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Fields and Forests

Ethnographic Perspectives on Environmental Globalization

Edited by
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Globalizing Environments and Indigenous Practices

Daniel Münster, Ursula Münster, and Stefan Dorondel

Introduction

Around the world, fields and forests are increasingly dominated by the market, mediated by science, and subjected to new modes of transnational environmental governance. This volume of *RCC Perspectives* presents ethnographic insights into the impacts of such environmental globalization. As agriculture seeks new methods to provide for a growing population, and as forest conservation becomes more and more contested, local and indigenous communities must balance their needs and desires with the demands of a variety of external agents, from academics and bureaucrats to governments and international agribusinesses. In a context of increasing concern about climate change, deforestation, and other limitations on our global way of life, new conflicts and contestations emerge around conservation and agrarian land use. Who decides, for instance, whether communities have the right to continue "slash-and-burn" cultivation? Who decides whether communities sharing forests with wild elephants should be able to hunt or contain them? Who decides what seeds, chemicals, and technologies are used in agriculture? How are the boundaries drawn between wildlife and humans, commons and private land, forests and fields?

While they are contested in these and in similar ways, fields and forests appear in the environmental humanities and social sciences mostly as separate domains of study. Indeed, they have remained largely intact as ideal-typical (*idealtypische*) constructs, as abstract rather than concrete categories of place, despite a consensus to move beyond misleading binaries (culture and nature, wilderness and cultivation, non-agrarian and agrarian). By bringing together cutting-edge anthropological studies in the political ecology of both agrarian change and forest conservation, this special issue of *RCC Perspectives* seeks to start a conversation across these domains, showing transgressions of their boundaries by agrarian practices, commercial interests, itinerant groups, wild animals, science, capital, and states.

The contributions in this volume are ethnographic studies located on both sides of the boundary—geographical and conceptual—between fields and forests. Together they are testimony to the rich new scholarship in environmental anthropology. The papers are the outcome of a stimulating workshop held at the biannual meeting of

the German Anthropological Association (DGV) in Vienna in September 2011.[1] At the event, a diverse group of young scholars, based in France, Germany, India, Mexico, the Netherlands, Romania, and Sweden discussed the "contested environments" of agriculture and forests. The articles, while dealing with particular case studies, share a commitment to a historical and ethnographic understanding of the contemporary environmental situation in different parts of the world. These grounded engagements with lived experiences in space and time demonstrate the permeability and malleability of the boundary between fields and forests. However, they also document its constant re-creation and reproduction in the context of state power, transnational conservation efforts, policy, law, and social movements. The comparative perspective of this set of papers, which deal with environmental realities in the Amazon, the Himalayas, southern India, southern Africa, France, Nicaragua, Romania, and Mexico, draws attention to global trends in both agrarian change and forest conservation.

Some contributions to this volume address directly the conceptual and material border-making between fields and forests, agriculture and conservation. Others engage with the issue by addressing themes that are of potential relevance to an integrated study of global environmental transformations. In our discussions during the workshop in Vienna, shared perspectives appeared that seemed useful to most of our work. First among them was a heightened awareness of the materiality of non-human agency: soils, animals, chemicals, micronutrients, and invasive species have a prominent place in our work. Secondly, most of us acknowledged the importance of science and technology, not only for understanding the material aspects mentioned above—or the technologies involved in practices like "slash-and-burn" cultivation or the placement of electric fencing at the forest boundary—but also for their role in emerging projects of environmental governance: both forests and fields are historically domains for the "rule of experts" (Mitchell 2002). Thirdly, many of our discussions were about governance, law, policy, and resistance. In many cases, state policies and governance programs trigger opposition movements or create conflicts and struggles over the control of nature, landscapes, and the resources at stake. Finally, we reflected on disciplinary moorings, as well as the contemporary relevance of agrarian/peasant studies and the political ecology of forest conservation for our anthropological work.

1 The panel was generously supported by the Rachel Carson Center for Environment and Society, who provided travel grants for several participants including the editors.

Agrarian studies have been criticized for being largely cursory about ecological questions. As Sivaramakrishnan and Agrawal put it: "The desire to identify modes of production, modes of power and their attendant relations of production prevented agrarian studies from looking at the environment" (Agrawal and Sivaramakrishnan 2000, 4). Agrarian production has had a central place in historical and anthropological musings on the evolution of civilization and the emergence of industrial capitalism. The agrarian question was a question of capital and of labor (Bernstein 2006), a question of disappearing peasants and the paradoxes of class formation among owner-cultivators. But rarely was the agrarian question an environmental matter. However, a wider reading of the agrarian literature beyond the narrow circles of peasant studies may reveal a range of ecological concerns in agrarian studies. From Rachel Carson's alertness to agrochemicals in *Silent Spring* (Carson 1962), the ecological critique of the Green Revolution (Shiva 1991), and—more recently—the GMO revolution, to studies about historical food regimes (Friedmann 2005) and capitalist world ecology (Moore 2010), environmental concerns have played a pivotal role in agrarian studies.

Critical scholarship on forests has a good record of overcoming the dichotomy between wilderness and manufactured landscapes. Anthropologists have produced an extensive body of literature showing that all ecosystems have been influenced by humans for centuries (Headland 1997), and that nature is inherently cultural. Nature-culture dualisms have been deconstructed by numerous authors (Descola and Palsson 1996; Ingold 2000), and criticized as a creation of western modernity (Latour 2000). Historians have shown that forests, instead of being timeless pristine spaces of wildlife and biodiversity, are political and historical products. Forests have played a major role in imperial states (Gadgil and Guha 1992; Grove 1995; Sivaramakrishnan 1999), while high modernist scientific developments (Scott 1998) have had significant impacts on forestry and conservation and thus, also, on the materialities of forests. However, most studies looking at conservation landscapes and wildlife protection have not engaged with agrarian relations, nor have they seen the forest as an important site of production.

In this issue we propose to look at forest and agricultural dynamics at the same time and in a close relation. As the contributions reveal, boundaries between forests and fields are contested, porous, and ambiguous, and deserve to be studied in their own right. In many areas of the world, there is a broad interrelation between increasingly protected forest boundaries and agriculture. In numerous settings, "agrarian frontiers" (cattle, soy

beans) extend into forested areas, with ecological, social, and political consequences that reach beyond the established trends of forest clearance, decline in biodiversity, and displacement of indigenous peoples. Global deforestation, mainly through conversion of forests into agricultural land, is taking place at an alarmingly high rate—about 13 million hectares per year (Food and Agriculture Organization of the United Nations 2010). On the other hand, authoritarian state forest conservation continues to deprive local peasants of much needed commons for use as grazing grounds or as water and wood sources.

Critical research has pointed in particular towards the politics and violence associated with the creation of natural parks and protected areas throughout the world, initiatives that have dispossessed local villagers of their lands and broken longstanding connections between villagers and the surrounding landscapes (Cronon 1996; Peluso 1992). Coercive management regimes of forest areas are justified in the name of conserving a common global good. In addition, scholars are increasingly aware of a proliferation of new forms of capitalist conservation (Arsel and Büscher 2012; Brockington et al. 2008). Such neoliberal conservation involves the creation of private parks, eco-tourism, policy innovations like payments for ecosystem services, carbon or emissions trading (including REDD and REDD+), and other possibilities for turning nature into a marketable commodity. Neoliberal forests point towards new possibilities of accumulation that, ironically, have emerged in the wake of capitalism's detrimental impact on forests and the environment.

Agriculture under the present post-World Trade Organization regime is also undergoing neoliberal transformations. These include the global process of transnational land-grabbing by which corporations accumulate sites for food and fuel production (Borras Jr. et al. 2011), the increasing corporate control of seeds and the implementation of new intellectual property regimes, and increasing insecurity for small-holders, as well as the emergence of a global food regime based on unequal access to healthy food (Friedmann 2005). Scientific and technological advances are increasingly married to corporate interests, a process that constitutes the hitherto unimaginable appropriation of the most fundamental of commons: that of life itself. The new legal regimes concerning genes, seeds, and patents run parallel to a proliferation of standards and regulations (Dunn 2005). This new form of agrarian capitalism, carried across the globe by powerful corporations, contributes in a significant way to new forms of social differentiation, and

affects those who rely on their land as the single means of subsistence. Faced with a steady decline in commodity prices, competition by agribusiness, and declining state support, many farmers today find that the very "right to continue being agriculturalists" (Edelman 2005, 332) is increasingly at stake.

This collection of short articles will give readers a taste of a new environmental anthropology committed to an ethnography of the contemporary and characterized by a combination of realist critique, historical sensibility, and attention to cultural nuances.

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The State and Transnational Environmental Governance

Stefan Dorondel

Neoliberal Transformations of the Romanian Agrarian Landscape[1]

Among other profound social and economic changes, the breakdown of the socialist regime in Romania led to fundamental land reforms. Land restitution occurred partly to redress historical injustices—land was given back to its original owners—and partly to increase economic efficiency in agriculture. State bureaucrats in charge of postsocialist land reform regarded it as a way to unmake the system of collective agriculture, to improve the land tenure system, and to increase the economic efficiency of a country that was once dubbed the "granary of Europe." The centrally designed land reform had to be implemented by the lower levels of state bureaucracy: the mayor, the secretary of the mayor's office, the agricultural officer, and the representative of the Local Inspectorate of Forests (LIF) were all empowered by the state to implement land reform at every level. However, to paraphrase an old Romanian saying, many go out for wool and come home shorn. The local bureaucrats had their own economic interests, interests that rarely coincided with those of central government. Their embeddedness in local social networks, whose interests they represented and defended, and their struggle to acquire or maintain privileges, had not been foreseen by central government (Verdery 2003).

This paper explores the unintended local outcomes of the centrally designed land reform in postsocialist Romania. I examine two strands of this story in order to understand how land reform was thwarted at a local level. First, I show villagers' local ecological responses to wider neoliberal economic changes. The return to private ownership, a tenet of both neoliberal ideology and postsocialist policies (Hann 2007), did not suddenly turn the villager into an indomitable farmer aiming to conquer the market. Rather, villagers have revived pre-collectivization agricultural practices, such as intercropping and crop diversification, in their attempts to survive the changes. Instead of increasing animal husbandry, the mountain villager has reacted by changing the emphasis of the local economy to rural tourism. Secondly, this paper argues that local state bureaucrats had the power and the incentive to affect the desired results of restitution of land and forest to pre-socialist owners. The bureaucrats have made use of this power to thwart

1 This is a shortened version of the introduction to a book, tentatively titled *The Wrath of Change: State Elite, Land Politics, and the Transformation of Postsocialist Landscape in Romania*.

the intentions of land reform. Indeed, as I will show, such local power relations have shaped the postsocialist agrarian landscape.

Peoples' responses to neoliberal assumptions—that private property will turn the villager into a capitalist farmer producing for the market—and the local bureaucrats' struggle for privileged access to natural resources have left deep marks on the agrarian landscape. These radical changes include land fragmentation, agricultural extensification, deforestation, and the extension of built-up areas at the expense of pastures.

This paper suggests that only a comprehensive discussion of the agrarian landscape, which includes natural resources such as cultivated land, forest, orchards, and pastures, would give an account of the magnitude of postsocialist changes in rural areas. Unlike other authors working in postsocialist settings who have looked only at the socioeconomic relations (Hann 1993; Verdery 2003), I include in my analysis non-human agents such as land, trees, crops, and animals. By allocating a more central role to the non-human agents influencing human relations in postsocialist studies, I seek to add to a scarce but continuously growing body of literature (Staddon 2009; Stahl 2010).

Before proceeding with the analysis, I wish to indicate that I understand landscape as being produced through land-use practices in a certain place in a certain historical moment (Wiersum 2004, 131). Seeing landscape in this way suggests that landscape is not only a social product, a consequence of the human transformation of nature, but that it is also defined by perceptions, meanings, values, and struggles (Crosgrove 1998). While land use is a technical term defining human activities concerning the land—frequently with an economic and political emphasis—landscape is a much broader term. It incorporates the different historical meanings that people attach to their land, ranging from personal and social identity to social status, morality, and economic value (Hann 1993; Verdery 2005; Dorondel 2005). Landscape, produced by land-use practices, bears the marks of different ideologies and of state power. One example is the constitution and established functions of national protected areas throughout the world. Different groups view this land in different ways: for the state or for conservation agencies, it is an area of precious biodiversity, while for local villagers it is a space for hunting or cultivation.

Landscape is thus invested with various ideologies and becomes the arena for a political struggle between different groups (Moore 1993; Walker and Fortmann 2003).

