and Comparative Politics in 2012*) A typology of Political Influences on Bureaucratic Decision-Making in Indian Forest Policy.

Fleischman, F.D., in prep (*plan to submit to Ecology and Society in 2012*) Why Indian Foresters Plant Trees: The institutional foundations of an illogical and ineffective, but widely implemented, practice.

Non Peer-Reviewed Publications:

Fleischman, F.D., 2011. Grass Roots and Big Trees: The challenges and potentials of polycentered collective action. *Grassroots Economic Organizing (GEO) Newsletter* 2(9). <http://geo.coop/node/652>

Ghate, R., & Fleischman, F.D., 2011. What Are the Lessons of Elinor Ostrom's Work for South Asian Forests? *Current Conservation* 4(3):13-15.

Fleischman, F.D. & Visa, A., 2008 Political Empowerment and Economic Growth as Determinants of Agro-Ecosystem Change in Kerala: A Preliminary Report. In Malhotra, Gunjan., ed. *Environmental Growth : A Global Perspective*. New Delhi: Macmillan Publishers India Ltd.

Forest Magazine (National Magazine about public forest formerly published by Forest Service Employees for Environmental Ethics):

- Dismantling the National Forest Management Act. Summer 2006.
- (<http://www.fseee.org/index.php/component/content/article/76-archive/200441-sum06iv>)
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- Planning without Purpose. Summer 2005
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- Some Like it Hot: The Black-backed Woodpecker and Burned Forests. Summer 2005
- (<http://www.fseee.org/index.php/component/content/article/76-archive/200431-su05iv>)
- Strangely Like Fire: The Pacific Northwest's Invasive Species Management Strategy. Spring 2005 (<http://www.fseee.org/index.php/component/content/article/76-archive/200425-sp05iv>)

Teaching Experience:

Fall 2009 & Spring 2010: Associate Instructor, E162 "Environment and People" at the School of Public and Environmental Affairs.

I designed the syllabus & taught all aspects of an introductory class on human-environment interactions for non-majors. I also supervised one teaching assistant.

July 2003-September 2004: Farm Apprentice, the Chewonki Foundation, Wiscasset Me.

As farm apprentice I served as a faculty member of the Chewonki Semester School, taught classes on agriculture, and served as an advisor to high school juniors spending a semester at an intensive environment-oriented residential program.

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Teaching interests: Sustainability, environmental policy & politics (international, comparative, and US), international & sustainable development, comparative public administration and democratic development, South Asian politics and development, public policy processes, institutional analysis, qualitative and multi-method research, applied research on social-ecological change.

Grants & Awards:

Major:

2007 National Science Foundation Graduate Research Fellowship Recipient (\$150,000)

Other:

- 2012: Best paper in Institutional Analysis. 12th Annual Association of SPEA PhD Students Conference, March 23rd, Indiana University.
- 2010: Best Paper in Environmental Science & Policy. 10th Annual Association of SPEA PhD Students Conference, April 9th, Indiana University.
- 2009: Indiana University Office of the Vice President for International Affairs Summer Pre-Dissertation Research Grant (\$2500)
- 2008: Travel awards to attend the International Association for the Study of the Commons meetings in UK: SPEA travel award (\$500); Political Science Travel Award (\$300).
- 2006: Fulbright Scholarship Designee, India.
- 2004-2006: Wrote \$30,000 in successful grant applications for my employer, Forest Service Employees for Environmental Ethics
- 2003: Honors in Environmental Science & Policy, Goldman Honors Program, Stanford University Center for Environmental Science & Policy.
- 2002: Received two separate Stanford Undergraduate Research Opportunity grants to support honors thesis research on nonindustrial private forest management in Northern California.
- 2000: Stanford Undergraduate Research Opportunity grant to travel to Tambopata, Peru & study ecotourism, indigenous communities, & biodiversity conservation.
- 1999: Bing Summer Undergraduate Field Assistant Grant: Spent summer in Costa Rica as a research assistant with Gretchen Daily and her graduate students studying countryside biogeography of birds & butterflies in a rural farming landscape.

Selected Presentations:

Fleischman, F.D. 2012. Why Do Foresters Plant Trees? Climate (mis)adaptation in India. Initiative on Climate Adaptation Research and Understanding through the Social Science (ICARUS) III. Columbia University, May 18-20, 2012.

