



Greening western China: A critical view

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ABSTRACT

The dominant narrative in a growing literature about China's environment conceptualizes a series of recent large-scale ecological construction projects, particularly in western China, as evidence of a teleological graduation into eco-rational modernity, in which environmental improvement and economic growth are intertwined in a virtuous, mutually reinforcing circle. Such ecological modernization narratives take for granted both a crisis of ecological degradation, and the premise that the "greening" of the state will have environmental improvement as its primary outcome. The article reviews recent research on ecological construction projects to protect forests and grasslands in China's west, which have been identified as major components of China's ecological modernization goals. It demonstrates the limitations of an ecological modernization framework for analyzing these projects, and argues instead for a critical political ecology analysis, which examines the distributive effects of these projects and employs an analytic of governmentality. Ecological construction is more productively understood as a set of discursive practices that authorize differential interventions through processes of internal territorialization, rework the relationship between different categories of citizens and the state, and produce subjects, whose desires may or may not align with those desired by state institutions.

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1. Introduction: ecological modernization and its discontents

A consensus appears to be growing about China and its environment: the country is experiencing a devastating ecological crisis, but the state has woken up and is working hard to rescue the environment as it teeters on the brink of collapse. China has become an environmental state, one in which concerns about the environment are being integrated into the fabric of governmental logics, as demonstrated by Chinese Communist Party General Secretary Hu Jintao's exposition of his "new theory" of the "scientific outlook on development" which has "sustainable development [as] its basic requirement" (Xinhua, 2007a). The question that lies before us is whether the country can "go green," undertaking a "green leap forward" fast enough to avoid "environmental meltdown" and ensure planetary survival. This is the story being told, in different ways, by public intellectuals (Economy, 2004, 2006; Friedman, 2006a,b, 2008), environmental scientists (Cann et al., 2005; Zhang et al., 2000) and geographers (e.g. Shen, 2004), among others. For example, despite the failure of the national Green GDP initiative in 2005 and 2006, Thomas Friedman notes optimistically that "it is almost as if a light went on in the Chinese politburo... finding a way to go green was becoming an imperative, not an option" (2008, p. 353).

This dominant story of "going green" is essentially a narrative of ecological modernization, a perspective that has been called "a more specific interpretation of the key ideas prevailing in the more

general notion of sustainable development" and which, like sustainable development before it, privileges entrepreneurship and market dynamics in creating environmental solutions (Mol, 2006, p. 30; Spaargaren and Mol, 1992). It suggests that there is no zero-sum trade off between environmental concerns and economic growth, and that environmental problems can be solved through more, rather than less, modernization, industrialization, and technological innovation (Buttel, 2000; Fisher and Freudenberg, 2001; Mol, 1995). Broadly, its usage connotes a stance that holds radical structural change to be unnecessary and even infeasible; instead, sustainability can and should be achieved through the internalization of environmental impacts and the greening of business (York and Rosa, 2003).

Although the concept of ecological modernization was developed in studies of Europe, Western scholars have argued that China's environmental reforms can also be interpreted as ecological modernization, although of "a different mode" (Mol, 2006, p. 53; Carter and Mol, 2007; Ho, 2006). Through dialogue between Chinese and Western scholars, ecological modernization has also gained traction within China itself, as demonstrated by a recent major study by the Chinese Academy of Sciences, China Modernization Report 2007: Study on ecological modernization. The report states that the basic requirements of ecological modernization, which it calls "an inexorable historical trend," are dematerialization (high efficiency and low waste), greening (hazard free and healthy), ecologization (waste recycling and innovation) and decoupling (decoupling economic growth from environmental

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degradation) (CAS, 2007). It also states that ecological modernization requires principles of prevention and innovation, pursuit of win–win results for both economy and environment, and a decoupling of economic growth and environmental degradation (*ibid*).

While these themes are familiar from the European literature on ecological modernization, the discussion in the report is primarily limited to the technical dimensions of sustainable development, rather than “the more political innovations in ecological modernization” such as equity, equality and citizen empowerment (Zhang et al., 2007, pp. 664–665). In other words, China’s emergent official version of ecological modernization ignores completely what critics have identified as the most promising elements of the framework – the political processes that enable the insertion of ecological phenomena into modernization processes (cf. Buttel, 2000). Ecological modernization has been critiqued not only for being easily co-opted as a “greenwash” for capitalist business-as-usual, but also for lacking coherence as a social theory (Buttel, 2000; Hajer, 1995; Harvey, 1996). After reviewing the many ways in which environmental modernization is used, Buttel (2000) argues that “a full-blown theory of ecological modernization must ultimately be a theory of politics and the state,” such as found in literature on state–society synergy and civil society, rather than only a collection of optimistic associations about the potential for industrialization and modernization more generally to cure its own ills. Thus western observers of China’s “greening” have focused on searching for signs of civil society in the growing environmental movement (Mol, 2006; Yang, 2005), with some arguing or hoping that the environmental movement will lead inevitably down the slippery slope to democracy (Economy, 2004; Friedman, 2008). However, in China’s own articulation of ecological modernization, these concerns drop out and emphasis is placed instead on the environmentalization of the state (Zhang et al., 2007).¹ China’s official account of its ecological modernization thus aligns with arguments such as Cann et al.’s (2005, p. 11) that the future is optimistic, because “for developing and implementing the new market economy in a sustainable manner, China has established a cadre of ambitious plans, policies and projects.”

In this paper I review recent scholarship about environmental protection programs in China focusing particularly, for reasons explained below, on programs of ecological construction in China’s west. My approach is to demonstrate some of the limitations of green triumphalist accounts of these programs, and more generally of assumptions often found in ecological modernization frameworks, and to argue for alternative ways of analyzing the greening of western China. In addition to providing evidence from recent studies that these programs of greening frequently fail on their own terms, I suggest that insights from political ecology are more suited to helping us understand why this is the case than is ecological modernization. Political ecology calls for attention to the always and inevitably political dimensions of human–environment interactions, and particularly to the ways in which environmental management efforts may be based upon flawed assumptions with roots in colonialism, and have the effect of expropriating access to and control over natural resources. The Marxian political economy orientation of political ecology calls attention to the social and environmental justice questions elided by ecological modernization. Furthermore, it suggests that environmental projects are always linked to broader political economic processes. While ecological modernization looks to “economic institutions [to] play a major role in articulating, communicating, strengthening, institutionalizing, and extending (in time and place) environmental re-

forms by means of their own (market and monetary) ‘language,’ logic and rationality,” (Mol, 2006, p. 53) a political ecology approach directs our attention to the distributive effects of those market logics. Further, rather than assuming (as claims of greening often appear to do) that environmental reforms *is*po facto result in environmental goods, it takes the environmental effects as an empirical question. Finally, it suggests that environmental projects are always more than environmental projects – that they accomplish other things too, particularly with regard to governance (cf. Harvey, 1996; Robbins, 2004).

