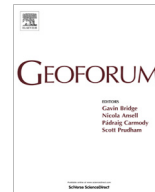




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## What wastelands? A critique of biofuel policy discourse in South India

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### ABSTRACT

Mirroring global trends in biofuel policy making, the Government of India recently enacted a policy restricting feedstock cultivation to 'wastelands', a government designation for marginal lands. This strategy, the government asserts, will help improve the country's energy security, mitigate climate change and reduce rural poverty through job creation. As other critical biofuels scholarship has documented, land categorizations like 'wasteland' are political constructs homogenously applied to indicate 'empty', 'unproductive' land 'available' for development. While claiming that such constructions mask socio-political relations on the ground, little evidence has been offered analyzing the impacts of these omissions or evaluating how wasteland constructions are sustained. This paper provides such an analysis through a case study of *Jatropha curcas* biodiesel promotion on wastelands in Tamil Nadu, India. I find that *Prosopis juliflora* on Tamil Nadu's wastelands currently supports a dynamic energy economy servicing both rural and urban consumers. The *Prosopis* economy provides substantially more energy services, jobs and economic development opportunities than would *Jatropha* biodiesel. Yet political relations amongst stakeholders obscure the *Prosopis* economy from biofuel policy dialogs. That *Prosopis* was originally spread throughout India as part of a wasteland development program of the 1970s underscores the deeply political nature of the concept of wasteland. These findings demonstrate that marginal lands, as currently constructed, do not exist. By extension, locating biofuels on such lands is not the 'win-win' strategy for simultaneously addressing energy security, climate change and rural poverty that advocates suggest.

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### 1. Introduction

In 2009, after nearly a decade of policy wrangling, the Government of India (GOI) enacted a National Policy on Biofuels, which mandates the use of non-edible feedstocks grown only on 'wastelands', an official government classification for marginal lands (GOI, 2009). This policy mirrored trends in global biofuel policy making, originating largely in the global North, which called for restricting feedstock cultivation to marginal lands in order to avoid competition with food production and land use change (Franco et al., 2010; Gelfand et al., 2013; Levidow, 2013; Tilman et al., 2006). Claiming that marginal lands are largely found in the global South, advocates have also asserted that such policies would provide new development opportunities for developing economies. India's policy combines all of these themes. Restricting biofuels to wastelands, the policy attests, is a 'win-win' strategy for mitigating climate change, improving energy security and alleviating rural poverty through job creation and protecting food security.

Yet, as other critical scholars of biofuels have argued, the concept of marginal lands is a political construct (Baka, 2013; Bailis and Baka, 2011; Borrás et al., 2011). Universally framed in policy documents as 'empty', 'unused' spaces, such designations frequently obscure the

diverse land tenure and land use relations that exist on the ground. As other case studies of biofuel projects have documented, such ambiguities threaten rural livelihoods as local land use practices are omitted in these framings (Borrás et al., 2011; Franco et al., 2010). However, these case studies do not rigorously analyze the impacts of these omissions nor do they examine the micro-politics at play shaping constructions of wastelands.

This paper provides such an analysis through a case study of *Jatropha curcas* (hereafter *Jatropha*) biofuel promotion on wastelands in Tamil Nadu, India. Instead of being 'empty', 'unused' spaces, I find that Tamil Nadu's wastelands are sites of a dynamic fuelwood energy economy that services both rural and urban consumers. This energy economy, derived from *Prosopis juliflora* (hereafter *Prosopis*), initially spread throughout India via a wasteland development program of the 1970s, currently provides substantially more energy security and economic opportunities than the country's proposed *Jatropha* economy would. However, policy makers now consider *Prosopis* an agent of wasteland creation rather than an means of wasteland elimination. As result, the *Prosopis* economy is excluded from biofuel policy documents. This shift underscores the political underpinnings of the concept of wasteland.

More specifically, government officials envision wastelands as economic landscapes that should be made more productive

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through wasteland development programs executed through corporate partnerships. According to government and corporate officials in charge of wasteland development, Prosopis no longer serves this purpose. At the village level, local government and NGO officials have little incentive to challenge these perceptions because of the potential economic and social returns from participating in wasteland development programs. Local land users are largely excluded from this political process with the exception of a growing class of land brokers. By revealing the political practices shaping wasteland construction and empirically documenting their effects, this study demonstrates that wastelands, as currently constructed in policy documents, do not exist. Further, efforts to locate biofuels on such lands are not 'win-win' solutions for addressing energy security, climate change and rural poverty.

## 2. Theoretical background

Deconstructing the language of policy and revealing its effects has long been a focus of political ecology. Such analyses are attentive to discourse, which constitutes the assemblage of "narratives, concepts, ideologies, and signifying practices" shaping how a topic is discussed (Barnes and Duncan, 1992: 8). Although discourses often appear as self-evident truths, they are rarely unified representations and are continuously subject to negotiation (Barnes and Duncan, 1992). It is thus important to analyze the political relations shaping discourses and to examine what alternative perspectives might be obscured.