This struggle involves imposing one's view of landscape and its uses and asserting who should define how it is managed. Forests, for instance, play an essential role in determining local social dynamics. Forests have a history, interpreted in different ways by locals and the state, and a political life. Patronage relations have been built around forests, and local politics depend significantly on access to forests. Animals populating forests, such as the wild boar, play a central role in shaping the local economy. By contributing for years to the destruction of the pastures of the mountain communities, the wild boar has contributed to the steady shift to rural tourism.

The Worker-Peasant and the Entrepreneurial Peasant

There are two intertwined stories regarding changes in the landscape. The former concerns the villagers' reactions to neoliberal, centrally planned land reform. In this narrative, the villagers have adapted their agricultural practices to the land fragmentation. The outcome of this adaptation is the extensification of agriculture. The latter story concerns the clash of interests of the local state bureaucracy with the central planners of land reform. This clash left physical marks in the agrarian landscape by transforming the pastures into built-up areas and by initiating severe deforestation.

In order to analyze the subtle mechanisms behind the drastic changes in the landscape, I propose to conduct an ethnography of both villagers' and local bureaucrats' practices in two communes[2] in Walachia, Arges County (in the southern part of Romania, close to the Meridional Carpathians). One characteristic of these two communes is that villagers are not entirely dependent on agriculture: in one commune (Dragomiresti), they are worker-peasants, and in the other (Dragova), they are involved in rural tourism. The practices of worker-peasants can be seen as a way of reacting to wider economic changes, with a dynamic that differs from that of a peasant relying exclusively on land cultivation. A farmer, whether he or she produces for subsistence or for the market, will concentrate all of his or her working time on the land. The worker-peasant simply cannot afford such a luxury, since he (most people working in this industry are men) splits his working time between an industrial job and agricultural labor. The time he allocates to agricultural labor also dictates the type of crops grown by the family. A worker-peasant household must diversify the crop not only as a safety net against the weather or as risk avoidance (Scott 1976),

2 Commune is the smallest administrative unit in Romania.

but also because only a limited amount of time can be invested in one single, larger crop. Cultivating and then harvesting a single crop requires intensive labor in a certain period of time, a period that, in general, a worker-peasant family does not have. Diversifying the crop provides a safety net and risk avoidance; it also spreads the agricultural labor over a longer period of time.

All of these constraints have a serious impact on the type of crop that is cultivated, which in turn influences the economy of the household. The collective socialist farms used machines and cultivated seeds that had been industrially produced in agrochemical laboratories so as to resist different corn diseases. Postsocialist villagers can no longer afford to continue such practices. They cultivate the seeds that are selected from their previous crop, seeds that are more vulnerable to diseases and pests. The overall production per hectare has thus dramatically decreased and has further contributed to the reluctance to buy new land.

The steep slopes surrounding Dragova and the altitude of the village make it impossible to grow crops. Animal husbandry—the traditional economy of the commune—was therefore maintained under socialism. Villagers owned their pastures throughout the socialist period and earned their living by selling dairy produce and meat on the legal socialist market. Often, they also sold their dairy produce illegally in the socialist enterprises in nearby cities through family members working there. I name this villager the "entrepreneurial peasant." The worker-peasant and the entrepreneurial peasant each have particular ways of dealing with the land. The different ecological environments, socioeconomic conditions, and socialist histories have conditioned the antagonistic responses of both villagers and local state officials to land reform.

Land Reform, Land Fragmentation, and Agricultural Extensification

The postsocialist land reform led to the breaking up of the collective farms and to land restitution. One of the outcomes was land fragmentation. Anyone travelling today in the rural areas of Romania would notice the highly fragmented land. Although in some parts of Romania (especially in the lowland villages) people joined new land associations (Verdery 2003), in the hilly region landowners preferred to work their crops, pastures, and orchards independently.

Figure 1:
Land fragmentation in Dragomiresti, Romania.

Land reform was an attempt on the part of the postsocialist governments to impose new meanings and new values regarding land on local people, along with a new economic language in accordance with neoliberal tenets (Hann 2007). It was part of a plan to completely reorganize socialist societies, including the people, economies, and landscapes within them, and to transform them into something radically different. Postsocialist economic reforms were often neoliberal policies, enacted by the national government but promoted by international financial institutions (Schwegler 2008).

The reaction of villagers who had recently emerged from a socialist society to these rapid changes was not the reaction expected by central governments and their Western supervisors. Instead of transforming themselves into ferocious capitalist farmers, the worker-peasants rediscovered pre-collectivization agricultural practices. The collective farm aimed to cultivate a small number of crops intensively, following the supreme aim of the socialist government to not only achieve national food sovereignty but also to export agricultural products. Postsocialist landowners had a different aim and different means of achieving it. The worker-peasant adapted fairly well to the land fragmentation by diversifying the crops, by reintroducing the intercropping of corn,

beans, and pumpkin (*Curcubita pepo*), and by shifting to the type of plums suitable to make *ţuica* (plum brandy), instead of those that could be sold on the market for immediate consumption. The worker-peasant had less capital, less time, and less interest in maintaining intensive cropping. In other words, farmers opted for agricultural extensification.

The land reform outcome was very different from the one expected by the central planners: villagers resisted by appealing to local knowledge and practices that they believed to be better suited their interests. I thus suggest that villagers did not simply resist the neoliberal governmental plans but also found their own way of dealing with them. Some rediscovered prewar agricultural practices, while others—the villagers of Dragova, for instance—turned to new domains of activity, such as rural tourism.

Local State Bureaucracy, the Postsocialist Elite, and Landscape

In postsocialist Romania, the local state is composed of two types of state officials. One type, which I call the local bureaucracy, includes policemen, forest guards, and employees of the mayor's office. They are appointed by higher-level state bureaucrats, who hold them accountable. For instance, the local police officers have their superiors in the county capital and are accountable to them. They are not accountable to villagers. State forest guards are appointed by and accountable to their superiors from the Local Inspectorate of Forestry (LIF). The chiefs of the LIF are politically appointed, and they are accountable to the employees from ROMSILVA, the National Forest Administration. ROMSILVA's high bureaucrats are also politically appointed. All of these bureaucrats therefore depend on the party in power. Postsocialist politics and politicians represent a crucial element in understanding the impact of the state on the agrarian landscape. The local government members and the mayor represent a second body of institutions. They are elected and should be accountable to the villagers. However, accountability is a Western notion that is barely applicable in non-Western locations. For instance, the accountant from the mayor's office, who was undoubtedly involved in illegal deforestation in Dragomiresti, was charged by the prosecutor's office, yet despite these legal issues in 2004 he was elected as mayor of the commune in 2008.

Looking at the interaction between local state officials and villagers makes several things clear. One is that, although this is an unbalanced power relation, it is still one in which

both parties have agency. In response to the state's formal prohibition on tree-felling, villagers engaged in illegal logging. In response to the state's ban on grazing within the national park, villagers brought more animals onto the pastures. In response to the state's claim over forest management rights, villagers emphasized their historical rights. "Is this my forest or not? If this is my forest, then the state has no business imposing regulations," is a claim that one often hears in the two communes where I carried out fieldwork.

Figure 2: Construction of houses in Dragomiresti.

One of the outcomes of the local elite's takeover of the state in rural postsocialist countries is the institution of patron-client relationships.[3] The patron-client relationship left deep marks on the local landscape in Romania. The transformations of the pasture into built-up areas and the severe deforestation represent the biophysical embodiment of such social relations. These visible marks have been triggered in each commune by different social mechanisms, and they have different social meanings. In Dragomi-

3 I define this relationship as an exchange of services between two parties: the patron ensures protection and provides guaranteed work for the client; the client ensures a flow of services for the patron, such as cheap labor and goods (Scott 1976). The core of this relationship is a disequilibrium with regards to the bargaining powers of the patron and the client in favor of the patron (Littlewood 1980).

resti, communal pastures have been transformed into built-up areas by a marginalized ethnic group involved in patron-client relations with local state officials: the pastures were an informal "gift" made by local state officials to illegal loggers, in return for their providing cheap labor and for contributing to the enrichment of bureaucrats. In Dragova, the transformation of pastures into built-up areas was triggered by the boom in rural tourism in the period following the breakdown of the socialist regime. Beautiful mountainous scenery, the caves, and the possibility of tasting the famous locally produced smoked cheese attracted a significant number of visitors. Building new guesthouses (*"pensiuni"*) was made possible by the influx of tourists into the commune, and the local state officials were the first to build.

Figure 3: Deforestation in Dragomiresti.

Deforestation is an even more visible and more dramatic consequence of patron-client relations. The dismantling of the socialist government, the decentralization of administrative decisions, and forest restitution were steps that transformed forests into a gold mine just waiting to be exploited. Local state bureaucrats, such as mayors, forest guards, and police officers, increased their power and their chances of getting rich. The liberalization of the timber market has given an added incentive to those keen to exploit the forest. All these factors contributed to the production of a forestless landscape.

Such examples are evidence of a state that is very present in people's lives and whose actions directly shape the landscape. I therefore seek to give more credit to an idea that is opposed to what some authors describe as a "distant state" (Bierschenk and Olivier de Sardan 1997) or the "absence of the state" at the local level (Stahl 2010). In Romania, the state has not only conditioned the behavior of farmers and landowners through its decisions, but has intervened at every level, often in ways that conflict with the edicts of central government. The consequences in Romania have been stark: land fragmentation, deforestation, and a transformation of the role of worker-peasants within the neoliberal environment.

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Birgit Müller

Farmers, Development, and the Temptation of Nitrogen: Controversies about Sustainable Farming in Nicaragua

Agrarian development is a controversial issue in the Nicaraguan countryside. The state, international organizations, churches, and NGOs all attempt to intervene in the practices and worldviews of small farmers to make them attain a supposedly higher level of organization and efficiency. Implicit is the idea that *progress* has to be made in farming practices, which is measured first and foremost in yield per hectare. As the population increases (in Nicaragua it doubled between 1980 and 2006) more food has to be produced to feed the growing population in the cities and in the countryside. The increase in population has been compensated over the last thirty years by a doubling of the area of cultivated land, but the expansion of the agrarian frontier cannot continue indefinitely. Although all intervening organizations agree that farming practices have to change to produce more crops per hectare, there are controversies about the direction such a change should take.

The two developmental approaches to agriculture that stand in apparent opposition to each other could be characterized as "Green Revolution" technology and "agroecology."[1] While green revolution technology—and recently, by extension, biotechnology—still dominates development projects and receives the bulk of development funding, agroecology has achieved a prominent role in the global environmental discourse, entering the mainstream with the publication of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) report in 2008. The argument that has reinforced the general acceptance of the agroecology discourse is that an agriculture based on non-renewable fossil resources is unsustainable in the medium and long term and will be unable to feed a still growing human population.

The ideas that underlie this current of thought stem from nineteenth-century theories of thermodynamics. Podolinsky (Hall et al. 1986) demonstrated during this period that

1 "Green Revolution" techniques, introduced between the 1940s and the late 1970s, rely heavily on chemical fertilizers, herbicides, and pesticides. Some of these must be developed from fossil fuels, making agriculture increasingly reliant on petroleum products and on purchased inputs not available on-farm. "Agroecology" is concerned with the maintenance of a productive agriculture that sustains yields and optimizes the use of local resources and nutrient cycles. It thereby seeks to minimize the use of fossil resources and the negative environmental and socioeconomic impacts of modern technologies.

agriculture was based on a positive energy balance of at least 1:5 (one unit of energy invested by the farmer in the land could bind five units of solar energy into the plant). As Marcel Mazoyer and Laurence Roudart (1997) showed in their *History of World Agriculture*, the nineteenth-century energy balance was the result of a constant, not-quite-linear learning process that required much attention, work, and creativity, and in which the state intervened, regulating and extracting. Often farmers exploited the land until it became infertile, and only returned to reclaim the land after centuries had passed in order to use new methods, with a new attention to the soil and different seeds. What the farmers had to learn over the millennia, as populations grew, was how to maintain the fertility of the soil while it was farmed with increasing intensity.

This changed with the use of chemical fertilizers, pesticides, agricultural machinery, and the development of crops that were able to transform the supply of chemical fertilizer into higher yields. The criteria for selecting seeds changed. Farmers now no longer selected a wide range of varieties that could adapt to different soils, withstand drought or a lot of rain, and were resistant to fungal diseases; instead, with the addition of chemicals, the growing conditions were adapted to a few varieties of highly productive but vulnerable crops. Today, as Pimentel and others (Haberl et al. 2011) have shown, the energy balance in agriculture is often negative: more energy is supplied than the plants can absorb. In addition, the nutrient balance of soils is negative. At present the food system converts non-renewable fossil resources into food, and thereby continuously diffuses energy. For every calorie of food we consume in the West, we use ten calories on transport, packaging, and so on.