In addition to questions of access and distributive effects, I include in my framework of critical political ecology the analytic of governmentality. Foucault (1991) used the term to understand the emergence of new rationalities of rule that challenged and supplemented sovereignty’s logic of the power over death; instead of death, governmentality was concerned with the regulation of life, with the “right disposition of things” and the regulation of the social body. Thus, it required both the population and the other “things” to be regulated to come into existence. As an analytic, governmentality draws attention to the ways in which particular forms of representation and ways of knowing of a phenomenon (such as “the economy”) allow the phenomenon to come into existence as a separate domain about which knowledge can be gained; once delineated, it becomes an object upon which actions can be performed (Miller and Rose, 2008).

Extending Foucault’s formulation of “life and its mechanisms” to include the human–environment relationship means drawing attention to the ways in which forests and grasslands come into existence as “nature” and are thus enabled as objects of political and economic calculation. In other words, governmentality calls attention to how “the apprehension of knowledge about how it is that ecosystems are central to human survival (eco-knowledge) becomes a political technology through which geo-power is exercised” (Baldwin, 2003, p. 419; Löwbrand et al., 2008; Luke, 1999; Rutherford, 2007). Sustainability, in this view, is not a politically neutral and universally achievable condition, but rather a political project that creates the conditions of possibility for thinking about ‘nature’ as well as its intervention by experts. Ecology is a discursive regime, a set of ideas and practices that produces truth about nature, authorizes certain ways of telling that truth and certain people to speak that truth, as well as enabling new identities with respect to nature (Darier, 1996; Rutherford, 2007). As Foucault’s way of linking his concerns about technologies of the self with those of technologies of domination, governmentality directs our attention to the productive effects of power, including the ways in which environmental projects can produce environmental subjects, subjects for whom ‘the environment’ is a category in relation to which they think and act (Agrawal, 2005; Darier, 1996; Snodgrass et al., 2008).

The analytical framework I am suggesting as an alternative to ecological modernization for understanding recent trends in China’s environmental protection calls for the bringing together of several modes of examination. First is an analysis of ecological modernization projects on their own terms, for whether they produce their desired environmental effects. Second, regardless of whether they produce their desired environmental effects, is an inquiry into what the distributive effects of these environmental projects are. Third, if the projects fail in some way, this framework calls for a consideration of the failure not just as a matter of technical flaws in implementation, but rather for directing attention to what else is accomplished through the projects – what types of subjects are produced, and what other ‘regular effects’ project flaws or failures may accomplish (cf. Ferguson, 1990). This includes a consideration of what forms of power/knowledge enabled these particular environmental projects to be enacted in the first place. Fundamentally, the greening of China must be understood as more

¹ A more detailed discussion of debates about civil society and NGOs vis-à-vis ecological modernization, and alternative interpretations and analytical frameworks for understanding both NGOs and environmentalism is important but beyond the scope of this paper.

than an environmental project; it is also a political project that creates new rationalities of rule, new forms of subjectivity, and new economic and ecological practices. The creation of a technical “environment” that can be acted upon by environmental projects has implications not only for the realm of the environment itself but also for the reproduction of the nation and state, and the sorting of citizens into different categories of worth. These dynamics are important enough that they should not be simply ignored or bracketed, as they usually are in discussions of sustainable development or greening. While the analysis of environmental protection efforts through what I am calling a critical political ecology framework is not novel, its use for thinking through China’s recent ‘greening’ projects is significant because of the dominance through which these are viewed in terms of ecological modernization by officials, pundits, environmental scientists and scholars.

2. China’s west

As a framework, ecological modernization has most frequently been used to describe the ways in which societies respond to increasing awareness of ecological risks associated with industrial processes, that is, technological innovations and policy processes in “brown” manufacturing and pollution issues such as those highlighted in the run-up to the Beijing Olympics (Fisher and Freudenberg, 2001; Gouldson et al., 2008; Koppen, 2003; Mol, 2006). However, the Chinese Academy of Sciences report very clearly includes “green” natural resource management issues in the purview of China’s ecological modernization. Indeed, according to the report, one of the 10 challenges that China’s ecological modernization will face in the first half of the 21st century is “to implement the National Plan for Ecological Environment Construction and quicken ecological modernization in the west region.” This leads to the following strategic measures recommended by the report to ensure ecological modernization:

The projects designed to protect natural forests, to facilitate forestation and to build planted forests should continue so as to increase forest coverage to about 35 percent in 2050 and about 40 percent in 2100. Construction of nature reserves should be sped up, the project to “revert cultivated land back to forestation” should be improved and the natural grassland and pasture should be protected and improved. The goals and tasks specified in the ‘National Plan for Ecological Environment Construction’ should be implemented in a comprehensive way...The construction of national nature reserves should be strengthened and the ratio of nature reserves should be raised. (CAS, 2007)

This passage refers to a set of dramatic environmental projects begun in China in 1998, at the juncture of a series of “natural disasters” and the launching of the Open up the West (*xibu da kaifa*) campaign. In response to severe droughts that caused the lower reaches of the Yellow River to run dry for a record 267 days in 1997, and massive flooding on the Yangtze River in 1998, which caused more than 3000 deaths and an estimated 12 billion US dollars in property damage, the government initiated the Natural Forest Protection Program (NFPP; referred to above as “protect natural forests, to facilitate forestation and to build planted forests”); and the Sloping Land Conversion Program (SLCP, “revert cultivated land back to forestation.”) (Katsigris et al., 2004; Shen, 2004; Xu et al., 2001; Yin et al., 2005). The NFPP, often referred to as “the logging ban,” is a 10-year plan launched in full in 2000 to rehabilitate forests by banning commercial logging in the upper reaches of the Yangtze River and middle and upper reaches of the Yellow River, reduce timber output in other state-owned forest areas, provide alternative employment for workers in state-owned logging enterprises, and accelerate reforestation and silvicultural treatments.

SLCP, sometimes dubbed “grain for green,” is the largest land retirement program in the world, calling for the conversion of 14.67 million hectares of cropland, especially cropland on steep slopes of greater than 25 degrees, to forest, as well as afforesting 17.33 million hectares of “wasteland,” by 2010 (Bennett, 2008; Zhang et al., 2008). Made possible by national grain surpluses, it promised farmers grain and cash subsidies lasting five years for those planting “economic forests” (e.g. orchards), eight years for “ecological” forests, and two years for grasslands (Xu et al., 2007; Yin et al., 2005; Zhang et al., 2008).

The Sloping Land Conversion Program alone has a budget of over 40 billion US dollars, an indication of the massive scale of the environmental rehabilitation efforts currently underway. It is among the suite of “ecological construction” projects targeted primarily at western China that have accompanied the national Open up the West campaign, launched in 1999 to reverse the “trickle-west” economic strategy that characterized development in China since the late 1970s, and help the “Western region”² close the development gap with the eastern and coastal provinces (Goodman, 2004). This was to be accomplished through investment in major infrastructure projects for communication, transportation and power generation, in order to establish the conditions necessary to attract private and foreign investment to link these places more tightly to the global economy and thus generate wealth. Simultaneously, the campaign called for large-scale ecological construction projects. Environmental protection and specifically ecological construction is a major component of Open up the West, which promised to create national level committees and commit billions of yuan to environmental improvement, and to “check the deteriorating ecological and environmental situation by putting increased investment in basic infrastructure and ecological construction” (People’s Daily Online, 2000, 2001, 2005).

