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Why do Foresters Plant Trees? Testing Theories of Bureaucratic Decision-Making in Central India

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Summary. — There is growing awareness of the problems of applying blueprint approaches to public sector management in developing countries, however scholars lack tools for context-specific policy advice. This paper develops an organitoring focuses on the short-term sizing framework for theories of bureaucratic action, and applies this theory to Indian forest departments' tree-planting programs. Tree planting is implemented successfully in the central Indian regions of Maharashtra and Andhra Pradesh states, but does not protect ecosystems or reduce poverty. This partial success is driven by interplay between the self-regarding behavior of bureaucrats and a professional logic of appropriateness, and is a challenge to single-issue reformers.
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1. INTRODUCTION

There is a growing awareness of the problems of applying blueprint approaches to public sector management in developing countries (Manning & McCourt, 2013; Ostrom, Janssen, & Anderies, 2007; World Bank, 2012), however public management scholars currently lack tools for creating context-specific policy advice (Andrews, 2013; O'Toole & Meier, 2013). As a result policy solutions continue to focus on single-issue panaceas. In the case of India these include anti-corruption reforms (Gupta, 2012; Patibandla, 2013; Sengupta, 2012), customer service reorientations drawn from new public management (Das, 2001, 2010; Sixth Central Pay Commission, 2008), and rights-based reforms (Joshi, 2010; Kashwan, 2013). This paper uses an ethnographic study of forest administration in central India to demonstrate how multiple causal mechanisms interact as a public program moves from the plans of high-level policy makers to the activities of street-level bureaucrats. The purpose of this exercise is twofold: to demonstrate that the use of blueprint solutions to single problems is flawed because public sector management is a multi-causal process, and to show how a multi-causal approach can be used to address a particular policy problem.

In order to illustrate how multiple causes interact in the design and implementation of public programs in developing countries, the paper focuses on understanding why India's forest departments plant trees. Tree planting dominates the field work of these departments, and is implemented in the ways intended by senior policy makers, but is ineffective in achieving the stated goals of the forest departments or their funders. Although I use tree planting to illustrate the value of a multi-causal approach, tree planting is also a substantively important policy issue: Improved management of India's forests could support globally important biodiversity (Singh & Bagchi, 2013) and provide vital resources for many of its poorest people (Gundimeda & Shyamsundar, 2012). Tree planting is one of the most important strategies in use by Indian forest departments to improve forest quality, cover, and production, and the activity is likely to grow with the current focus on carbon sequestration (Kishwan, Pandey, & Dadhwal, 2012; Ministry of Environment and Forests, 2010). Although tree planting's importance is growing worldwide, there is little systematic evaluation of the large-scale impacts of government-led reforestation programs in India or elsewhere (Le, Smith, Herbohn, & Harrison, 2012).

The importance of tree planting in India's forests is puzzling because tree planting has at best an indirect relationship to the goals emphasized in national forest policies. The selection of tree planting as a policy tool thus bears some resemblance to Cohen, March, and Olsen's (1972) "garbage can," in which policy problems and policy solutions are linked only by their coexistence in the same garbage can of old ideas. While tree planting is a highly effective method to establish commercial tree plantations for wood production, and thus appears to an outsider to be a logical activity for foresters to engage in, it is an ineffective way of pursuing the goals of India's forest policies, which emphasize restoring the ecosystem services, particularly those related to watersheds, protecting biodiversity, and producing non-timber forest products which the rural poor depend on for their livelihoods (Lindenmayer & Laurance, 2012; Lindenmayer *et al.*, 2012; Locatelli & Vignola, 2009; Pathak, 1995). Tree planting is often unnecessary for the restoration of forest cover, as many degraded forest fringe areas have extensive seed banks and native rootstock

that enable rapid regeneration once the sources of degradation are removed. Thus, it might be expected that as India's policy goals for its public forests have shifted from an emphasis on commercial wood production prior to the 1980s to an emphasis on watershed protection, biodiversity conservation, and poverty alleviation today, the importance of tree planting would decline. Instead, tree planting on government lands has increased dramatically since 1980 (Ravindranath, Murthy, Chaturvedi, Andrasko, & Sathaye, 2007).

The vast majority of India's forests are governed by state-level government departments under a sometimes contradictory legal framework that reflects a century and a half of conflict over the appropriate use of forest resources (Guha, 1983, 2001; Suykens, 2009). Recent statements of forest policy have emphasized the need to use forests to support rural livelihoods while providing for long-term conservation of natural resources (Ministry of Environment and Forests, 1988, 2010). In practice, officials in these departments have diverse responsibilities, including conducting harvests of timber and non-timber forest products, protecting wildlife and other natural resources from exploitation, reviewing the impact of development projects on forest area, implementing programs to restore ecosystems, improve provisioning of ecosystem services, and alleviate poverty, enforcing various laws which restrict public uses of forest lands, and implementing various seemingly unrelated government programs that occur in or near forests.