Numerous political ecology analyses of land use change policy have confirmed this understanding. Various studies have revealed local knowledge to be at odds with and often excluded from policy discourse (cf. Blaikie, 1985; Dove, 2008; Robbins, 1998) causing landscapes to be 'misread' (Fairhead and Leach, 1996) and livelihoods to be placed at greater risk from policy intervention. Collectively, such policies attempt to create distinct boundaries between nature and society where in practice, none exist. Thus, as Dove (1998) argues, environmental discourses must be interpreted contextually by examining the economic, ecological, historical and societal relations shaping them.

Further, in a process Li (2007) calls 'rendering technical', the socio-political relations shaping policy are often obscured in the policy making process and policy is reduced to a technical, scientific problem solvable through expert planning and administration. This technical apparatus is also what Ferguson (1994) terms 'the anti-politics machine.' As both Li and Ferguson note, constructing policy in technical terms is an intervention itself with wide reaching effects. The process constructs artificial boundaries between experts capable of diagnosing and prescribing interventions and the subjects of such interventions. The process also perpetuates the longevity of 'the machine' by creating demand for technical experts and their assessments.

Similar criticisms extend to methods used to classify lands. Tools such as land censuses and remote sensing analysis help to shape and are shaped by political processes. As result, such tools often serve to 'fix' dominant interpretations of landscapes rather than to objectively clarify debates (Robbins, 2001). Further, they are examples of what Scott (1998) terms 'state simplification' because they attempt to distill complex processes into singular categories. Rather than improving livelihoods, as is often promised in policy documents, the result of such processes is to reinforce existing political hierarchies and often, to extend state power (Scott (1998)).

Within the biofuels literature, various scholars have critiqued the concept of marginal lands. Images of marginal lands circulating in policy documents frame such lands as 'empty' because of their

low productivity and carbon storage capacity (Franco et al., 2010; Levidow, 2013). Remote sensing analyses have been used to reinforce these images and to provide estimates of the vast amount of marginal land 'available' for biofuels, primarily in the Global South (Campbell et al., 2008; Nalepa and Bauer, 2012). Yet, as (Bailis and Baka, 2011: 833) argue, the term has been applied in a "homogenizing way obscuring the wide range of land types, tenure relations, and social-ecological interactions that characterize lands falling under this broad category."

These framings simplify practices on the ground. In a comparative study of marginal lands converted to *Jatropha* biofuels in Brazil and India, Bailis and McCarthy (2011) find substantial differences in carbon storage capacity of the two sites. Bailis and McCarthy calculate the 'carbon debt' of land conversion, a carbon accounting method developed by Fargione et al. (2008). Converting marginal lands to *Jatropha* in Brazil results in a debt of 10–20 years while no debt is incurred in India (Bailis and McCarthy, 2011). Yet the lands converted to *Jatropha* at both sites were classified as marginal by their respective governments. This study complicates the low carbon storage representations of marginal lands.

Other studies challenge representations of marginal lands as 'empty' and 'unproductive'. A recent remote sensing analysis of the availability of marginal lands for biofuel production in the Mid-western US attempts to separate out the extent of marginal lands used for grazing activities (Gelfand et al., 2013). However, given the shifting and small-scale nature of land use, it is unclear whether such an analysis can be used in a developing country context.

As is well documented within the literature on common property resources, lands termed marginal by the state are often used by local communities for livelihood activities such as fuelwood and fodder gathering (cf. Ostrom, 1990). Borrás et al. (2011) and Franco et al. (2010) document evidence of such activities on marginal lands targeted for biofuel production in Mozambique. Further, despite policies restricting biofuel production to marginal lands, Franco et al. (2010) find evidence that biofuel cultivation in Brazil has taken place on arable land, displacing food production and diverting natural resources to biofuels. The authors conclude that policy makers use the concept of marginal lands as a "narrative device for imagining a benign role for biofuel production in the Global South" (Franco et al. (2010): 674) while in practice, biofuels are reshaping agrarian relations in ways detrimental to livelihoods in developing economies.

The concept of 'wasteland' has also been critiqued both within political ecology and biofuels literatures. The term itself dates back to Locke who used it to refer to common property lands (Locke, 2011 (1680)). Claiming that the productivity of privately owned land would far exceed those of the commons, Locke recommended eliminating wastelands through privatization. Within India, the term has been used in land settlement schemes since the Mughal Empire to categorize lands that were, according to the state, degraded and unproductive (Yadav, 2011). The concept gained political potency in the colonial era when it was also used to negatively characterize wasteland users as backward, indolent and savage (Gidwani, 2008; Whitehead, 2010). Thus began the program of wasteland development that sought not only to reduce wastelands by putting the lands to more 'productive', state-defined uses but also to shape land user behavior. This program extended beyond colonial rule and numerous wasteland development schemes have been enacted to date (Saigal, 2011). Growing biofuels on wastelands is the latest iteration of this long-standing program.

As part of wasteland development, various classification processes have been implemented over time each using different definitions and methods and not surprisingly, yielding vastly different results (Eswaran, 2001). Despite this ambiguity, the program of wasteland development continues because as Gidwani (1992)

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