Initially used in the 1950s, the term “ecological construction” is now widely employed to refer to all programs and efforts to improve the rural environment (Jiang, 2006), though the largest and most visible of these projects are in China’s west. In addition to SLCP and NFPP, these also include *tuimu huancao* (which can be translated “retire livestock, restore grassland” or less awkwardly but perhaps less accurately as “converting pastures to grasslands”; referred to above as “natural grassland and pasture should be protected”), ecological migration, and an accelerated program of nature reserve declaration. These extraordinarily large scale projects have been hailed by both Chinese policy-makers and Western observers as a major sign of China’s “greening,” its transformation into an environmental state, and hence its ecological modernization. For example, writing about SLCP, Zhang et al. (2008, p. 68) state that “the program appears to be a perfect model of ecological modernization.” Indeed, China Modernization Report 2007 concludes that the 1998 publication of the National Plan for Ecological Environment Construction marks the point at which China took off for ecological modernization along “pathway 2 – the canal strategy,” one of three possible pathways toward ecological modernization identified by the report. Surprisingly, it lists not just Beijing and Shanghai, but also the Tibet Autonomous Region (TAR) and Qinghai, two of the poorest western provincial-level units, usually designated as ‘backward’ and lagging behind technologically as well as economically, as among the “most ecologically modernized” of provincial-level units in China (Zhang et al., 2007). The vast land areas of Qinghai and TAR that have come under ecological construction projects, including China’s largest and second-largest nature reserves, as well as NFPP, SLCP, ecological migration, and, retire livestock, restore pastures, are what give the two provincial

² The “West” was (re)defined as Xinjiang, Tibet, Ningxia, Inner Mongolia, and Guangxi Autonomous Regions; Chongqing municipality; and Qinghai, Gansu, Shaanxi, Sichuan, Yunnan, and Guizhou provinces.

level units their “most ecologically modernized” status. This underscores the importance of ecological construction projects in western China in the national project of ecological modernization and the conceptualization of China’s transformation into an environmental state.

Drawing on the perspective of critical political ecology discussed above, this article argues that the enthusiastic narrative of China’s greening in relation to these ecological construction projects is limited and flawed. In part because most of the PRC’s ethnic minorities live in its geographical western half, and because there has long been an assumption that studies that address minorities in China speak only to “minority” issues rather than to knowledge about China as such (Vasantkumar, 2006), western China is often treated in scholarly work as somehow marginal or peripheral to the ‘real’ China. However, the centrality of these ecological construction projects to China’s ecological modernization story suggests that a view from China’s west can offer an important perspective on a broader analysis of the emerging environmental state. Here I borrow from the notion of “anthropology in the margins of the state,” in which the margins are important not as a set of exotic practices but rather as “a necessary entailment of the state, much as the exception is a necessary component of the rule” (Das and Poole, 2004, p. 4). Thus, while specific issues with green industrialization, pollution control and recycling in eastern, urban areas are surely different from the management of the rangelands on the Tibetan Plateau, a view from the latter is just as important as the former for understanding the nature of the Chinese environmental state.

Shen’s (2004) assessment of ecological construction and degradation in western China provides a typical example of a positive account of the environmentalization of the state vis-à-vis the ecological construction programs that have accompanied the Open up the West campaign. As such it is worth examining in some length. His premises are that there is massive ecological degradation across western China, and that this has been induced by population pressure and the conversion of forestry, pasture and sloping land to farmland (2004, p. 649). As a result of population growth and agricultural land conversion, “China’s western region has the most serious ecological crisis, which poses a major threat not only to the western region itself but also to the ecological security of the whole country” (637). A Malthusian trap leads to increased ecological degradation: “With low agricultural productivity, more and more labor is employed to produce grain for increased population. . . more and more hilly areas and pastures are converted to arable land which is susceptible to soil erosion and ecological degradation. . . This necessitates the conversion of more land from hilly areas and pasture. Such a vicious circle is close to the familiar concept of the Malthusian trap” (641). This cycle needs to be reversed by converting cropland back to forests, but “[i]t is difficult for peasants to find alternative and adequate means of economic sustenance if they switch from farming to forestation. . . the peasants’ private interests are not consistent with the state’s goal for ecological construction for the benefit of the public at large” (657). The solution is a suite of ecological construction projects, particularly the SLCP, which has the strong support of China’s highest leaders (658). The environmentalization of the state, that is, the internalization of environmental logics into government programs, is viewed as a positive step to achieving the win–win combination of economic growth and environmental improvement that is central to the ecological modernization paradigm: “Will agricultural and economic development help the fight against ecological degradation? The answer is yes. . . government-led projects do show the potential to reverse the trend of ecological degradation in the poor western region.” (661). The problem, in this view, is that “the top priority of peasants is to survive and their private interests are not consistent with the state’s goal of ecological construction”;

but by paying farmers to plant trees, the contradictions of the farmers’ purported “private interests” are internalized, and through the poverty relief that subsidies are supposed to provide, these programs can convert the situation to one of mutually reinforcing economic development and environmental improvement.

This rather common way of understanding the ecological construction of China’s west is flawed in a number of ways that a critical political ecology approach helps reveal. First, embedded within the narrative are the implications that deforestation, cultivation of steep hillsides and conversion of pastures to farmland result simply from population growth, and that local resource users cannot and will not properly manage their forests without state intervention. This ignores a long history of local forest management in China (Menzies, 1994; Sturgeon, 2005), as well as the national political campaigns throughout the Maoist period to “open up the wasteland” and “learn from Dazhai” that called for grain agriculture in ecologically unsuitable areas, including both high altitude grasslands as well as steep hillsides. Moreover, much of this conversion was done by resettled youth from eastern China who set up large state farms in the west (Rohlf, 2003; Shapiro, 2001). In ignoring the broad political forces that led to significant farmland conversion, the narrative implicitly blames local villagers. Further, by posing the “private interests of the peasants” of the west in opposition to both the goals of the state and the good of the “public at large,” this narrative implies the western peasants’ marginal status as those who are not part of the general “public;” they are not citizens with whose goals and well-being the state is aligned. Instead, the Chinese “public” appears to refer only to the citizens of China’s wealthy eastern areas. Insofar as the NFPP and SLCP were enacted directly and explicitly as a consequence of flooding and drought downstream, they are designed to stabilize the western environment in order to protect the wealth generated through increasingly dense articulations with global capital in the east.