Although tree planting has a limited ability to achieve goals beyond increasing commercial production, it is frequently adopted as a tool to achieve other goals. For example, several World Bank-funded projects in the 1990s which aimed to restore forests through participatory forestry reveals that each of these projects spent more than 60% of its budget on tree-planting activities which were only indirectly related to the stated project goals (Agricultural Operations Division, 1991, 1994; World Bank Sector and Thematic Studies Group: Operations Evaluation Department, 2002). Perhaps more surprisingly given the reputation of India's bureaucracies for poor governance, tree-planting activities actually get carried out, even when other aspects of these programs (such as the participatory forestry components) are not carried out. The success in planting trees is limited however, since many plantations suffer from long-term neglect and low survivorship, and since tree-planting is often an indirect or ineffective method for achieving policy goals.

By developing an account of the causal mechanisms that drive tree-planting behavior, this paper aims to explain tree planting's successes and failures, and in so doing, provide an account of how multiple causal mechanisms contribute to the outcomes of bureaucratic processes which can inform contextually relevant reforms. In particular, while implementation successes and failures are widely studied (Hill & Hupe, 2009), there has been less attention devoted to understanding the causes of disconnects between project goals and tools—Cohen, March, & Olsen's garbage can (Bendor, Moe, & Shotts, 2001; Zahariadis, 2007). I focus on tree planting here not to critique its use in India, but rather because it is an activity that is simultaneously successful—in that it has widespread public acceptance and is actually implemented—and unsuccessful—in that its implementation generally does not contribute to the desired outcomes. As I will show, the disconnect between project goals and tools is not merely the result of policy entrepreneurship as suggested by Kingdon (2003), but also the result of a system of professional training and incentives that drives foresters to value tree-planting activities. Recognizing the particular drivers of bureaucratic malfunctions in this

case leads to policy recommendations which focus on changing the values and incentives of bureaucrats, rather than the conventional focus on rights and curbing corruption.

The most important sets of causal mechanisms identified here are derived from two distinctive types of institutional theories that are often seen as competing: rational choice and sociological institutionalism (Hall & Taylor, 1996). I show that, consistent with rational choice institutionalism, bureaucrats react to strong incentives that encourage them to adopt and implement tree planting. At the same time, bureaucrats respond strongly to these institutionalized incentives because their professional norms favor tree planting as an appropriate activity, consistent with sociological institutionalism and March and Olsen's (2006) logic of appropriateness. As we will see, causal mechanisms such as corruption and discursive power, which are widely emphasized in studies of rural development and natural resource management, play a smaller role.

These paper proceeds as follows. Section 2 presents an organizing framework which explains the relationship between the diverse causal mechanisms that are examined in the paper. Section 3 follows with an explanation of the methods. Sections 4 and 5 examine two distinct aspects of tree planting: its design and adoption by policy elites in New Delhi and the state capitals, and its implementation by field-level foresters. In each of these two sections, I explain the processes by which tree-planting policies are adopted and implemented, drawing on the mechanisms discussed in Section 2. Section 6 discusses the implications of this research for studies of development bureaucracies in India and beyond.

2. DIVERSE CAUSAL MECHANISMS IN THE STUDY OF DEVELOPMENT BUREAUCRACIES

The purpose of this section is to present an organizing framework for comparing diverse theories of public administration. Such a framework is necessary because although public administration involves diverse tasks (Wilson, 1989) and is studied from diverse perspectives (Raadschelders, 2011), many scholars and practitioners focus on a few limited causal mechanisms. The framework that I propose here (see Table 1) differentiates theories based on the assumptions they make about the internal and extrinsic motivators of bureaucratic behavior. Following March and Olsen (1989, 2006), I differentiate between two internal "logics" that may motivate behavior. A logic of consequence emphasizes the role of incentives in driving behavior in individuals who are calculating the costs and benefits of individual actions. Scholars of this logic have developed complex models that account for the subtleties and biases of human motivations—sometimes described as behavioral rational choice (Jones, 2001; Ostrom, 2005) or rational choice institutionalism (Hall & Taylor, 1996; Ostrom, 2007). By contrast, a logic of appropriateness assumes that "most of the time humans take reasoned action by trying to answer three elementary questions: What kind of situation is this? What kind of person am I? What does a person such as I do in a situation such as this?" (March & Olsen, 2006, p. 690). Calculations of appropriate action are not based on individual costs and benefits, but instead on "organizational arrangements that link roles/identities, accounts of situations, resources, and prescriptive rules and practices (March & Olsen, 2006)." Hall and Taylor (1996) classify this approach as a form of "sociological institutionalism."

Within each logic, different research traditions make different assumptions about the external forces that influence