Fleischman, F.D. 2012. When does policy implementation work, and why? Revisiting Kaufman's forest rangers with evidence from Central Indian forests. Midwest Political Science Association, Chicago, April 12-15, 2012.

Fleischman, F.D. 2012. Robustness of the wrong institutions: Uneven implementation of forest policy reforms in India and their effect on forest conservation and livelihood enhancement. In Panel: Scaling up lessons from studies of local forest governance in developing countries: The Implementation Challenge. Planet Under Pressure Conference, London, March 25-29, 2012. Also presented at the Association of SPEA PhD Students 12th Annual Conference on March 23rd, 2012.

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Fleischman CV August 2012

Fleischman, F.D., 2012. Panel Convenor: Scaling up lessons from studies of local forest governance in developing countries: The Implementation Challenge. Planet Under Pressure Conference, London, March 25-29, 2012.

Fleischman, F.D. 2011 Organizational influences on the decision-making of Indian forest managers. Indiana University Workshop in Political Theory & Policy Analysis Colloquium Series, December 7, 2011.

Fleischman, F.D. 2011. Political Control and Bureaucratic Decision-making in Indian Forest Management. The Indiana University School of Public and Environmental Affairs Governance and Management Faculty Seminar Series, November 3, 2011 & The Ohio State University School of Environment and Natural Resources Seminar Series, November 10, 2011 (invited).

Fleischman, F.D. 2011. When does institutional robustness inhibit adaptation to new conditions? Case studies of institutional change and resistance in Central Indian forest management. The 17th International Symposium on Society and Resource Management, University of Wisconsin Madison, June 4-8, 2011.

Fleischman, F.D. 2011. Administrative Behavior in Forest Governance Reform in India: A Preliminary Report on Case Studies from Maharashtra & Andhra Pradesh. International Association for the Study of the Commons Biannual Meeting in Hyderabad, India, January 10-14, 2011.

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Panel Organizer: Inside the Natural Resource Bureaucracy: How does the Internal Organization of Bureaucracies Effect Natural Resource Management? Panel at the International Association for the Study of the Commons Biannual Meeting in Hyderabad, India, January 10-14, 2011.

Arnold, G., & Fleischman, F.D. 2010. Institutional Analysis of the Role of Government Organizations in Managing Natural Resources. Presented at the International Association for the Study of the Commons North America Regional Meeting, Arizona State University, September 30th-October 2, 2010. <http://hdl.handle.net/10535/6555>

F.D. Fleischman 2010. Seeing the Bureaucrat through the Trees: Understanding Variation in Implementation Behavior among Forest Department Officials in Forest Sector Reforms Using Case Studies from Maharashtra & Andhra Pradesh. Presentation at the 10th Annual Association of SPEA PhD Students Conference, April 9, 2010, Indiana Memorial Union, & at the India Studies Graduate Student Conference, April 10, 2010, India Studies House, Indiana University.

Arnold, G. & F.D. Fleischman. 2010. Institutional Analysis of the Role of Bureaucrats in Social-Ecological Systems. Presentation at the Workshop in Political Theory and Policy Analysis Colloquium Series on PIASES: Program in Institutional Analysis of Social-Ecological Systems. March 31, 2010

Fleischman, Forrest D., Kinga Boenning, Gustavo A. Garcia-Lopez, Sarah Mincey, Mikaela Schmitt-Harsh, Katrin Daedlow, Maria Claudia Lopez, Xavier Basurto, Burney Fischer, and Elinor Ostrom. 2009. "Disturbance, Response, and Persistence in Self-Organized Forested Communities: Over-Time Analysis of Five Communities in Southern Indiana" Presented at the 4th Workshop on the Workshop at Indiana University, June 2009. <http://dlc.dlib.indiana.edu/dlc/handle/10535/987>

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Fleischman, Forrest. 2009. Informal Institutions and Enforcement of Forest Rules. In Selected Mini-Conference Papers. Bloomington, IN: Workshop in Political Theory and Policy Analysis.

http://www.indiana.edu/~workshop/publications/materials/conference_papers/Fleischman_Spring2009.pdf