Since the early 1980s, and especially since the 7th Five Year Plan (1986–1990), China’s west had been given the role of supplying energy, raw materials, and other natural resources support to the center and “coastal front” engaged with the global economy. The Open up the West campaign was supposed to put an end to this, allowing the west to finally catch up with the east. Yet, the new suite of ecological construction programs suggests a reinscription, rather than an undoing of the long-standing territorialization of western China as the provider of natural resources – and now ecological services – needed by the rest of China (Blaikie and Muldavin 2004; Jhaveri, 2003; Yeh, 2005). Indeed, a number of scholars who have examined aspects of Open up the West other than its environmental components have argued that it is most accurately conceptualized as a program of state and nation-building, a renewed “civilizing mission” to closely incorporate minority ethnic groups, and a reconsolidation of central state control after two decades of decentralization and localism (Goodman, 2004; Holbig, 2004; Lai, 2003; Oakes, 2004, 2007; Shih, 2004). These critical examinations of Open up the West as a new state and nation-building exercise have tended to gloss over the ecological construction aspects of the program, generally stating only that a massive level of investment into environmental protection is part of the program. Yet a closer look at the processes of territorialization at work in the ecological construction projects of Open up the West show that the environmental components fit well into the larger projects of state building.

As Vandergeest and Peluso (1995, pp. 387, 412) argue, “all modern states divide their territories into complex and overlapping political and economic zones, rearrange people and resources within these units, and create regulations delineating how and by whom these areas can be used”; these processes of territorialization include functional territorialization, “controlling what peo-

ple do according to detailed land-classification criteria.” The Chinese Academy of Sciences report on China’s ecological modernization provides a vision of a future that greatly intensifies processes of zoning according to ecological function and land use type: “If all the above tasks [of ecological modernization] are fully accomplished, China’s ecological modernization will reach the world’s middle level in 2050. . . about one-third of the national territory will be covered by forests (about 35 percent), one-third of the territory will be used for agricultural purpose (about 36 percent). . . land for construction purpose will account for about 9 percent of the national territory and land for natural landscaping will account for 20 percent” (CAS 2007). Thus, while ecological construction projects are signs of an ecology-inspired transformation, as the ecological modernization framework suggests, their functional zoning of the west as primarily forests (and grasslands) that provide ecosystem services to the downstream, capital-accumulating east, suggest that they are also part and parcel of power-laden and political processes in the reproduction of the state–citizen relationship, which sort not only territories but also different segments of the population into different roles.

Reading Shen’s (2004) account through a governmentality approach also suggests that the territorialization of the west as a source of ecological services for the east is contingent upon something else taken for granted: a system of ecological knowledge in which it becomes possible to think of vast pieces of territory as “degraded,” and in which a clear connection is posited between the degradation of the landscape and the “security” of downstream areas, which thus authorizes interventions in the form of projects such as NFPP, SLCP, *tuimu huancao*, and ecological migration. At the same time, however, using a governmentality approach to analyze rationalities of rule should not imply that rule is seamlessly accomplished (Rutherford, 2007; cf. Li, 1999, 2007). Instead, it is necessary to analyze both rationalities of rule and how the interventions predicated upon particular discursive regimes are engaged with and compromised in practice at their points of application. I do this below in discussions of the implementation of afforestation and grassland protection projects, including discussions of environmental degradation and of how these projects produce new forms of subjectivity.

3. Afforestation

As the Chinese Academy of Sciences report makes clear, dramatically increasing national forest coverage from the current estimate of some 18% to 35%, and eventually 40%, is a major component of the country’s plans for ecological modernization (Démurger et al., 2005). One part of the plan for reaching this goal is the Natural Forest Protection Program, the implementation of which has dramatically increased China’s log imports from other countries, including those with unsustainable and sometimes illegal harvesting practices, such as Papua New Guinea and Myanmar (White et al., 2006), a result which points to the limitations of nation-state scale analyses of sustainability. The complete logging ban aspect of the program was designed only to apply to state-owned forests, but when it was initially implemented, overzealous officials in Sichuan, Yunnan, and Xinjiang extended the ban to collective forests, in some cases even going so far as to prohibit access to non-timber forest products and fuelwood without offering compensation, thus denying collective owners rights guaranteed to them by the Chinese Constitution (Zuo, 2001). In places where this happened, communities reduced their active management of forests, resulting in increased illegal activities and forest fires, and a shift from community patrol to policing of forests by government workers (Miao and West, 2004).

Studies of the ecological effectiveness of the program to date have thus far been very limited, with case studies suggesting large

variations in implementation (Démurger et al., 2005). Shen et al. (2006) argue that “if properly implemented,” the program will have large-scale environmental as well as economic benefits, a win–win scenario for the environment and the economy. However, Zackey’s (2007) study in northwest Yunnan, which showed that logging by local villagers continued despite the logging ban, provides some insight into the difficulties of “proper implementation.” He found that the reason they logged was neither because of some innate lack of affinity for nature nor because of absolute poverty (indeed the poorest villagers logged the least), but rather because of their frustration at how national economic reforms had apparently left them behind, and as a form of protest against their marginalization within the ever more prosperous country. Long standing patterns of uneven development, exacerbated rather than redressed by the Open up the West campaign, produce resentment among those whose sense of justice has been violated by their perception of both state corruption and their own marginalization. Thus it is not economic considerations alone that can lead to environmental improvement, as the ecological modernization story of greening suggests; instead, moral economy and the politics of citizenship must inevitably also play a role in socioenvironmental outcomes.

Like NFPP, the Sloping Land Conversion Program, has also seen significant variation in local implementation patterns. The program’s rationale, as discussed above, is to pay farmers cash and grain subsidies for five to eight years to plant trees on sloping farmland to “provide[s] an opportunity to break through the vicious cycle of poverty–ecological degradation–poverty, and to enter a path of sustainable development” (Zhang et al., 2008, p. 67). However, there are currently no provisions in place for farmers after their short-term subsidies run out; one survey of 316 participating households in Ningxia found that 79% believed they would not have enough grain after the subsidized period, and thus only 8% said they would not re-convert their land back to cropland after compensation ends (ibid). There is evidence in some areas that not all farmers have received their subsidies; even where full compensation has been received, it has in some cases fallen short of farmers’ revenue before conversion. Moreover, compensation was not adequate for many farmers to successfully develop off-farm income generating opportunities. Although the project is supposed to be voluntary, multiple studies have found that most farmers were not consulted in advance and felt they could not choose whether or not to participate in the program, nor could they choose what kinds of trees to plant (Bennett, 2008; Xu et al., 2004; Zhang et al., 2008).

Other problems include the fact that survival rates for planted trees are often quite low. Bennett (2008) argues that from an environmental perspective, provision of subsidies should be conditioned upon higher survival rates, but that here the environmental protection and poverty relief aspects of the program come into contradiction with each other (rather than being mutually reinforcing). National-level politics have also played a role in the shape of the program: Xu et al. (2007) argue that one of the unstated goals of the program has been to subsidize the State Grain Bureau, a factor that contributed to the relatively high grain (as opposed to cash) subsidy in the program. Farmers also complain that the grain is poor quality, and that they would prefer more cash compensation. Rent-seeking, where villages with connections to the local forest bureaus are able to obtain larger quotas, is yet another problem that has been identified (Bennett, 2008).