The Northern and Southern Hemispheres use different amounts of energy. Southern farmers use much less energy to produce their crops, and many of the industrial crops produced with large amounts of fossil energy in the South are exported to the North. As Hornborg (2001) has shown, energy use constitutes one of the most extreme measures of global inequality. It may sound hypocritical, then, if NGOs from the Northern Hemisphere incite Nicaraguan farmers to pursue organic farming, foregoing the use of chemical fertilizers and pesticides produced with fossil resources.

In this article I analyze how the different agricultural development discourses and the programs and projects attached to them play out in the actual practice of farming. What

kinds of interventions take place in their name? To what strategies do they give rise? Farmers confronted with these different development logics take different decisions; I show to what extent their decisions are linked to global policy making and historical configurations. I also show that, in spite of the overwhelming financial power of certain development projects, farmers create and sustain their own strategies for their land.

Recent Nicaraguan Agricultural Policy

A brief account of Nicaraguan agricultural policy-making over the last thirty-five years shows to what extent the agricultural practices that were promoted are inextricably linked to the political priorities of the governments in place. The Somoza period that ended with the Sandinista Revolution of 1979 was characterized by a traditional system of land tenure: land was concentrated in a few hands, and strong personal relationships prevailed between cattle-owning landowners and tenants. The tenants cultivated the land that the owners wanted to transform into pasture, with very little external input. The Sandinistas brought the Agrarian Reform and the Green Revolution to Nicaragua, and they heavily subsidized the use of Green Revolution plant varieties, fertilizers, and pesticides on the land they had distributed.

By the time the Sandinistas lost the elections in 1990, small farmers had become accustomed to taking out credit to finance the chemicals they now routinely used on their crops. However, the neoliberal governments that stayed in power until January 2007 insisted that the debts be repaid. Many small farmers lost their land and cattle. The debt crisis encouraged the spread of farmers' associations such as *De Campesino a Campesino*, where farmers exchanged experiences and agroecological cultivation techniques. They have used local resources and soil conservation techniques from all over the world to increase the fertility of their land. Building terraces, dikes, and water retention systems, and using green manure and compost on the land was time-consuming and was not immediately rewarded by an increase in yield. These techniques were adopted by small development NGOs, who tried to make them mandatory for any farmers who wanted to take advantage of their projects.

In 2007, when Daniel Ortega became president, government policies towards small farmers changed again. The Sandinistas attempted to capitalize on the countryside: they

distributed cows to thousands of rural women and encouraged the production of basic foodstuffs for export to Venezuela in a barter deal between Chavez and Ortega, where oil was exchanged for food. With the financial crisis in the USA, rising tensions with migrant Nicaraguan workers in Costa Rica, and the closing of maquiladoras (manufacturing operations in free trade zones) in Nicaragua, 2008 and 2009 saw the return to the countryside of many young Nicaraguans who were unable to feed themselves in the cities and abroad. Programs and projects that promoted the preservation of traditional seed varieties and insisted on soil preservation acquired new prominence all over the country. In 2010, however, the European Union (EU), in conjunction with the FAO, distributed large amounts of chemical fertilizers and Green Revolution seed varieties to the poorest parts of the country. In 2011, just before the next election, the Sandinista government promoted the CRISOL program, which distributed fertilizers and Green Revolution varieties on a credit basis in exchange for basic grains.

The Impact of Agricultural Politics on Nicaraguan Farmers

While the indifference of the government towards small-scale farming seems to favor agroecological production methods, governments on the municipal and national level gain in popularity if they distribute chemical fertilizer. How does this impact the actual practices of Nicaraguan farmers?

During my fieldwork from April to November 2009 in La Quebrada, a village in the hilly and relatively dry part of Carazo, I frequently heard farmers insist that production techniques have to be changed to preserve the land for future generations. Few chemical fertilizers were distributed for free and many mouths had to be fed due to the worldwide economic crisis. Some villagers told me diffidently that the economic crisis was out there and affected the rich countries. As they did not have anything, they also did not have anything to lose. The older farmers seemed more glad than worried to see some of their children return to the land. Some farmers explained to me that chemical fertilizers used in the past had burned the land, together with the still frequent practice of burning the residue of fallow land before cultivation. They explained that slash-and-burn cycles had become increasingly shorter as, with more and more people living there, the land became eroded and tired. “Don’t burn the land!” (*No quema!*) became a common slogan, even receiving legal backing from national and municipal governments. In 2009, some farmers used the then-available family labor to weed the

crops instead of buying herbicides, and became interested once more in techniques of green manuring that had been introduced twenty years earlier by associations close to the movement of *Campesino a Campesino*. Additionally, traditional varieties of maize and beans gained new prominence, and a small but active minority of farmers decided to exchange their traditional varieties of maize and beans and create a seed bank.

Figure 1: Selecting improved varieties of seed.

In 2010 and 2011, the situation and also the discourse had changed considerably. The cooperative of La Quebrada, which had been set up by ten villagers in 2007 but had lain largely dormant since then, became the center selected by the FAO to administrate the EU-financed "Food Facility" program.[2] It distributed hundreds of quintals[3] (ql) of fertilizer to the farmers in the village and in surrounding ones at an extremely reduced price. The same farmers who had been active in creating a seed bank for traditional

2 "Food Facility" was an aid program worth 1 billion euros. It was instituted by the European Parliament in 2008 during the world food crisis to help poor farmers all over the world to boost production by using Green Revolution varieties and fertilizers. The FAO became the broker for the program.

3 A Nicaraguan quintal is 45.36 kilograms.

varieties and had been interested in green manuring were now busy distributing fertilizer and Green Revolution varieties, and had withdrawn from the activities of the more agroecologically minded group of farmers.

Were these farmers thus nothing but the playthings of these different conjunctures and interventions, with no strong ecological convictions of their own, adjusting their behavior to the opportunities that opened up for them? Many farmers who could not fall back on unpaid family labor and who had to pay farm hands explained that spraying herbicides was certainly not good for the soil but was much cheaper than the cost of labor. When their children returned to the city (thus no longer helping in the fields and sending money instead), they returned to using herbicides. Further, nitrogen and other fertilizers, which were freely available, were hard to refuse, as they translated, if the conditions were right—that is, if the rains occurred at the right time—into a higher yield. To return fertility to land that was more intensively used, to feed the soil (and not only the plant) without chemicals, was a long-term project requiring work that many farmers were unable or unwilling to do. The temptation of nitrogen was hard to resist.

However, even when the farmers were swamped by the FAO project with freely available chemical fertilizers, not all of them took the offered package of Green Revolution varieties and chemical fertilizer at first. Some told me that in 2010 they had seeded fertile ground that had not required nitrogen. Others took it and then sold it for a decent price. Others again used the chemical fertilizers but gave away the Green Revolution varieties, and used the fertilizer on their traditional seed varieties.

The FAO-EU project ended after only two years, but was immediately followed by the government's CRISOL program. This program drew the farmers into a debt spiral, offering them a credit of $120–200 to buy fertilizer and to pay labor for their fields, a credit that had to be paid back in kind with the crop. In the first harvest period of 2011, the credit of $120 for corn had to be paid back with eight ql of corn. This was almost the amount that farmers would usually sell at harvest time. Now they had spent this money in advance in the hope of a much better harvest: wild speculations and calculations circulated. With the use of chemical fertilizers they hoped to harvest 40 ql per manzana,[4] instead of 25 ql. However, the 40 ql never materialized; the debt remained, and the farmers were obliged to sell more than they usually would.

4 One manzana is approximately 0.6 hectares.

In conclusion, small farmers in Nicaragua are not simply the playthings of different development programs. They follow their own strategies, but the constraints they are under should not be overlooked. Only a tiny minority of Nicaraguan farmers would refuse to use chemicals on principle. Many try to get by with as little as possible, and others would use the full cocktail of what is available if they had the financial means. To practice a different type of agriculture requires a huge amount of extra work to build stone walls, work with green manure, and so on. Farmers only invest in this way if they take a long-term view—if they can envision their children taking over the farm and offering their help, with financial support from government programs that are consistent and of a longer duration than most of the ecological development programs. The direction of agricultural change is strongly influenced by local politics but also by international politics, financial markets, prices, and a will to change, which cannot be just the goodwill of the supposed steward of the land, the farmer.

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Bram Büscher

Inverted Commons: Africa's Nature in the Global Imagination[1]

Nature in Africa has long occupied a special place in the global imagination: the prevailing images associated with the continent are of a "wild Eden," of rugged, "pristine" landscapes, and of some of the world's most charismatic "megafauna" (elephants, gorillas, rhinos, etc.) (Adams and McShane 1996). Indeed, whereas references to Africa's people are often negative and associated with war, poverty, and famine (Dowden 2008), Africa's nature is habitually framed in positive terms: nature as it "should be," "unspoiled" and "pure." Thus, when the famous Virgin millionaire entrepreneur Richard Branson asks the question "What is Africa?" there seems to be no irony in his answer, "Africa is its animals. That is the beauty of Africa, that's what makes it different from the rest of the world. And to lose those animals would be catastrophic." Branson lays the blame for "dwindling wildlife numbers" squarely on "Africa's increasing (human) populations," and argues that Africa should "increase the amount of land for the animals and by increasing the amount of land for the animals, that will help human beings."[2]

The purpose of this short piece is to argue that nature and natural resources in Africa are framed as "inverted commons": a special commons that belongs to the entire globe, but for which only Africans pay the real price in terms of their conservation. Updating and extending Ton Dietz's earlier argument about entitlements to natural resources (Dietz 1996), I argue that this happens in two crucial ways. First, a variety of conservation actors, particularly from the West, *actively frame* Africa's nature as a global commons that deserves protection for all of humanity. Second, the practical manifestation of this tactic increasingly revolves around "neoliberal conservation": reinterpreting and re-institutionalizing African natures within ideologies of power and systems of rule dependent on market competition, commoditization, and intensified capital accumulation (Sullivan 2006, 2009; Igoe and Brockington 2007; Brockington et al. 2008; Igoe 2010; Büscher 2010a, 2010b; Fletcher 2010; Arsel and Büscher 2012). As there is no space to develop these arguments in depth, I will present one example—that of the Serengeti—followed by a brief discussion and conclusion.[3]

1 This piece is a summary of my article, "The Neoliberalisation of Nature in Africa," in *New Topographies of Power? Africa Negotiating an Emerging Multi-polar World*, ed. Ton Dietz et al. (Leiden: Brill, 2011), 84–109.
2 "The Elephant Corridor," Pifworld, accessed 7 February 2011, http://www.pifworld.com/#/projects/TheElephantCorridor/61.
3 I refer the interested reader to Büscher (2011), where the argument is worked out in full.

The Serengeti: Threats to an "African Eden"

As David Hughes recently argued (2010, 133), "contemporary conservation dabbles in nostalgia for the colonial past [and] continues to produce the aesthetics, symbols, and fables of white privilege." This is particularly true for tourism to the African continent (Dunn 2004; Duffy 2010), which in its marketing and advertising often ends up perpetuating stereotypes of African nature as devoid of people and reinforcing the "aesthetics, symbols, and fables of white privilege." It very rarely, if ever, works to upset these symbols and fables, because they involve major capital flows and international investments that few African governments are willing to forego. Nevertheless, they are occasionally challenged, and African "Edens" come under "threat" from African desires to use land and resources differently. When this happens, there is frequently a global outcry, largely from white Westerners. One such prominent occasion recently was the international debate that erupted after the Tanzanian government proposed to construct a highway through its Serengeti National Park.

The Serengeti is one of the best-known symbols of "Africa's wild nature," and its wildebeest migration figures prominently in global conservation imaginations. Thus, in July 2010, when the Tanzanian government followed up on an earlier election promise to construct a highway through the northern part of the park, it triggered a massive global outcry. International (mainly Western) audiences resisted in numerous ways, showing that African nature is not only important in the global imagination, but is also seen as something that belongs to the entire globe and over which Africans have only partial sovereignty (Mbembe 2001). As the outpouring was truly prodigious, I present only some of the major initiatives.