Fleischman, F.D., 2008. Bureaucracy, Collaboration and Coproduction: A Case Study of the Implementation of Adaptive Management in the USDA Forest Service. Presented at the 12th Biennial Conference of the International Association for the Study of Commons, Cheltenham, UK, July 14-18, 2008. <http://dlc.dlib.indiana.edu/dlc/handle/10535/1150>

Fleischman, F.D., 2008. Reconsidering Food security in Kerala. Presented at the 20th European Conference on Modern South Asian Studies, Manchester UK, 8-11 July, 2008

Fleischman, F.D., 2008. The Political Economy of Agrarian Transition in Kerala, India: Land Reform, Migration, and the Conservation of Agricultural Diversity. Presented at the International Symposium on Society and Resource Management, June 10-14, 2008, Burlington Vt.

Labor, Environment, and Social Equity in Kerala state, India. Guest Lecture in L290, International Trade, Labor, and the Environment. Indiana University Bloomington, April, 2008.

The Political Economy of Agrarian Transition in Kerala, India: Land Reform, Migration, and the Conservation of Agricultural Diversity. Presented at The 8th Annual Association of SPEA PhD Students Conference, Bloomington, Indiana, February 2008.

Socio-economic Change in Kerala: Implications for the Coconut Industry. For Presentation at the Second International Coconut Summit, Ernakulam Town Hall, Kochi, Kerala. May 2007.

Social Change and Agrobiodiversity Conservation in Kerala: A Preliminary Analysis. Presented at ATREE, Bangalore, May 2007.

Political Empowerment and Biodiversity Protection in Kerala, India. Presented at the 9th Biennial Meeting of the International Society for Ecological Economics in New Delhi, December 2006.

Professional & Research Experience

Workshop in Political Theory and Policy Analysis, Indiana University Bloomington

August 2007 - present

Graduate Research Assistant

Current Projects include a collaborative effort to analyze the applicability of common-pool-resource theory to large scale social-ecological systems. For past projects, see publications.

Fulbright Scholarship Designee & Independent Researcher, Kerala Agricultural University, India
September 2006 – July 2007

I conducted independent research as a Fulbright Scholarship Designee on the effects of land reforms & economic growth on agroforestry systems in rural Thrissur District, Kerala.

Forest Service Employees for Environmental Ethics, Eugene OR

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November 2004 – June 2006

Policy Advocate

I conducted research, ran advocacy & educational campaigns, and engaged in litigation & lobbying for a national forest policy watchdog organization. I worked closely with whistleblowers & coordinated a regional network of forest advocacy organizations in the Pacific Northwest.

Chewonki Foundation Farm & The Maine Coast Semester, Wiscasset, ME

July 2003 – September 2004

Farm Apprentice & Teacher at 11th grade semester program.

Stanford University, Palo Alto, CA

March 1999 – June 2003

Undergraduate & Masters Research Assistant & Independent Honors Student

I worked as a research assistant in plant ecology, global change, and conservation biology laboratories on campus, at the Jasper Ridge Biological Preserve, and at Las Cruces Field Station, Costa Rica. I conducted directed research in Tambopata, Peru, and at Stanford's Hopkins Marine Biological Station, and wrote an honors thesis on forest policy as part of the Goldman Honors Program, based on independent field work in Northern California.

Service:

Research Associate, Shodh, the Institute for Research and Development Nagpur, India. – (Since June 2009)

Reviewer Ecology and Society (since June 2010).

Abstract review for the International Association for the Study of the Commons biannual meeting in Hyderabad, India, 2011.

Member of institutional design team (2010) & cofacilitator, operations team (2011) for the Bloomington Community Orchard.

Association of SPEA PhD Students Conference Organizing Committee (2007-2010)

Association of SPEA PhD Students Board member and Chair, Conference Organizing Committee (2008-2009)

Direct Service Volunteer with LEAD, a mentoring program for low-income at-risk youth in Eugene, OR (2005-2006)

Non-academic activities:

I have a garden in my ¼ acre backyard in the city of Bloomington, IN which features over 40 species of woody plants, at least half of which are fruit-bearing, as well as enough vegetables to feed myself year-round. My garden has been featured in the local newspaper (<http://tinyurl.com/79ftsqe>) as a model for urban agriculture.

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References:

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