The experience of SLCP in one Tibetan village in Ganzi county, Sichuan, further suggests the importance of examining the way governmental rule is actively negotiated rather than passively received by its objects. Tibetan residents interviewed in 2004 did not believe, as farmers interviewed in other surveys appear to, that they would have the right to return to grain cultivation after sub-

sidies end, predicting instead, “they’ll say we took the rice so we don’t have land anymore.” The program was interpreted not primarily as environmental protection, but rather through the lens of the larger struggles over territorial sovereignty that shape life in this restive Tibetan area. At the same time, rather than purchasing seedlings from the forestry department, villagers instead dug out small saplings from mountainsides and replanted them in their own fields, where most of them dried up and died, leading to minimal survival rates. Despite this, they convinced the local government to give them their subsidies. Only when a local religious leader, also part of the local People’s Congress, came for a visit and told the villagers to stop, did they agree to desist from the previous practice of digging up and replanting saplings. A number of villagers also over-reported the size of their own fields that they had under SLCP, in order to claim greater grain subsidies. However, despite their ability to capture benefits from the system in place, the villagers were pessimistic about the future and unconvinced about the stated purpose of the project, remarking about the SLCP, “this is basically a way for the government to take away our land.” In answer to my question of whether the SLCP wasn’t for environmental purposes, the village leader claimed, “For [the government] the planting of the [thorny shrub] serves the purpose of having something to show. There are no benefits to it whatsoever. It’s a responsibility. It serves their purpose. It is only for us to be able to obtain some grain.”

Emerging out of a new rationality of rule, ecological construction projects also help forge distinct forms of subjectivity. Sturgeon (2009) describes the effects of both NFPP and SLCP in Mengsong village, a cluster of Akha hamlets in Yunnan, on the border with Burma. While SLCP was supposed to have been implemented, no grain or money subsidies had been received by farmers. More importantly, the implementation of NFPP severely restricted villagers’ rights to use their collective and even household forests, and also made shifting cultivation, long practiced in the area, impossible. Previous shifting cultivation fields in the process of regenerating into forests were also lost to farmers, leading to a 25% drop in household incomes between 1997 and 2002. Furthermore, these Open up the West ecological construction projects were implemented simultaneously with a strengthened national emphasis on raising the “quality” (suzhi) of China’s population, believed necessary to transform the nation’s citizens into educated, scientific, rational and entrepreneurial subjects needed for China’s entrance into the World Trade Organization (Sturgeon, 2009). The result was the sorting of citizens into those deemed “high quality,” deserving and advanced, and those considered “low quality,” blamed both for China’s continuing backwardness, and increasingly also its environmental problems. Marginalized minorities such as the Akha not only became positioned as “low quality,” a discourse which deflected blame for their loss of livelihood opportunities away from the state and its conservation enclosure of their resources, but which also led them to blame themselves for environmental destruction – to come to see themselves as environmentally destructive (ibid).

This production of environmental subjects through ecological construction can also be seen in a case described by Jiang (2006) in the pastoral Uxin banner of Inner Mongolia. In part because of the way in which local government officials are evaluated, successful performance of ecological construction has come to be equated with increased vegetation cover and practices such as the planting of trees, shrubs, and grasses, in order to make sandy land look green and productive. This has led in Uxin banner to a failure of tree planting policies, including SLCP, on their own terms: not only is the survival rate of tree seedlings very low, but the overdrawing of groundwater for areas planted with trees has led to worsening degradation at the landscape level through lowering of the groundwater table and expansion of areas of mobile sand (Jiang, 2004,

2006). However, while these projects, which also include grassland seeding and other improvement efforts, are thus arguably failures on their own terms, they have had productive effects in terms of producing environmental subjects. Ecological construction programs have succeeded in influencing local perceptions, such that pastoralists have come to equate ecology with greening the landscape, and to believe that intensified planting efforts can accomplish the desired greening. Jiang (2006:1914) notes with respect to these environmental programs that “government policies first alter behaviors, which then help alter perceptions of what is ‘right’ or ‘effective’...suggest[ing]...that individual behavioral changes (often significantly enforced by the state) can precede and lead to changing perceptions.” This is strikingly similar to Agrawal’s (2005) governmentality approach to understanding community-based natural resource management in the Indian Himalayas. For Agrawal, participatory, decentralized management in forest councils sets conditions through the arrangement of repeated, embodied action for the production of self-governing environmental subjects; through bodily participation in monitoring and enforcement in village forest council rules, the rhetoric offered by villagers for why they wish to protect the forests comes to echo precisely the objectives pursued by the colonial Forest Department more than a century ago (ibid). In other words, environmental behavior precedes environmental interests.

In addition to commenting indirectly on how ecological construction projects produce subjects, Jiang (2006) also makes another important observation about ecological construction: the “green” that villagers come to associate with ecology is not just the color of the (newly) desired landscape but also money or financial benefit. Government funding, including household loans, has been linked to efforts to increase economic growth through grassland improvement, with households expressing interest in both financial growth and grassland improvement receiving loans for land use intensification in the form of seeds and irrigation equipment. Households were also offered other incentives, such as awards of 10,000–50,000 yuan and use rights for 50 years for those that managed to reclaim 5000 mu³ of sandy land. As Jiang (2006:1918) puts it, “the local government has used ecology to represent material results (trees, shrubs, grasses, and crops) on the landscape, and followed a goal-oriented ecological construction that considers ecology as a means for growth.” While this is precisely what ecological modernization suggests should be the goal, we have already seen that these programs have failed ecologically on their own terms, when viewed at the landscape level.

Furthermore, the prevalent slogan in Uxin Ju that “to have the economy soar, forestry must lead” (ibid:1915) and the belief that ecology is a means for growth, resonate with greening processes elsewhere in China, where greening has become primarily a means to compete economically. The rush to designate nature reserves of all kinds from the 1990s onward can be attributed in part to deregulatory strategies which have allowed local governments to play an active role in their designation – often in the hopes of achieving the administrative status and the tourist income that typically accompany reserves (Jim and Xu, 2004). Similarly, Boland and Zhu (accepted for publication) show that China’s growing urban “green communities” programs are fundamentally linked to broader processes of urban restructuring in China; the “greener” a city can market itself as being, the brighter its economic prospects, in the competition between cities to attract investment capital. Eco-ideals alone cannot explain the emergence of the “green community” model in China; instead “the emergence of communities as socioecological objects of regulation is a spatial strategy adopted by cities in response to the increased importance placed on the

³ One mu = 1/15 ha.

environment in formulas for economic development,” a strategy that relies on state and Communist Party efforts to strengthen the “community” as a territorial base unit of urban administration (ibid). Just as urban green communities often focus on practices that are arguably not the most urgent ones for environmental protection, such as reminding residents to stay off of lawns, removing security bars, and adding potted plants (ibid), nature reserves often have little significant biodiversity value or are too small to be ecologically viable (Harkness, 1998; Harris, 2008), and afforestation programs can result in the growth of patches of trees but also the expansion of sandy areas (Jiang, 2006). While often failing to have significant ecological benefits, tree-planting, green communities and the declaration of new nature reserves can work more effectively as spatial strategies for competitive advantage among local governments seeking to attract capital. Ecological modernization suggests that economic and ecological success should be mutually reinforcing, but numerous examples from China suggest this not to be the case.