- An internet site was established (http://www.savetheserengeti.org/), stating that "this ill-conceived project changes all the rules, and would destroy the integrity of a priceless world heritage that has been protected by the people of Tanzania since the birth of their country. It would also cause grave danger to their entire tourist industry." Like Richard Branson, the website organizers blame population growth: "Areas to the west of the Serengeti are already heavily populated. A highway will add even more human population and development."

- An online petition was organized, urging readers to send Tanzanian President Kikwete an email that ends as follows: "The world is watching and expecting good governance, and for you to find a way to preserve your great country's natural inheritance and future potential for advancement."[4] Of the 248,500 signatories, the vast majority are from North America or Europe, with hardly any signatories from African countries.

- A major survey was carried out, involving "302 international scientists from 32 countries,"[5] which concludes that "the road will result in severe, negative, irreversible impacts, with little mitigation possible." Again, the vast majority of signatories are from Western countries. (Those that profess to be from African countries are mainly Westerners that live and work in Africa, or white South Africans.)

- A Facebook group called "Stop the Serengeti Highway" was established, with over 46,500 "friends" as of June 2012.[6]

- Twenty-four scientists, led by Western conservationists/biologists, published an article in *Nature* entitled "Road will Ruin Serengeti." They write that "the proposed road could lead to the collapse of the largest remaining migratory system on Earth—a system that drives Tanzania's tourism trade and supports thousands of people." They ask the Tanzanian government to "*explicitly acknowledge and conserve the global benefits* of preserving the Serengeti National Park, one of the world's natural wonders and one of Africa's last surviving pristine ecosystems"[7] (italics added).

In all, considerable pressure has been placed on the Tanzanian government to rethink the road, with even UNESCO threatening to take the Serengeti off of the World Heritage

4 "Action Alert: Tanzania's Proposed Serengeti Highway Threatens Greatest Wildlife Migration on Earth," Forests.org, accessed 8 December 2010, http://forests.org/shared/alerts/sendsm.aspx?id=tanzania_serengeti. See also the update "World Scientists Petition for Alternate Highway / Warn of Dangers," Bwana, Serengeti Watch, accessed 27 December 2010, http://www.savetheserengeti.org/news/highway-news/world-scientists-petition-for-alternate-highwaywarn-of-dangers/.

5 "Environmental Impact Statement: Effects on the Ecology and Wildlife of a Proposed Commercial Route through the Serengeti National Park," accessed 8 December 2010, http://www.savetheserengeti.org/wp-content/uploads/2010/10/SENAPA_ENV_IMPACT_10_3.pdf.

6 Accessed 20 June 2012, http://www.facebook.com/pages/STOP-THE-SERENGETI-HIGHWAY/125601617471610.

7 Andrew Dobson et al., *Nature* 467: 272–73. See also: Katherine Homewood, Daniel Brockington, and Sian Sullivan, "Alternative view of Serengeti road," *Nature* 467: 788–789.

List if the plan continues.[8] While the above is only the tip of the iceberg, and while the debate is ongoing and contains diverse viewpoints, it is clearly driven by Western conservationists and often harks back to well-trodden neocolonial arguments about wildlife and local population growth. Few direct links are made to the Western consumerism that is partly responsible for the road (it will be used to transport rare-earth metals more rapidly from Lake Victoria to the coast for production in China). At the same time, there is hardly any mention of how the Serengeti was produced by evicting Masaai from the area during colonial times and how, consequently, the Serengeti is anything but "natural" or pristine. What is particularly salient is that many of the conservationists and their supporters feel a sense of "entitlement" to the Serengeti (Dietz 1996), or, as I put it, frame the Serengeti as an "inverted commons"—a commons that surpasses Tanzanian jurisdiction, and whose value can seemingly be appreciated only by outsiders.

Inverted Commons and the Neoliberalization of Africa's Nature

International outbursts over African nature, like the one around the Serengeti highway, are rare. African conservation politics, heated though it is, seldom attracts international headlines. However, many of the same emotions, arguments, and political strategies play a role in day-to-day conservation, involving thousands of different actors across hundreds of sites all across the continent. While this diversity precludes absolute generalizations, I argue that one major common dynamic can be identified: many conservation strategies increasingly depend on the neoliberalization of nature. Under global neoliberal restructuring since the 1980s, conservation in Africa has progressively focused on ways for wildlife and "nature" to "pay their way," so that local and global communities can benefit from their sustained conservation. "Imposing wilderness"—as Neumann (1998) referred to it—persists, albeit no longer through colonial force but through "the market." So-called neoliberal conservation has become the new mantra for global conservation, triggering new challenges for Africa.

Through strategies such as the commercialization of the management of parks, ecotourism, payments for ecosystem services, carbon trade, and REDD (Reducing Emissions from Deforestation and forest Degradation), Africa's nature has been increasingly

8 "Serengeti faces axe from heritage body," Lucas Liganga, *The Citizen*, accessed 8 December 2010, http://www.thecitizen.co.tz/component/content/article/37-tanzania-top-news-story/4220-serengeti-faces-axe-from-heritage-body.html.

reconstituted in neoliberal terms.[9] While this neoliberalization of nature (conservation) in Africa is variegated, profoundly uneven, and never linear, I argue that, on the whole, this process constitutes a sea change in the relations between Africans and their biodiversity and wildlife—one that will have massive implications for both. Yet, as I argue above and elaborate on in Büscher (2011), Africa's nature is being commodified through a rhetorical strategy that I refer to as "inverted commons": the discursive creation of a common resource whose global ecological, political, and emotional importance trumps the desires and rights of local African actors. This tactic is cynical, particularly given how African rights and desires have been and continue to be violated (Mbembe, 2001). Moreover, the framing is ironic in that "inverted commons" statements about Africa's nature do not say under what type of regimes these are governed. When these governance regimes are increasingly neoliberal, they function further to wrest control of African ecosystems and wildlife from Africans themselves, as African nature—the global commons—is increasingly sold to Western, white investors.

While this framing makes it very difficult to negotiate or challenge the neoliberalization of nature in Africa, I want to conclude here by emphasizing that notions of "inverted commons" can be deflated quickly when the argument is turned around. While doing fieldwork in Zimbabwe, I once heard a Zimbabwean colleague comment that if—in this case—Dutch people were so concerned with African elephants and wanted to conserve them so badly, then Zimbabwe could put all their elephants on several mega-ships and transport them to Rotterdam harbor, adding they would do this "free of charge." Dutch people could then do with them whatever they wanted. These types of reversals bring the message home quite vividly: the pressure put on African actors to conserve their wildlife and biodiversity often omits the role of outside actors in these pressures and the hardship local Africans have to endure while living with (often dangerous) wildlife. It is time to put the spotlight back where it belongs.

9 Here defined as a political ideology (plus related practices) that attempts to subordinate social and political affairs to capitalist market dynamics.

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Environmental Conflict and Resistance

Daniel Münster and Ursula Münster

Human-Animal Conflicts in Kerala: Elephants and Ecological Modernity on the Agrarian Frontier in South India

"On the frontier, nature goes wild." (Anna Tsing 2005)

In the Wayanad District of Kerala in southern India, questions of ecological modernity focus on the boundary of fields and forest. In the last decade, so-called "human-animal conflicts" have emerged as one of the most contentious issues among farmers, forest department officials, and local politicians. The most severe cases of conflict with "forest animals" occur when wild elephants leave the wildlife sanctuary, raid the fields of farmers, and occasionally kill people. Wayanad's ecological modernity is rooted in two historical trajectories that are mostly treated separately in studies of political ecology: the history of agrarian change (tenure systems, land reforms, agrarian crisis, and agrarian capitalism) and the study of state-led forest conservation (science and planning, enclosure and dispossession, wildlife protection, transnational environmental governance). Today, these agrarian and forest histories meet in a series of contestations and conflicts involving humans and animals, mainly with elephants. In this paper, we take violent elephant encounters as a very "material" ethnographic illustration of recent efforts—at the intersection of environmental history and agrarian political economy—to think the agrarian and the environmental together (see Agrawal and Sivaramakrishnan 2000).

Elephants transgress the legal and ontological boundary that separates forests and fields in Wayanad. They have patterns of long-distance seasonal movement in search of water and food that take them across landscapes inhabited by humans on their way to distant patches of forest land. Elephants are iconic animals of global wildlife conservation and of Indian nationalist conservation efforts in particular. At the same time they are "wild animals" (Greenough 2001) causing destruction, violent deaths, and the loss of livelihood for marginal farmers and many Adivasis. The case of Wayanad disrupts the standard political-ecology narrative of the "violence" of conservation. While we agree that forest and wildlife conservation in India remains largely a top-down process, we would like to caution against implicit assumption of economic timelessness among the agrarian neighbors of elephant reserves. These are not subaltern "peasants" suffering the externalities of conservation: they themselves have a history of violent appropriation

of the forest. In Wayanad, elephants not only raid the field of traditional landholders and Adivasis (indigenous people) but also intrude into a frontier region of capitalist and chemicalized agriculture in crisis (see D. Münster 2012). The large herbivores have lost thousands of hectares of territory necessary for their annual movement in the process of agrarian settlement over the last five decades.

In contemporary Wayanad, we thus argue, human-animal relations are embedded in a history of ecological modernity composed of three modes of encounter between agrarian change (capitalist settler agriculture) and forest conservation (state-led and globalizing). We suggest that the notions of "frontier," "fortress," and (precarious) "conviviality" best capture the historical and emerging environmental relations in this "environment of crisis" (Münster and Münster 2012). We use our historical ethnography of elephant encounters in a changing landscape to illustrate the notion of a regional ecological modernity, a notion that if fully elaborated ethnographically will need to include further discussions of tourism, neoliberal agriculture (and its crisis), the Adivasi struggle and forest rights (Münster and Vishnudas 2011), and the role of the state in conservation and development, as well as a consideration of environmental and anti-environmental movements.

The Forest Frontier

Wayanad is a frontier in two interrelated senses. On the one hand, its landscape was constructed as "empty" (Ashcroft et al. 2000) and available to colonial powers, entrepreneurial individuals, and settler-migrants from the Kerala lowlands. On the other hand, Wayanad constitutes what has recently been called a "resource frontier" (Armstrong 1991; Tsing 2005). As Anna Tsing (2005, 28) puts it, "a frontier is an edge in space and time: a zone of [the] not yet mapped, not yet regulated." The frontier is about fantasies of "savage accumulation" and "wildness." Yet this wildness is "both material and imaginative" (Tsing 2005). Resource frontiers include mining and logging frontiers but also "salvage frontiers" of neoliberal conservation. The hills of Wayanad have been a frontier region for loggers, elephant catchers, and gold diggers for centuries. After independence the region became a frontier of expanding agrarian capitalism. Its forested landscape became the site of a "land-rush" of internal colonization by Syrian-Christian settlers from central Kerala.[1]

1 Kerala state was formed only in 1956. When the internal colonization of Wayanad started in the 1940s, the settlers came from the semi-independent state of Travancore.

In the context of food shortages after the Second World War, agrarian expansion was an immediate developmental imperative for the young Indian state. Although the colonization of Wayanad was not planned per se, the local state did little to stop the agrarian pioneers from encroaching on thousands of hectares of forested land. Wayanad was unique in southern India in that it had—besides the territory under the strict rule of the forest department—huge stretches of forest under private (*jenmi*-landlords or temple) ownership as well as (forested) land owned by the Department of Revenue. The ex-feudal owners of private forests had become increasingly uninterested in managing their vast forest holdings, and the Department of Revenue, as the department within the local state that has been arguably most interested in "developing" (forested) land for generation of revenue, made the land available for incoming settlers. On these (legal) spaces of private forests and revenue land, agrarian entrepreneurs successfully established cash crop agriculture and cleared the forest. "The frontier," as Armstrong (1991) puts it, "is thus not simply a line or even zone but a dynamic process of spatial interaction in which unoccupied resource-rich regions are incorporated into national economic space."

In the years 1940 to 1970 the agrarian frontier was a space characterized by violence against nature and indigenous people. The lowland settlers reacted to the hostile climate, disease (malaria), and wild animals with fires, logging, and guns. Elephants were part of this violent landscape, but were not perceived as the major source of discontent they have recently become. Elephant populations were relatively low until the 1990s, a fact partly to be explained by the legal and illegal capture of elephants for domestic and international markets. Additionally, until the late 1980s, Wayanad was a frontier for vicious entrepreneurs such as sandalwood smugglers and ivory poachers. In those years, hunting and poaching of elephants was regularly practiced. However, more space was available for elephants to avoid human contact on their seasonal migration. Historically Wayanad's hills have changed from being a frontier region for largely Christian settlers and other fortune seekers—a permeable region of opportunity—to an intensively utilized agricultural landscape with highly juridified and policed forest boundaries. Under the watch of the forest department, today the forest is fenced and fortified with electric wire and deep trenches to keep animals "in" and humans "out."

Forest as Fortress

With the land reforms (initiated by the communist-led state government) and the distribution of land titles in the wake of 1970s land tribunals, the period of relative "lawlessness" at the frontier came to an end. At the same time, the remaining patches of unoccupied private forest were nationalized and brought under the custody of the forest department. The boundary between forest and fields had now become identical with the boundary between forest department land and private land. With the onset of the formation of national parks and protected wildlife areas during Indira Gandhi's tenure as Prime Minister, the forest boundary increasingly developed into a strictly policed zone. In 1973 the Wayanad Wildlife Sanctuary was established. Its management plan designated "core areas" of total non-interference in wildlife populations, to be kept "human-free." However, the biophysical qualities of the "forest" proved to be an inappropriate habitat for a growing wildlife population, as the forest department had converted most of the natural forest into monocultures of teak and eucalyptus.

Figure 1: Farmer with damaged coconut tree.

In December of 1982 the first killing of a person by an elephant was reported at the Thirunelly police station. In the 1990s, after the inclusion of Wayanad's forests in the national "Project Elephant," the forest department started to fortify the boundary through trenches and electric fences along the 93 km border of forest and fields in Wayanad. However, these protection measures have largely been unsatisfactory and have not stopped the raids and killings. While deadly encounters make more headlines, in everyday life raids on the most "endangered crops"—paddy, banana, tapioca, jackfruit trees, and coconut palm—on fields adjacent to the forest cause the greatest threat to rural livelihoods.

Farming communities—Christian settlers as well as indigenous castes (Wayanad Chetties) and Adivasis (the Mullu, Kurumar, and Kurichiyar tribes)—living at the border of the forest have entered into a "cold war" with the forest (department). The "forest" is

not primarily perceived as a natural space with biophysical qualities but as a "state" space under the custody of a coercive armed force. To cross an elephant trench means not only a transgression into dangerous wilderness but also into illegality. Farmers talk about the forest (department) not only as authoritarian, but also as inefficient, bureaucratic, and corrupt: trenches are badly maintained; tenders with the department (to dig new trenches, for example) remain notoriously unpaid; and most importantly, according to settlers, compensation payments after wildlife raids are delayed, bureaucratic, and insufficient.

Farm raids and the perceived bureaucratic indifference of the forest department contribute to the general hostility of settler farmers and indigenous peasants toward wildlife protection and forest conservation. Recently, a new type of farmers' activism has emerged in Wayanad: anti-wildlife activism. Organized direct-action groups, such as "Wildlife Resistance Action Forum" and "Wildlife Free Wayanad," express their anger and despair at the treatment of wild animals through direct action protest against the forest department. Furthermore, there are incidences of violence against the "forest": arson, poisoned elephant bait, electrocution with self-made high-voltage fences, and small-shot charges against elephants.

Figure 2:
Elephant trench.

In early 2011 alone, three people lost their lives through elephant attacks. In April 2011, the rage against the forest (department) turned violent after the death of a sixteen-year-old girl who was killed by a tusker on her way to Sunday school. As the news of this incident spread, more than five hundred people gathered at the scene within a short period of time. Grief and anger led to spontaneous arson of the forest; in protest, the agitated bystanders did not allow for the corpse to be taken for autopsy until the Divisional Forest Officer (DFO) arrived in person.

Many of our informants argue that the "level of tolerance" among farmers has decreased. With the growing neoliberalization of agriculture (D. Münster 2011), the economic

stakes have increased for farmers. Agriculture has become more capital intensive and speculative. Farmers take higher loans and higher risks today. For capitalist smallholders a partial loss due to wildlife raids has come to represent a real threat to livelihood. Farmers respond to this situation by demanding a modernization of surveillance, defense, and fencing technologies. Fortification of the forest boundary is thus more than a state-led, top-down process; farmers at the forest edge don't demand democratization of the forest but an improved fortification.

Figure 3: Tusker in a eucalyptus plantation.

Resigned Coexistence: Towards Conviviality?

Some farmers argue that agriculture has become impossible on fields adjacent to forest land. Recently, wildlife raids and other symptoms of agrarian crisis have made farmers sell their land to real estate investors. For various reasons, not least the strong demand from the domestic tourism sector, the price of land has increased substantially in Wayanad. This further encourages the sale of Wayanad's agricultural land. What constitutes a life-threatening danger to farmers—the proximity to the forest—becomes a valuable quality to the tourism-related real estate market: forest and wildlife sell. Critics in

Wayanad see this development as the end of agriculture and picture an environmental modernity where high-end resorts displace farmers in a commodified tourist landscape (Münster and Münster 2012).

Other farmers have entered what may be called, with Raman Sukumar (2003), a "resigned coexistence" with the raiding elephants. Many farmers we met during fieldwork have grown to be passionate observers of wildlife behavior. They have adopted their cropping patterns to the likes and dislikes of elephants: they avoid the planting of elephants' delicacies such as jackfruit, mangos, or banana near their houses. Some have learned to "gently" drive elephants off their properties without enraging them. Other farmers send their children to boarding schools in order to circumvent dangerous walks along the forest line. Engaged foresters collaborate in these efforts at conviviality (Laurimer 2010) by handing out their personal phone numbers for emergency cases. Spraying chili has proven to be relatively effective as an elephant deterrent. The former wildlife sanctuary's warden has personally invented an electronic "elephant-scaring device," which imitates a tiger roar.

Despite this conviviality "on the ground," environmentalists and foresters in Wayanad see little scope for attempts at democratizing the governance of this ecological borderland. The only solution they propose is a move back to "fortress conservation," which operates by fencing in wildlife and excluding humans. Thus, provisions in the recently passed Forest Rights Act (2006) or in the Participatory Forest Program of the 1990s to make wildlife and forest conservation more inclusive have largely been ignored. Furthermore, what is largely absent in debates about the political ecology of forest and wildlife conservation in Wayanad are concerns about the effects of capitalized agriculture and the history of (ecological) violence at the forest frontier.

Conclusion

Those in Wayanad who debate the political ecology of the district usually focus either on agrarian crises—debating pesticides (see the recent stir about endosulphan in Kerala), organic futures, farmers' suicides, and food safety—or on concerns for forests, conservation, biodiversity, and wildlife. Little dialogue exists between these two pillars of Wayanad's ecological modernity. In this paper we have proposed a vocabulary for the interrelatedness of the agrarian and the forest by describing it as frontier, fortress, and

conviviality. The elephants of Wayanad, bearers of histories of agrarian enclosure and chemicalization, of decades of state-planned environmental management, as well as of centuries of direct human violence against them (poachers, captors, electric fences), literally embody the opportunity to rethink the ontological boundary in Indian political ecology between forests and fields.

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Niels Barmeyer

Local Effects of Global Forest Conservation Policy: On Zapotec Resistance against a Protected Natural Area

Forest conservation is a controversial issue for the indigenous Zapotec of the Southern Mexican state of Oaxaca, with whom I have been working for the past three years. Officials from the Mexican Ministry for the Environment and Natural Resources (SEMARNAT) and contracted surveyors have visited their villages, seeking to set up "Protected Natural Areas" (*Áreas Naturales Protegidas*). This initiative includes a variety of schemes, ranging from ecological surveys to payment for ecosystem services. However, there is a growing sentiment among the people living in the affected region that the main beneficiaries of such schemes are outsiders: the surveyors and evaluators who are being paid for their studies; the state, which is receiving money via the carbon market for each hectare declared a conservation area; big businesses seeking to make natural resources accessible to the market; and, last but not least, local go-betweens and corrupt officials skimming off the funds intended for the communities. To the people on the ground, the motives for the sudden interest in their territories are often unclear; furthermore, prospecting activities evoke memories of past interventions by the state or by private enterprises, such as mining or logging companies, which deprived the people of their resources and often also repressed them.

Protected Natural Areas have been heavily promoted since the United Nations adopted the Global Strategy for Plant Conservation in 2002, which called for signatory countries to designate at least ten percent of their territory as such (CBD 2002, 7). Among conservation organizations and policy makers, these areas are widely regarded as instruments for counteracting the effects of climate change and CO_2 emissions. In 2000, with global environmental policy allocating ever more importance and money to biodiversity and carbon sinks, Mexico adjusted its legal and institutional framework to increase its conservation zones. Ten years later, the National Commission for Protected Natural Areas (CONANP) managed some 25 million hectares, about 13 percent of Mexican territory (Schmidt 2010, 19).

To make conservation attractive to developing countries, World Bank policymakers employ the same market mechanisms that have provided raw material for industrialized economies for centuries. In Mexico, the first of such payments was made in 2003

and paralleled the expansion of protected areas. They required that local populations refrain from exploiting natural resources in their territory, a ban that often included the outlawing of agricultural activities. Significantly, the payments turn the forest and the water it contains into products to be traded on the global market, which runs contrary to the indigenous population's traditions.

The commoditization of resources such as rainwater or the trees of the forest, which were customarily utilized by all community members, fits with the recent privatization of communal lands in Mexico.[1] Along with the policy of reducing the number of smallholders and the importation of cheap mass-produced corn from the United States, this has exacerbated rural poverty and encouraged migration (see Valsecchi 2010). The privatization of land and natural resources, the promotion of personal profit, and the move away from collectivist ideals have severely affected the way people relate to each other and to their environment. Indigenous subsistence farmers often have a history of relative autonomy with regard to land management, but government programs implemented in the context of global conservation efforts undercut such independence. This has led to the undoing of what I call the "stewardship consensus," which is prevalent among indigenous communities living in close relationship with the forest that surrounds them. However, as this essay shows, privatization and the undoing of collective ownership under the pretext of nature conservation do not always proceed smoothly. I suspect that the case presented here is indicative of what is happening elsewhere as a result of global climate policy, and I believe the effects I describe should be taken into account when climate policies are elaborated in the future.

Testimony of an Environmental Dropout: Santiago Lachiguiri

The situation of the Zapotec community of Santiago Lachiguiri in southeastern Oaxaca exemplifies the conflicts that are bound to arise under the current conservation scheme. The contract that certified Lachiguiri as a protected area came into effect in 2003. Seven years later, a general assembly of community members voted to terminate the arrangement, 23 years before its scheduled end. What had gone wrong?

1 For Mexican peasant farmers, the joining of NAFTA in 1992 sealed the abolishment of the *ejido*, a communal form of land ownership that has its origins in the agrarian struggles of the Mexican Revolution at the beginning of the twentieth century (see De Ita 2006).

Lachiguiri is governed by customary law rather than by political parties; land issues are decided by a general assembly of titleholders. About eight thousand people inhabit the 26,000 hectares of forest-covered mountains (Schmidt 2010, 18). Most of them are subsistence maize farmers: the staple food is grown in swidden cultivation on *milpas,* in combination with beans and squash.

Figure 1: Alternative Forum for Life and Environmental and Social Justice.

In the context of my work as an adviser on indigenous rights, I have met with Lachiguiri communal authorities at press conferences, as well as at information and protest meetings, such as the "Alternative Forum for Life and Environmental and Social Justice," which took place alongside the Cancun Climate Change Conference in December 2010. At these occasions, the authorities publicly denounced the way that, in 2001 and 2002, state officials had compelled their fellow villagers to agree to a Protected Natural Area in Lachiguiri.[2] The officials elaborated on the financial incentives resulting from payments for ecosystem services and the marketing of natural resources, but never explained the consequences of a conservation zone in detail. In short, the broad-based consultation of the local indigenous population, called for by international legislation, did not take place in Lachiguiri.

2 Testimonies by Lachiguiri's communal authorities, recorded in July 2010 in Mexico City and in December 2010 in Cancun.

In August 2003, the general assembly of Lachiguiri land titleholders decided to have part of their territory declared a protected area for five years, yet CONANP issued a 30-year certification. With immediate effect, all agricultural activity in the certified zone was outlawed and 120 smallholders from Lachiguiri were barred from planting maize on land that had belonged to their families for generations.

In 2008, new local authorities took office and the villagers were finally able to see the original documents that declared the protected area untouchable for 30 years. Feeling betrayed, a majority of villagers pressed for the cancellation of the protected area, and in May 2010, this decision was officially ratified. Lachiguiri also decided on a new communal statute, according to which its inhabitants had the right to manage their own territory. This document contains clear rules for the conservation of natural resources, such as the forest and water, as well as regulation to prevent the certification of protected areas without the community's prior informed consent. The maintenance of "ancestrally conserved lands" is considered strictly a communal matter (Schmidt 2010, 22); state- or business-run conservation is prohibited, and payment for ecosystem services is received only on an unconditional basis.