4. Grassland improvement

Like forestry programs, successive policies that have been launched to manage rangelands, which constitute about forty percent of the PRC’s land area, also appear to increasingly incorporate ecological considerations into institutional developments. Furthermore, these rangeland protection programs have recently been incorporated into China’s national climate adaptation plans, a move which suggests a further reflexive internalization of ecological rationales into governance. In particular, both China’s National Climate Change Program, prepared by the National Reform and Development Commission and released in June 2007 and the State Council’s White Paper on China’s policies and actions on climate change, released in 2008, include specific references to current rangeland policies, including *tuimu huancao* (retire livestock, restore grasslands), and other measures to control grazing intensity, and continued fencing as key measures to enhance climate change adaptation (NDRC, 2007; State Council, 2008). These policies were put in place before the formulation of climate adaptation strategies, but are assumed to be “win–win” for both grassland health and climate change adaptation. However, as I will argue, evidence suggests that these policies are likely to fail on their own terms, neither significantly improving rangeland conditions nor enabling successful climate adaptation. They also have unjust distributive effects and depoliticize the extension of state power (cf. Ferguson, 1990). At the same time, however, the interventions are compromised in practice and varied from place to place.

One of the basic premises of the rangeland policies that are now also considered useful for climate adaptation, is that there is large-scale, severe, grassland degradation across China’s pastoral areas, particularly the Tibetan Plateau. Since 2002, when it was published by the State Council the statistic that “90% of China’s grasslands are degraded, and that the degradation is increasing at a rate of 200 km/year” has become pervasive in scientific papers as well as official publications. However, these figures have not been subject to much scrutiny. As Harris (2009) notes these statistics “derive from undocumented surveys conducted by local-level staff of grassland and livestock bureaus,” without a baseline, or training in field methods. More rigorous attempts to quantify the extent of rangeland degradation have had much more ambiguous and conflicting results (ibid). While there is little question of localized overgrazing and degradation in some areas, the dire national statistics that provide justification for recent rangeland policies, particularly *tuimu huancao*, remain highly questionable (see Goldstein and Beall, 2002; Holzner and Kreichbaum, 2000).

In addition to an assumption of pervasive, severe degradation, rangeland policies implemented since the extension of the house-

hold responsibility system from farmlands to rangelands beginning in the mid-1980s, have also been based on a tragedy of the commons assumption that overgrazing and poor management are the cause of the problems. First introduced in Inner Mongolia shortly after the decollectivization of livestock, and then gradually to other pastoral areas in western China, the assumption of the household responsibility system is that only privatization of rangeland use rights can give herders the needed incentive to control their livestock numbers, properly manage their grasslands, and convert their “unproductive” way of life into an efficient, market-oriented system. However, anthropologist Williams (1996, 2002) found in Inner Mongolia that only rich households could afford to buy barbed wire fences; they fenced more than they were allocated but saved their fenced land for emergencies, grazing instead on unfenced common land. This significantly increased grazing pressure on unfenced land, creating a tragedy of the commons (or rather, a tragedy of open access) where none existed before (see also Ho, 2000; Jiang, 2005, 2006).

In pastoral Xinjiang in far northwestern China, despite the legal allocation of rights to individual households, little land has actually been fenced (Banks, 2001, 2003). Instead, groups of households continue to graze in common, and fuzzy boundaries persist. These apparently inefficient aspects of rangeland tenure may in practice actually have benefits such as economies of size in herding and boundary monitoring for the group as a whole, abatement of environmental risks, and a better match for the spatially concentrated nature of resources such as water. These benefits, which derive in part from biophysical differences between pastoralism and farming, are often ignored but could present opportunity costs in further privatization (ibid). These costs have been noted on the Tibetan plateau as well, where most winter (but not summer) pastures have been legally divided to households, except in the TAR, where implementation is still ongoing. Implementation varies widely even within provinces. As in the case of Xinjiang, in parts of pastoral Ganzi prefecture in Sichuan province, the actual division of the winter grasslands exists more on paper than in practice, and in some villages local religious leaders have instructed households to take down their fences after conflicts appeared. In pastoral Aba prefecture of Sichuan province, by contrast, both boundary fencing and the household allocation of winter pasture have been more extensively implemented, and in some areas such as Zorge’s Xiamai township, pastoralists no longer have distinct summer and winter pastures, but rather one single pasture per family, as in a western ranching model (Yan and Wu, 2005).

Where winter rangelands have been divided, inequitable allocation has in some cases severely limited some households’ access to both pasture and water resources. According to some researchers, rangeland privatization on the Tibetan Plateau has, by reducing flexibility in a non-equilibrium ecosystem, exacerbated rather than ameliorated degradation (Miller, 2000). Rangeland division has also been associated, in various parts of the Plateau, with reduced access to social and economic services, an increase in conflicts over access to rangeland, reduced mobility for wildlife, and in places where wells have been drilled to compensate for lack of access to water after fencing, vegetation diversity change due to lowered groundwater levels (Goldstein, 1996; Wu and Richard, 1999; Yan and Wu, 2005; Yan et al., 2005; Yeh, 2003). In Zorge county of Sichuan province, the estimated number of pastoralists facing lack of water availability tripled after rangeland allocation, to 60–70% of the population, with pastoralists reporting spending an average of two to three hours a day fetching drinking water (Yan et al., 2005). Much of the area, including Xiamai township, was once a productive wetland, which was drained in the early 1970s in order to create more pasture. This drainage, exacerbated now by the digging of wells by households whose pastures do not have access to

water, has led to significant drying and deterioration of grassland condition in areas that were once significant wetland.

Critical research on grassland policies has been conducted for some time, but their impact in the Chinese policy arena has been slow to be felt. *Blaikie and Muldavin (2004, p. 542)* argue that this is because “the state and its science wields overwhelming authority in creating a singular environmental ‘truth,’ and excludes from legitimate discourse other types of knowledge about the environment and the practices of natural resource use by the resource users themselves.” There are signs of change, more an “epistemic thaw” (*Hathaway, 2007*) than a paradigm shift, such as the recent formation of the People and Grasslands Network in Beijing, with members that include not only college students, intellectuals, and NGOs but also government officials, who hope to use insights from scholarly studies such as those of *Williams (2002)* and *Ho (2000)*, to prevent the “mistakes of Inner Mongolia” from being replicated in other areas (*Chang, 2007*).