The Complex Motivations of Local Actors

When these testimonies are compared with a CONANP-sponsored publication compiled by Mexican anthropologists a few years earlier (Cobo and Bartra 2007), certain details emerge that shed light on the complexities that motivated the people of Lachiguiri first to agree, but eventually to opt out of the conservation scheme. The publication voices the community's mixed opinions on the government's conservation package and includes their concerns about not being able to farm the terrain certified as a Protected Area (Schmidt 2010, 117).

The motivations that outweighed the obvious drawbacks emerge from a closer study of the agrarian conflicts between the villages of Lachiguiri, Guienagati, and Guadalupe. These conflicts culminated in a 1988 massacre, in which nine people were killed in one day (Schmidt 2010, 120–22). As much of the area that was made a conservation zone had been unusable due to that same land struggle, the certification appears to be part of a strategy to resolve the longstanding conflict among neighbors.

The privatization of *ejido* land in the early 1990s had been accompanied by a cutback in subsidies for maize and by a general reduction of government aid for rural communities. According to the 2010 testimonies of the communal authorities, villagers identified the ensuing migration of peasant farmers as the greatest problem facing the region. Both the 2001 study and later testimonies stressed the hope that the certification of the conservation zone would bring state funds to compensate for the defects—a hope soon to be dashed. Income-generating schemes that were part of the conservation package offered incentives only to individual families, and not to the collective as a whole. Thus, out of the 120 smallholders deprived of their lands, only 15 were given assistance in growing peaches, while another 5 were trained in setting up a palm oil plantation. However, the indigenous community of Lachiguiri had always functioned as a collective.

The perceived preferential treatment of some individuals as well as the embezzlement of funds by village authorities brought new conflict to the region. Moreover, as migration to the United States continued unabated while living standards failed to improve, the negative aspects of the conservation zone became more salient in the minds of villagers. In this situation, the rehabilitation of the traditional *milpa* system presented itself as a viable solution, promising the reinstatement of collective control over the community's natural resources.

Customary law in Oaxaca's indigenous communities designates the village assembly as the institution ultimately responsible for finding solutions to such fundamental dilemmas. When this organ of direct democracy eventually decided on the cancellation of the conservation area, any other contracts signed by former village authorities became null and void in the eyes of the local Zapotec. Eventually, the Mexican State, too, had to contend with the reality of legal pluralism in Oaxacan territory, as customary law had been constitutionally recognized in 1998 (see Recondo 2002). This change, of course, suggested new allies, and a host of NGOs in the distant capital were ready to assume this role. Fitting in with these new partners required some adjustments in how the community presented itself in terms of indigenous autonomy and the acceptance of government money, but also provided new hopes and perspectives.

Traditional Food Systems Are Part of the Solution

The method of payment for ecosystem services often fails to convince indigenous communities living in resource-rich environments to pursue conservation policies. In the regions where protection areas are established, SEMARNAT therefore finances "Environment Management Units," where deer are reared for meat or fruit trees are commercially grown. Just as often, the forest immediately adjacent to the protected areas is commercialized. This initiative includes access roads into "secondary growth zones" and a guarantee that there will be customers for the timber.[3] Coupled with widespread corruption at all levels, including in the monitoring of protected areas, this practice can lead to the rapid deterioration of forests adjacent to the conservation zone. This, in turn, results in the worsening of the carbon balance of the whole region and thereby runs contrary to the intentions of the protected area.

Contrary to common portrayals of peasant farmers burning their rainforest, the traditional food system of *milpa* subsistence agriculture appears superior to the intensive crop production practiced in industrialized countries in all aspects, including nutrition, sustainability, and even the carbon balance. For one, the staple food of an entire community is produced on location: emissions are reduced, as the food does not have to be transported for hundreds or thousands of miles to reach the consumer. Local maize variations adapted to the altitude, humidity, and soil are combined with beans and squash to provide nitrogen and moisture for the soil. The maize serves as the main carbohydrate for the producers, while the beans provide the protein; from the squash, primarily the roasted seeds are eaten, which have a high oil and mineral content. One year of cultivation entails an average of seven years of fallow time. As roots from shrubs and trees are still in the ground and the surrounding jungle supplies plenty of seed, the original vegetation quickly grows back and the fallow fields serve as a source of wild vegetables, medicinal plants, and firewood. Finally, the traditional *milpa* works without poisonous pesticides, herbicides, or chemical fertilizers, which damage the soil, depriving it of its ability to act as a carbon sink (and whose production releases large amounts of the greenhouse gas NO_2).

I believe the conservation efforts of the people who have lived with the forest for generations, practicing subsistence agriculture, deserve more attention. With their local know-

3 This connection becomes explicit on the website of Mexico's National Forest Commission, which includes a list of links to timber companies (http://www.conafor.gob.mx/mercadas_maderas/).

ledge systems, which have developed over centuries, these people are (literally) experts in their field. Unfortunately, this wealth of knowledge has been ignored by governments and policy makers, who have put urban academics in charge of forest conservation.

Figure 2: Protest at the United Nations 2010 Cancun Climate Change Conference.

The current concept of protected areas appears to promote an environment that is void of people. Sometimes this is achieved insidiously, as when agricultural activities are restricted; at other times, forced evictions occur, as in the Blue Mountain Biosphere Reserve in the southern Mexican state of Chiapas (see IDMC 2008). In relying on governments and private interests to promote and implement forest conservation projects, international organizations run the risk of violating the free, prior, and informed consent of the communities who live in the affected forests. Programs like REDD, even if they are adapted to include human rights safeguards, are designed to allow industrialized countries and big companies to keep emitting CO_2, with the side effect of forcing subsistence-based communities into the market economy. Instead of pressuring developing countries, states and corporations need to take responsibility for their own emissions and cut them at the source.

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Elise Demeulenaere

Reclaiming the Seeds, Becoming "Peasants": On-Farm Agrobiodiversity Conservation and the Making of Farmers' Collective Identity

The emergence of a professional seed industry over the course of the twentieth century has been concomitant with the construction of a regime of innovation favorable to breeders and to a transformation in the nature of plants themselves. (Among the results of this regime are "Distinct, Uniform, Stable" [DUS] varieties and, more recently, genetically modified [GM] plants.) Together, these elements have led farmers engaged in industrialized forms of agriculture to outsource most of their seed-related activities. Such an organization of farming activities is now so embedded in industrialized farming systems that it has become extremely complicated for farmers—and for other actors, as well—to contest it without being accused of opposing progress and modernity.

In the 2000s, however, new developments in the anti-GMO struggle and the toughening of seed laws led an alliance of French farmers organizations to go beyond protest and denunciation and to try to build alternatives to the dominant industrial seed system. The *Réseau Semences Paysannes* (literally the "Peasant Seed Network," RSP) was set up in 2003 as a result of this alliance. It is dependent on a network of farmers who try out alternative practices, such as reviving heirloom varieties or developing on-farm breeding. The creation of the RSP was accompanied by the establishment of a new category, *semences paysannes* ("peasant seeds"), whose semantic significance will be examined in this essay. After recalling the sociohistorical context surrounding French agriculture and offering an overview of the legal considerations regarding seeds, I will give a brief summary of this movement's emergence and will examine its social and political implications. I will contextualize the movement by drawing parallels with other environmental contestation initiatives.

Context: French Farming and Seed Laws

As in other European countries, the French agricultural system went through a radical process of modernization after World War II. Emerging from the restrictions and the devastating economic effects of war on the national economy, the country was faced with the urgent challenge of feeding a hungry population. The priority for the French state was

to increase agricultural productivity. In order to do so, the state encouraged farmers to mechanize their production tools, to use chemicals (pesticides, herbicides, fertilizers), and to replace traditional landraces[1] with improved high-yield varieties. The improvement of crop varieties became one of the three pillars of this process of agricultural modernization.

Breeding had started to develop as a professional activity about two decades earlier. At that time, new professional breeders devised methods inspired by state-of-the-art agronomy, which considered "pure lines" (i.e., genetically uniform lines) as "the most perfect forms of cultivar" (Bustarret 1944, quoted in Bonneuil and Thomas 2009). Genetic uniformity and stability was seen as permitting a standardized and highly productive yield, predictable throughout time and space.

In the field of seed legislation, the *Catalogue officiel des espèces et variétés* (Official Catalogue of Species and Varieties) was created in 1932 in order to protect breeders' intellectual property rights. As time went by, the *Catalogue* became an instrument to help run the "genetic progress": a criterion for productivity was introduced in 1945, which contributed, year after year, to the exclusion of landraces, while a decree of 1949 stated that only the varieties listed in the *Catalogue* could be sold on the seed market. As a result, by 1961 the *Catalogue* no longer included wheat landraces, and their sale was banned (Bonneuil and Thomas 2009). With the ratification of the International Convention for the Protection of New Varieties of Plants in 1961, the International Union for the Protection of New Varieties of Plants (UPOV) implemented a system of plant variety protection to serve as an international regulatory framework for the seed industry, with the same principles as the French *Catalogue*.

As a consequence, over the course of the twentieth century, farmers in industrialized countries became end users of improved varieties designed and produced by seed companies. It is important to note that on-farm multiplication of seeds continued to be commonplace.[2]

1 A landrace is a local variety of plant species that has developed through adaptation to its natural and cultural environment. Landraces are contrasted with formal breeds, which are selectively bred to particular standards.

2 In 2007–2008 in France, the proportion of seeds bought from cooperatives reached almost 100 percent for maize, 75 percent for barley, and about 60 percent for wheat. On-farm multiplication is still common, as it allows farmers to save money: farmers buy around one-tenth of the amount of seeds they would need for their entire cultivated surface; they sow them on a multiplication plot and sow the harvest the following year. This practice largely explains why 40 percent of wheat seeds are not bought in cooperatives (Source GNIS. http://www.gnis.fr/images/documents/STA2244_CP-08.pdf).

The transformation of maize seed production (following the introduction of hybrid F1 varieties) in southern France has inspired the sociologist Henri Mendras and his theory of the "vanishing of the peasants" (Mendras 1970 [1967])—these peasants having been replaced by *exploitants agricoles* ("agricultural managers") over the course of the modernization process. The change in the terms used to qualify the farming profession in the 1960s and 1970s—from "peasants" to *exploitants agricoles*—points to a fundamental mutation of its professional knowledge, its interactions with the surrounding community, and its relation to nature and to the land: in short, of its identity. The term "peasant" was largely dismissive (although not as much as in English) until the 1980s, when left-wing farmers unions rehabilitated the concept by associating it with their critique of the excesses of modernization (Morena 2011).[3]

The International Seed Treaty,[4] signed under the auspices of the FAO in 2001, has introduced a paradigmatic shift in this sociopolitical and regulatory context. Written in line with the Convention on Biological Diversity, it contains the same principles, such as the recognition of the contribution of farmers to the conservation and renewal of plant diversity (art. 5.1c) or the right of farmers to contribute to the governance of the genetic resources of plants (art. 9.2c).

The "Réseau Semences Paysannes" at the Crossroads of Various Seed Struggles

The UPOV Convention was revised in 1991. The "farmers' privilege" to use the product of their harvests for propagating purposes on their own land (included in the 1978 Act) becomes, through the 1991 Act, a much more restrictive "farmers' exemption," the modalities and application of which are left to the discretion of states. Certain observers have interpreted this change as a threat to the right of resowing a part of the yield. In France, it led to the creation of the "Coordination nationale pour la Défense des Semences de Ferme," an organization whose purpose is to defend the use of these so-called "farm-saved seeds."

3 The term "paysan" appears in the name of several critical movements, the most famous of them being *La Confédération Paysanne*. I never use the term "peasant" as an analytical category, but rather as a category used by the actors themselves. In so doing, I follow Djurtfeld and his critique of academic works about the peasantry that, according to him, commit the fallacy of essentializing the "peasantry" (Djurtfeld, 1999). Morena has adopted the same line.

4 ITPGRFA, for "International Treaty on Plant Genetic Resources for Food and Agriculture."

Further changes in late 2002 toughened French seed laws for organic farming. Yet most organic farmers consider that the seed industry does not respond to their agronomic needs, as the new varieties are bred *in* and *for* conventional farming systems and are not adapted to the specificities of low-input forms of agricultural production. This new state of affairs has led left-wing farmers' movements that are already engaged in the anti-GMO struggle to go beyond protest and denunciation and to imagine alternatives to industrial seeds.

The RSP was set up in 2003 at the crossroads of the aforementioned movements (farm-saved seeds, defense of organic farming, anti-GMO). It calls for the defense of farmers' rights to cultivate and exchange seeds of varieties that are not included in the official catalogue, doing so in the name of farmers' sovereignty and agrobiodiversity conservation. In practice, the RSP relies on scattered initiatives from farmers and gardeners who have been attempting (some of them since the 1970s) to save or revive heirloom varieties or to develop on-farm breeding (Demeulenaere and Bonneuil 2010). The movement gathers their scattered experiences into one struggle against the hegemony of the seed industry, and unites them around the construction of an alternative to the dominant model.

"Peasant Seeds" and the "Peasant" Category

It was during this period that the expression "peasant seeds" (*semences paysannes*) emerged and was popularized, replacing the concept of "farm seeds" (*semences de ferme*) in activist discourses. This lexical shift was made possible by the political engagement of activists who were close to unions promoting alternative farming models. By voluntarily using the term "peasant" in "peasant seeds," they were able to link the struggle over seeds to their own promotion of the "peasant" as an alternative to industrial agriculture. What's more, instead of referring to the place where the seeds are produced (the farm), the expression uses an adjective that qualifies both the seeds and those who produce them: peasants. Behind this lies the idea that small farmers still possess a unique professional know-how regarding the lives and the reproduction of plants. As a result, the community of individuals that produces these non-industrial seeds is made visible. Peasant seeds appear as a common good, managed and regulated by a community that shares the same practices and seeds: a "common" whose "commoners" are explicitly identified—the peasants (Ostrom 1990).[5]

5 Contrary to other associations that claim to "free biodiversity" or "liberate the seeds" (e.g. Kokopelli), the RSP is in favor of socially constrained exchanges within communities of farmers (Demeulenaere and Bonneuil 2012).

There is not enough space in this paper to elaborate on the practical dimensions, but it must be emphasized that peasant seeds are not simply a linguistic innovation. The expression's widespread adoption has been followed at the grassroots level by a long process to construct the meaning of peasant seeds. Starting from a diversity of practices (revival of landraces, conservation of ancient varieties, participatory breeding projects involving researchers, etc.), members of the movement have engaged in a series of concrete initiatives to share these experiences and to discuss them and, thereby, to encourage a collective learning experience on practices regarding seeds (Demeulenaere and Bonneuil 2010). The construction process has made clear that peasant seeds differ from farm seeds in that they are not just multiplied on the farm (thus presenting the same genetic characteristics as modern varieties), but are also *bred* on the farm, following "accessible-to-farmers" breeding methods (such as mass selection[6]) and small farmers' criteria.

"Peasant Seeds," Small Farmers, and the Seed Industry

More than just a shift in vocabulary, "peasant seeds" appear as a new category that goes beyond the previous dichotomy between "industrial seeds" and "farm seeds" (or "farm-saved seeds"). Peasant seeds and industrial seeds differ not only in terms of their origins, but also in terms of their genetic identity and agronomic characteristics. Industrial varieties meet the DUS standards (distinction, uniformity, stability), whereas peasant varieties have a much broader genetic heterogeneity. Industrial varieties are selected *in* and *for* standardized industrial farming systems (which require chemicals), whereas peasant varieties are adapted to low-input and variable farming environments.[7]

This semantic innovation allows the RSP and its followers to "name" a new cause: the cause of farmers who are becoming more and more dependent on the seed industry; of farmers who are losing their ability to make their own agronomic choices; and, finally, of farmers who are trying to revive on-farm autonomous breeding in line with the work of their ancestors. The appearance and rapid spread of the expression "peasant seeds" can be interpreted as a first stage in the sequence of a conflict constitution and

6 Mass selection is a plant breeding method implemented by farmers for centuries. It involves selecting ears or grains "from the mass," judged visually to be the most interesting.

7 The argument is widely used to assert the contribution of farmers to prominent environmental issues, such as adaptation to climate change.

resolution as described by Felstiner, Abel, and Sarat (1980) ("naming, blaming, claiming"), necessary to make the cause visible (Cefaï 2007).

This shift in vocabulary and in categories lays the foundations for a reversal of the balance of legitimacy between seed companies and farmers. At present, seed legislation in France allows for the payment of royalties by seed-savers to seed companies on the grounds that they indirectly benefit from the "genetic progress" accomplished by breeding companies. Conversely, the representatives of the RSP claim that breeding companies benefit from the farmers' contribution to genetic resource conservation and development, which constitute the genetic material for improved plant varieties.

This strategy is encouraged and legitimized by the ITPGRFA (the FAO seed Treaty). The implementation of the articles concerning the participation of farmers in agrobiodiversity governance and benefit sharing has engendered a reflection on the definition and defense of "farmers' rights." Even though the RSP is not recognized as a legitimate representative of farmers' voices in France (due to a balance of power more favorable to the mainstream unions), the international context offers a useful leverage point from which to advocate farmers' rights to seed sovereignty.

The RSP as a Social Movement

In this essay I have described an attempt by farmers to build an alternative to seed production and regulation as it is practiced in the modern agricultural model. What I have sought to explain is that criticisms of the seed industry's hegemony derive from a discursive and practical engagement that produces a shift in conceptual categories and lines of legitimacy, and contribute to the formation and reinforcement of a new collective identity: the peasants. This figure is neither a complete reinvention nor a revival of past traditions; it has more to do with the social and historical relations between actors in the French agricultural landscape. A similar point has been made by Leach and Fairhead, who compared contestation of forest management in two regions: the Caribbean and Guinea. As they have argued, activists tend to put forward their identity as citizens or as indigenous people, depending on what provides them with the greatest sense of meaning and legitimacy in the specific sociohistorical context in which they evolve (Leach and Fairhead 2002).

In this respect, the RSP shares many features with other social movements in its attempts to define a cause and to make it heard by a wider audience and in the emergence of a new collective identity during the activist process (Cefaï 2007; Chateauraynaud 2011). It also shares specific features with the contestation strategy of communities concerned with forest conservation, especially when they position themselves as stewards of biodiversity. International biodiversity governance has historically been conceived as a trade-off between, on the one hand, easier access to genetic resources, and on the other, the recognition of small communities' contributions to biodiversity conservation, recognition supposedly to be put into practice through benefit sharing (Thomas 2006). Regardless of the actual effects of these mechanisms, small communities have seized on the opportunities opened by this rhetoric to make themselves heard in the area of environmental conflicts. Participatory environmental governance has a performative effect on the way actors present themselves (as "an indigenous and local community," as "farmers": cf. Li 2000) and on the way they build their discourses (as stewards of biodiversity). These dynamics should be studied in a comparative manner, rather than transferring into the academic field the divide between wild biodiversity and agrobiodiversity—a divide that translates into a splitting of the negotiation arenas, with the Convention on Biological Diversity on one side and the FAO treaty on the other.

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Globalizing Environments and Indigenous Practices

Christoph Bergmann and Martin Gerwin

Towards a Political Ecology of Scale in High Mountains

Global economic and political relations are increasingly dependent on India and China. The destiny of these new centers of power is irrevocably entwined with their ability "to share the same mountains"—the Himalayas—and to settle disputes left over from the border war of 1962 (Malone 2011, 152). Both governments have strengthened their military presence and have made heavy infrastructural investments in their high mountain peripheries. When India began to liberalize its market in the early 1990s (Kohli 2006), commercial interests increasingly affected geopolitical imperatives and advanced new patterns of regional restructuring. While rapid economic growth as well as the rising international significance of both countries attracted much public and academic attention, related and equally compelling aspects remained largely ignored. How are such ongoing processes of border-making experienced and negotiated by the ethnic minorities who live in the mountain peripheries? What implications do they have for the ways these people make a living?

While the Himalayas set effective barriers for state territorial expansion, unequal environmental conditions across the altitudinal gradient favored the flourishing of an extensive agro-trader-pastoralist economy (van Spengen 2000). The underlying production systems integrated several ecological zones, from the cold and arid Tibetan Plateau in the north to the subtropical humid middle hills of the Lesser Himalayas in the south, which are connected by natural corridors of transportation and communication (transversal valleys and high passes in the High and Tibetan Himalayas). Standard academic approaches often relied on simplified assumptions of ecological uniformity in different altitudinal belts, taking population size and its relation to resource depletion as the controlling parameters. Within such scientifically defined and predictable systems, pastoralists were largely seen as "politically passive migrants" (Agrawal and Saberwal 2004, 38), because their mobility was seen as incompatible with society's mainstream. Stimulated by scholars working in the semi-arid rangelands of Africa (Scoones 1995; Niamir-Fuller 1999), our research follows a new scientific agenda that foregrounds the proactive character of pastoral mobility in the Himalayas in three interrelated senses: its spatial and temporal organization; the narratives and discourses that different actors attach to such patterns when drafting policies, fixing routes, or scheduling tasks; and

finally, the lived and embodied practices and rhythms of seasonal movement (Bergmann et al. 2011).

We advocate the concept of "sociocultural resources" for capturing people's repertoire of action in response to ever-changing environmental, economic, and political conditions. The skilled practitioner—a Himalayan shepherd, for instance—develops a fluency of action that allows him not only to efficiently manage good fodder and nutritional supplies for his animals, but also to deal effectively with various "recognizing agents" (Shneiderman 2010, 307), which range from state officials to revered deities, and from representatives of international NGOs to widely dispersed village residents. Pastoral groups do not passively react to processes driven by these agents and their claims on natural resources; rather, they actively deploy their ethnicity, embodied techniques, and other forms of knowledge to find solutions, make decisions, and assert an identity (Forsyth and Michaud 2011). Although these resources are integral to local livelihoods and also contribute to the overall success of a production system, generalized approaches of mountain research tend to neglect them.

Our ongoing project tackles these issues with reference to the so-called Bhotiyas, a pastoral community in several high mountain valleys in Garhwal and Kumaon, the two former kingdoms and administrative units of the Indian federal state of Uttarakhand. Before the closure of the Sino-Indian border, they were involved in trans-Himalayan trade and exchanged sugar, grain, and wool products from India for salt, raw wool, minerals, and animals in Tibet (Nüsser 2006). Sheep and goats were widely kept and were well-suited for transporting commodities over long distances and through difficult terrain. Throughout history, the Bhotiyas have constantly attuned their migratory cycle to shifting political alliances and economic potentials. In Kumaon, however, the number of people that continue to seasonally migrate has approximately halved over the last fifty years (see fig. 1). The Bhotiyas practice combined mountain agriculture (Ehlers and Kreutzmann 2000): a mix of animal husbandry and crop cultivation across different altitudinal belts. This is increasingly supplemented by non-agricultural income sources.

In today's Uttarakhand, communal resource regulations can be identified as a focal point of state-society interaction (Agrawal 2005). *Van panchayats* (village-based councils for regulating the use of forests and grasslands) are one of the oldest examples and are of

Figure 1:
Seasonal migration in the Darma Valley of Kumaon, India.

lasting importance to migratory groups such as the Bhotiyas (Nüsser and Gerwin 2008). Dominant approaches analyze these formally approved agreements in terms of rational decision making and by means of quantifiable parameters, such as area size or number of users (Naidu 2009; Baland et al. 2010). Undoubtedly, such quantitative data is useful for assessing a local situation and exposing crucial patterns of resource use and sharing. However, scholars increasingly urge the need to move beyond such positivistic models (Jones & Boyd 2011; Agrawal & Chhatre 2011). While promising theoretical advances have been made, there are still very few case studies based on firsthand knowledge of the "cultural logics" that influence the negotiations within such institutional arrangements. In order to examine how local populations actively contest the influence of external forces, we emphasize the need to realize a combined analysis of both institutionalized and ritualized practices. While institutions provide an important arena for the formation and reproduction of daily routines, rituals constitute crucial strategies for the creation of social relationships of all kinds, including their power dimensions (Bergmann et al. 2012). Both are intimately tied to people's ongoing interaction with the environment, offering multiple constellations for negotiating seasonal movements through narratives and practices.