At the same time, though, another challenge to herders’ livelihoods has been launched recently through a new ecological construction program known as *tuimu huancao*, sometimes implemented in conjunction with ecological migration. *Tuimu huancao* began as a variant of SLCP, but has grown into a program that territorializes grasslands into various zones (the specific rules of which vary from place to place): zones declared off limits to grazing for 10 years if not permanently; zones to be free from grazing for several to 10 years; and zones where pastures will be managed through rotational grazing (*Yeh, 2005*). In some cases, the areas to be fenced off for several to 10 years are also to be seeded. Implementation, again, varies widely. In some parts of Sichuan’s Ganzi prefecture, the program has taken the form of new concrete-post fencing along the highway, some of which is not necessarily even fully enclosed away from the highway, an example of what is often referred to as “appearance engineering.” However, local residents must guard the valuable fence from thieves, lest the fence goes missing when officials come to inspect; the program thus becomes a form of corvée labor that villagers must perform.

The program takes a very different character in the areas of Qinghai province that have been designated the Sanjiangyuan (“headwaters of the Three Rivers,” referring to the Yellow, Yangtze, and Mekong Rivers) Nature Reserve (*Yeh 2005*). Within the 150,000 square kilometer area of the declared reserve, *tuimu huancao* is being implemented in a more dramatic way, with restrictions on livestock numbers, as well as long-term off-limit zones combined with ecological migration. Throughout the area, those who stay on the land are now allowed to keep one sheep unit equivalent per 12 mu. Herders who take part in the program are to sell all of their livestock and be relocated in settlements in towns, where the government provides a house as well as cash and grain subsidies over a 5–10 year period. Thus, unlike SLCP and other rangeland programs to date, this form of *tuimu huancao* does not seek to privatize resources to give herders better incentive to manage them, but rather removes them from the land altogether. In one ecological migration resettlement area just outside of Jyeku town, seat of Yushu prefecture, Qinghai province, where 240 households were resettled in 2005, each household is supposed to receive 6000 RMB⁴ per year, as well as 100 kg of flour, for five years as a feed grain subsidy. In addition, the relatively few households that previously had a property title to their houses on the grasslands were to receive an additional 70,000 RMB as compensation, though herders claimed that 38,000 RMB was taken out for the house they were given in the relocation area, with the remaining amount distributed over 10 years. Those who do not have a title were to receive 60,000 RMB, again with 38,000 RMB taken out.

In return, these herders are not allowed to return to their pastures to graze livestock for 10 years. Other accounts suggest that herders receive compensation varying between 2600 and 5700 RMB per year, and that 90% of the cost of their houses at the relocation site are paid by the government (*Dell’Angelo 2007; Perrement, 2006*). According to a Qinghai government plan in 2004, households who resettle voluntarily in groups and who permanently give up livestock herding would be given subsidies of 80,000 RMB as compensation, as well as 8000 RMB grain subsidies over 5 years; those who voluntarily resettle as individual households and who give up herding for at least 10 years are given 40,000 RMB and 6000 RMB as grain subsidies. Finally, herders who had moved, presumably for reasons of deteriorating environmental conditions, ahead of program implementation are to receive a 20,000 RMB compensation package and 3000 RMB of grain subsidies per year.⁵

Although this resettlement program is supposed to be voluntary, the sheer scale of the program suggests that it would be difficult to achieve government targets on a purely voluntary basis. Between the beginning of program implementation in 2003 and the end of 2007, official statistics were that 60,000 out of the 200,000 Tibetan herders living in the area had participated in the program and been resettled, with another 40,000 to move, for a total of 100,000 or 50%, by 2010 (*Foggin, 2008; Xinhua, 2007b*). Among these, all 43,000 nomads living in the eighteen designated core areas (20% of the reserve area) are to be moved out (*Wang and Jiao, 2008*). In the Jyeku resettlement area, an early pilot of the program, residents reported that they did indeed move voluntarily, though some regretted having moved. While many agree that the houses are indeed better than the ones they lived in as pastoralists, they also find that life is too expensive in the town, where they must pay for electricity and water. Even more importantly, the Tibetan ex-pastoralists do not have Chinese language and other skills needed to earn an income in the Chinese-dominated towns, leading to unemployment and no income stream in the future. Many are currently living entirely off government subsidies, having already used up whatever money they earned selling off their livestock, leaving important questions about what they will do once their subsidies run out (*ibid*). Indeed, some social problems have already emerged, with resettlement areas quickly earning nicknames such as “robber villages.” In Jyeku, people in town claimed that the area was dangerous and crime-ridden because the idle former pastoralists had all become thieves, and taxi drivers routinely refused to drive to the settlement. While job training is supposed to be provided, and educational opportunities for children are said to be one of the major benefits of resettlement, as of 2006 residents of the Jyeku settlement did not have either job training or a school. Indeed, the biggest complaint of the residents was that they wanted an elementary school for their children, because the one in the main town was too far to walk to. In other resettlement areas, children have been able to access compulsory education, but government training schemes have been found to be ineffective, and problems have been reported with receiving subsidies in time (*Dell’Angelo, 2007*).

Current problems with pastoralist livelihoods are likely to be further exacerbated once subsidies run out. While some former herders have found work as unskilled construction laborers or new income opportunities, such as breeding and selling Tibetan mastiffs, many others are subsisting only on the temporary subsidies. *Dell’Angelo (2007)* identifies a “threshold of dissatisfaction” in which families that owned more than 30 yaks prior to resettlement were generally unhappy with moving, even though they had

⁴ The exchange rate is roughly 6.9 RMB = 1 US dollar.

⁵ “7300 nomadic households in Qinghai voluntarily implement *tuimu huancao* and settle down in towns” (Qinghai 7300 hu mumin ziyuan *tuimu huancao* dingju chengzhen) http://www.agri.gov.cn/gndt/t20041220_287659.htm last accessed 3 May 2009.

done so voluntarily, whereas those who had fewer livestock felt they were better off, though they also worried about future livelihood prospects. Tibetan town residents sometimes offered much more pessimistic views about the resettlement than the herders. One local intellectual in Jyeku argued in 2006 that the herders had been tricked into moving by the short-term subsidies, and that once the subsidies run out the Chinese government would point to the social problems (which he claimed were fighting and alcoholism) that had arisen as a result of the resettlement, and use them to point out what a backward ethnic group the Tibetans are. He argued, “In my opinion, I think that the ultimate reason for this policy is not environmental protection. . . In the end, I believe it is a plan to eliminate the minzu [ethnic group]. . . [which] has caused more problems for China internationally than any other.”

To counter such sentiments, the state has explicitly argued that Tibetan culture will not be lost because of resettlement, as “nobody is stopping them from carrying out their culture. . . they can still sing and dance” (Fan, 2008). However, an understanding of culture as both material and inextricably linked to embodied practices, suggests that a sudden shift to a more urbanized, Han-dominated economy cannot but have cultural effects. Nor is it unreasonable to observe that in Tibetan areas of the contemporary PRC, Tibetan language is most pervasively spoken in rural, not urbanized areas. Movement of large numbers of herders to urban areas is likely to have real effects on the prevalence of use of Tibetan language. Regardless of the degree to which the policy is in fact a deliberate strategy to alter Tibetan cultural practices, the widespread perception among Tibetans that it solves a problem of governance by doing so, itself contributes to an increased likelihood of resentment and resistance to the program, as well as further tensions in the state–citizen relationship.

Furthermore, although this program has been officially listed as an important climate adaptation measure and hailed as a sign of the state’s commitment to future sustainable development, there is minimal evidence that removing herders will guarantee greatly improved grassland conditions. In fact, recent ecological evidence from warming and grazing experiments on the eastern Tibetan Plateau suggests that the presence of moderate grazing modulates the expected effects of global warming on reduction of biodiversity and rangeland quality. While experimental warming leads to decreased species richness, including a specific decline in medicinal plants species, as well as decreased biomass, including palatable biomass, these effects are dampened in the presence of grazing (Klein et al., 2004, 2007). These results, particularly those having to do with biodiversity, suggest that the *tuimu huancao* policy cannot be considered adaptive for climate change.

Thus, here too, the ‘greening’ of state governance with respect to grasslands may be more effective as a form of internal territorialization, a method of governing an unruly minority population through the declaration of functional land types and categories, than as a form of either development or environmental improvement. Indeed, just as “political forests” refer to the declaration by states around the world of certain lands as “forests,” thus constituting them as proper targets of state ownership and intervention (Peluso and Vandergeest, 2001; Sivaramakrishnan, 1999), *tuimu huancao* can be thought of as creating “political grasslands” or perhaps “political deserts”; it declares as desertified or degraded territories that are to be conceived of as grassland (*caochang*) rather than pasture (*muchang*), thus targeting them for particular state logics of expropriation and care. More generally, ecological migration and *tuimu huancao* are components of a broader reterritorialization of China into zones of graduated sovereignty (Ong, 2006), from Special Economic Zones to zones deemed too ‘degraded’ for certain kinds of citizens and livelihoods. The protection of China’s “water tower,” as the Sanjiangyuan region has been dubbed, is also said to be vital to the country’s ecological security, suggesting the

way in which this particular discursive regime of environmental protection is tied to the reproduction of the nation and the relationship between the state and its citizens. The logic in which the purported improvement of both the environmental conditions of Tibetan plateau grasslands (which in turn is to protect the wealthy cities downstream from further flooding and thus the ecological security of the country) and the herders (who are to become more “developed” by becoming urban residents) will be accomplished is part of a power/knowledge regime that authorizes interventions that help control a recalcitrant population.

However, it is important not to read governmental rule as a completed project uniformly and passively received by its objects, as suggested by the example above in which *tuimu huancao* fences are not fully enclosed (Li, 2007; Rutherford, 2007). Understanding the state as a “self-conflictual institutional ensemble” (Lin and Ho, 2005, p. 436) highlights the incentive structures that lead local officials to fence primarily along highways and to require villagers to patrol fencing material rather than the grasslands. Similarly, fencing programs are favored by local officials in some areas despite problems, because they are seen as an effective way of capturing state subsidies (Bauer, 2005). Furthermore, even in some parts of the Sanjiangyuan area, it is primarily those families with few or no livestock who have migrated, and their pastures are in some cases still being grazed by other families, thus undermining the ecological rationales of the program. In addition, environmental interventions also produce new subjectivities and desires, in sometimes unexpected ways. In parts of pastoral Xinjiang and Tibet, nomads find some aspects of environmental programs objectionable while simultaneously desiring other elements, such as settled housing and fencing, as indices of modernity and of the development owed to them by the state (Zukosky, 2007; cf. Li, 2005; Sturgeon, 2007). Projects of ecological construction, which render particular state interventions as technical projects of environmental improvement, lead their subjects to identify and position themselves in new ways in the course of accommodation and struggle, which in turn sets the terrain for further socio-natural transformations and interventions.

5. Conclusion

Studies of environmental problems and environmental protection in China’s west are often thought of as case studies that inform us about a specific locale, but not about the dynamics of environmental governance in China as a whole. Yet a view from the cultural, political and economic margins can reveal as much about the operation of governing logics and state power as can one from the center. Moreover, it is clear that ecological construction projects in the west play a prominent role in China’s plans for national ecological modernization.

In presenting a critical view of the ecological construction projects that have accompanied China’s Open up the West, my purpose has not been to argue that China has witnessed no environmental improvement, or that all environmental protection initiatives have had uniformly inequitable outcomes. Nevertheless, in China’s west, the environmental protection programs that have been celebrated by both western observers and Chinese proponents of ecological modernization have in many cases had the effect of further marginalizing already politically and economically marginalized citizens, while also producing only questionable environmental benefits. In particular, multiple cases of the implementation of forestry and rangeland protection programs show that a key assumption of ecological modernization, that economic growth and ecological protection will feed each other in a virtuous, mutually sustaining circle, often does not hold. Though China’s ecological construction projects do reflect an integration of certain environmental logics and rationales into state governance, the environmental rationales are in some cases not backed by scientific

evidence, and the results often disproportionately take away access to resources of some groups over others. These kinds of problems, however, are not addressed by an ecological modernization framework, which focuses instead on questions of the extent to which technical innovation and economic institutions help extend environmental reforms, and to which ecological phenomena are inserted into modernization processes more generally. Furthermore, China's own articulation of its ecological modernization path eliminates discussion of what are arguably the most promising parts of the ecological modernization framework, concerns about the changing nature of politics and the relationship between state and civil society. Instead, the focus is only on the greening of China through market logics and new plans and projects.

Thus I have argued that a critical political ecology approach is a more productive way of analyzing the greening of western China. In this perspective, it is important to understand what forms of knowledge and representation allow 'the environment' to come into being as an object of regulation and intervention, and what the implications of these authorized interventions are, not only for ecological outcomes and the livelihoods of specific groups of affected people, but also for the relationship between the state and different groups of citizens and for the production of new interests and subjectivities. It becomes clear that ecological construction projects in western China constitute a form of reterritorialization, categorizing different kinds of citizens as having different degrees of worth, with some considered to be aligned with the interests of the state at large, and others, seen as marginal to the broader Chinese public, who become the targets of intervention of ecological construction projects. Thus, new environmental logics in China, in which there is an incitement to identify as 'green,' affect both concrete environmental conditions and also enhances profits, productivity and power for some regions and citizens over others. At the same time, we cannot assume that green governmentality is a completed project of rule. Instead, there is much more grounded work to be done on how China's ecological construction and protection programs are being implemented and experienced in differentiated, place-specific ways, and with what effects for biophysical conditions as well as conditions of social and environmental justice.

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