The emerging field of border studies offers an important orientation, especially since it foregrounds the notion of "scale" as a fruitful entry point for analyzing the historical "orderings and re-orderings of the socio-spatial landscape, including new geographies of accumulation, state power, and hegemony" (Jessop et al. 2008, 395). Scales are generally seen as hierarchically ordered spatial units: the smallest is the body, and the largest is the globe (Brenner 2001). In order not to lose touch with the concrete practices of everyday life that form the bedrock of such divisions and their restructuring, we follow authors who conceptualize them as contested webs of relations (Howitt 2003)—while some people have access to such webs "at different levels, or with a wider geographical span, others do not" (van Schendel 2005, 10). The resulting "politics of scale" (Cox 1998) is of particular relevance to Himalayan pastoralists, because their far-reaching seasonal movements are enclosed within numerous institutional and administrative arrangements. Relevant examples include the clash of customary regulations with state-sanctioned ones at the village level; reservations for communities perceived as under-represented, resulting in new regional alliances and strategies among Himalayan pastoralists; the building of dams and of transport infrastructure to integrate the mountain peripheries with state and national development; and, at the scale of international relations, a sealed and militarized border. One major task for a political ecology of scale is to identify and compare these alternative styles or projects of scale making (Tsing 2000; Zimmerer & Bassett 2003; Gezon 2004). Their ongoing interaction makes a mockery of the oppositions between highlands and lowlands, forests and fields, as well as between sociocultural and biophysical processes, whose transient character mountain research has been slow to accept.

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Wolfgang Kapfhammer

Tending the Emperor's Garden: Modes of Human-Nature Relations in the Cosmology of the Sateré-Mawé Indians of the Lower Amazon[1]

The Construction of a Sense of Place

Within the "bioregionalist" strand of Western eco-politics, concepts like "geophilia" emphasize the powerful spiritual, social, and psychological bonds people should have with their environment and landscapes, bonds that lead to the development of a strong sense of place (Taylor 2000).[2] Although this kind of place-making was originally introduced as a concept by architects and city planners to counter the inhospitality of *urban* environments, advocates of bioregionalism support strategies of re-inhabiting *natural* landscapes, often citing as models indigenous peoples, whose sense of place is understood as solidifying through the application of religious, moral, and aesthetic meaning to their environment (Myers 2002).

While it is certainly true that indigenous societies avail themselves of powerful ways of structuring their world through lore and ritual (Århem 1998; Santos-Granero 2004), it is also true that in the (post-) colonial situation, many of these strategies have been contested by powerful external political forces. Thus, indigenous peoples have had to contend with environmental stress or degradation (logging, chemical pesticides, etc.), resulting gaps in ecological knowledge, and a loss of "poetic involvement" (Ingold 2000) with the environment, similar to the losses lamented by green activists in the Western world.

On the other hand, from a Western perspective, the Amazon is still presumed to be an Edenic landscape, primarily because the local indigenous peoples have developed millennia old cosmologies that are based on "sound" relations between what we call "humans" and what we call "nature." Many scholars believe that it is exactly these cosmologies that draw a distinction between "destructive" and "non-destructive" human-nature relations.

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2 On the spiritual subtext of Western human-nature relations see Taylor 2010.

While cosmologies certainly offer guidelines for environmental conduct, I argue that it would be wrong to essentialize specific cosmologies as monolithic and immune to historical change. The Sateré-Mawé, whom I shall discuss, exhibit a pluralism of sometimes conflicting modes of human-nature relations in their cosmology. I will also argue that cosmology provides the backdrop for emerging strategies to deal with social, economic, and environmental crisis within the Sateré-Mawé's indigenous area.

The Sateré-Mawé Case

The Sateré-Mawé is one of the last indigenous groups in the immediate vicinity of the main Amazon River that continues to maintain its cultural identity. Mostly known as the original cultivators of guaraná, the Sateré-Mawé, today numbering about 12,000 people, have been exposed to prolonged contact with the encompassing Brazilian society in the form of early missionizing efforts, the socially and ecologically predatory local form of extractivism, and indigenous government agency. Indeed, cultural contact has led an increasing number of Sateré-Mawé to abandon their forested and riverine place both ideologically and practically, and seemingly to give in to the pull of Western consumer culture.[3]

The weakening of the Sateré-Mawé's attachment to place is clearly articulated in a narrative that explains the unequal distribution of goods between the Sateré and the white population. In the myth, *ase'i Imperador*, or Grandfather Emperor,[4] leads his people out of the inhospitable "paradise" *Nusoken*. He asks the Sateré to go down to the river bank, where he will be waiting for them to take them with him on his ship. Halfway along the trail the Sateré get distracted by palms ripe with fruits, lose track of time, and miss the boat. The Emperor leaves without them, taking along all the industrial commodities. The Sateré are consoled by the Emperor's promise to send them the much-desired merchandise every once in a while.

This narrative may be interpreted as an elaboration of the historical experience of growing dependence on external Western commodities, an experience that has developed into a downright *cargo*-stance: a passive demand for commodities with no sug-

3 Cf. Kapfhammer 2004, 2007, 2009; for more information on the Sateré-Mawé go to http://www.online.uni-marburg.de/satere/.

4 This title probably refers to the Brazilian Emperors Dom Pedro I and II of the nineteenth century.

gestion of exchange or reciprocity.[5] Interestingly, such a "demand-sharing" (Peterson 1993) mode of human-nature relations exists in traditional Sateré-Mawé cosmology, where the shaman ritually demanded game from a supernatural animal mother (cf. Bird-David 1990). Today this mode is echoed in the relations between chiefs and river traders, between recent political leaders and government agencies or international NGOs, and between citizens and the welfare state. However, this orientation of the Sateré-Mawé towards the exterior not only has to conceal the historical fact of asymmetric and hierarchic relations, of violence and exploitation during the era of extractivism; it also contributes to the Sateré-Mawé's alienation from their forest environment by dislocating the source of salvation towards exterior urban spaces.

Although the Sateré-Mawé partially uphold the idea of unconditional relations between humans and their environment, their cosmology actually demands a rather disillusioned stance towards what we might call "nature." As in many agricultural groups, the transition from childhood to full, adult personhood requires a ritual. In the case of the Sateré-Mawé, adolescent boys are subjected to the painful stings of poisonous ants. As it is explained in the myth, the symbolism of the rite could not be more explicit: the ants originate from the vagina of a snake woman of the aquatic underworld. The caring relationship with the animal-mother is disrupted, to be replaced by the dangerous and violent relation to *Uniamoire'i,* the Snake Woman. Contrary to clichéd Western convictions about the harmoniousness of indigenous life in and with nature, reaching full personhood for the Sateré-Mawé means confronting nature's "toxicity."

On the one hand, this mode of human-nature relations stabilizes emotional attachment to the environment and, as such, strengthens the Sateré-Mawé's sense of place. This demanding, "cost-intensive"[6] regime, which is based on balanced, reciprocal exchanges with the different domains of the cosmos, comes close to what Reichel-Dolmatoff (1976) paradigmatically has described as "cosmology as ecological analysis": a world vision whose implicit environmental ethics attract Western agencies as potential partners for collaboration in sustainable development projects.

5 So called "*cargo*-cults" have been observed among indigenous peoples in times of cultural contact. They refer to the sometimes religiously-fuelled expectation of Western merchandise.

6 In contrast to the unconditional mode of human-nature relation, this mode requires a person to meet obligations, to "invest" in relations. This is how I use the term "cost-intensive."

On the ground, this system, which requires a daily routine of prescriptions and precautions regarding nutrition and health, is prone to accusations of sorcery, which ensure that the system is characterized by cycles of violence. This instability is potentially explosive when mixed with conflicting regional and political interests, and the situation has reached a crisis point several times. One such crisis occurred during a particularly violent boom cycle of rosewood extraction in the 1960s, and today a staggering population increase has made chronic shortage of food a social reality in the *Área Indígena Andirá-Marau*.[7] Engaged as they are in internal struggles, the Sateré-Mawé are ill-equipped to deal with external issues.

Sateré-Mawé Responses: A New Sense of Place

These crises have prompted much discussion among the Sateré-Mawé; possible solutions, as I will show, could be interpreted as a revitalization of the Sateré-Mawé's sense of place.

One response of Sateré-Mawé society to the critical situation has been the establishment of an evangelical Christian counterculture, starting in the 1960s and reaching a peak in the 1990s. Today, the evangelical movement has largely lost its impetus due to the death of its charismatic leaders. It has disappeared from the public stage to consolidate itself within the intimacy of parochial life. The first-wave evangelicals distanced themselves rigorously from the prevailing "cost-intensive" system of human-nature relations precisely because of its symbolic, ritual, and everyday violence. What was lost, though, was the sense of nature as an actor to be respected. The stance of the evangelicals increased the society's alienation from the forest environment.

Subsequently, a new wave of evangelical Christians emerged, increasingly critical of "civilization" and its "contaminating" effects. However, instead of returning to the cost-intensive system, they "Edenize" forest space. This novel environmental discourse relocates the "toxicity" of the "wilderness" as it is established in the initiation rite. The pathogenic *satek*, the poison, is no longer associated with the cosmological domains as in the initiation rite (see above), but with the space of civilization—that is, of the village (*tawa*)—where the contaminating impact of the fringes of Western culture makes itself

7 The Indigenous Area of the Sateré-Mawé is situated on the Lower Amazon, south of Parintins, on the border between the Brazilian federal states of Amazonas and Pará.

felt. This new "toxic" space is now pitted against a "safe and sound" forest (*ga'apy*), an Edenic realm of purity. This moral discourse, with its nativistic undertone, may have the potential to *re-politicize* and *re-ecologize* the evangelical movement.

Another response has been to link up Sateré-Mawé products with the global fair trade market. At the peak of the evangelical movement in the 1990s, its charismatic leaders were able to integrate religion, politics, and economic interests. Their tenure coincided with the start of a fair trade project to commercialize guaraná and a great many other forest products of the Sateré-Mawé area. It was a stroke of luck that guaraná not only met the demand of a European fair trade market, but also rooted itself squarely in a traditional ritual complex of chiefly authority and the construction of social consensus.[8] However, as the political power of the evangelical movement went into decline, the cultural acceptance of the "guaraná project," once praised as the way out of misery, also diminished.

Recently, the indigenous guaraná company reinvented itself by founding the *Consórcio dos Produtores Sateré-Mawé* (CPSM)[9]—an attempt to regain space lost in political conflicts. Along with its business endeavors based on global fair trade ethics, this new group of actors actively endorses a cosmological change of perspective, calling for a specific reading of the myth of the "Grandfather Emperor." This reading traces itself back to one of the deceased evangelical leaders: instead of relying on external commodities, it constructs the mandate of the Sateré-Mawé as stewards of their forest environment. However, the activists began to realize that this novel kind of "stewardship" may only be sustainable culturally if it is supported by an aesthetic and affective "re-embedding" of human-nature relations; in other words, they need to be *re-spiritualized*.

Essentially this is achieved through the economic activities of the fair trade project.[10] By returning to autonomous productivity within their forest environment, the Sateré-Mawé realize a fundamental message of their mythology. In one of the major cosmogonic myths, a violent conflict gives rise to the riverine landscape of the Sateré-Mawé. *Sururí*

8 As a ritual beverage, guaraná accompanied reunions in the chief's house. Based on the origin myth of this plant the Sateré-Mawé consider themselves as the "Sons of Guaraná."

9 See http://sites.google.com/site/filhosdowarana/.

10 By opening so-called "*roças consorciadas*" (inter-cropping gardens), the Sateré-Mawé producers not only meet the certification requirements of the Western project partners, but also contribute considerably to the aesthetic of the place.

tunug (Snake / Thunder), the Master of the Water, creates a new spatial order: using his shamanistic tools, he transforms an indiscriminate flood of water into a river with two banks. By blowing tobacco he creates the sinuous line of today's rivers; his rattle and feather-sticks become the *patawá*- and *buritĺ*-palms that dominate river banks today. The blood of a boy, whose bursting body had started the excessive flood, is transformed into the much-appreciated *assaí*-palms.

On the one hand, this myth recalls the concept of the cost-intensive relationship. Relations between human beings and the enchanted landscape are shown to have a negative, violent aspect: the blood is the rain of the wet season, known to bring sickness and death; the serpentine form of the river further alludes to the fact that this is the domain of the Snake Master and his powerful but pathogenic substance *satek*. On the other hand, the shaman's tools that were transformed into the landscape metonymically stand for transformation itself: the *autonomy of production*—of "producing production" (Turner 2009)—that is transmitted in the narratives and written into the places with which human beings interact to reproduce themselves.

Regaining a sense of place also means regaining agency and autonomy of production, with nature no longer being dismissed in favor of external commodities, but rather being given a status equal to that of its inhabitants. The version of the *Emperor* narrative that establishes the Sateré-Mawé as stewards of an "ecological and cultural sanctuary" does so by way of a cosmographic re-orientation of spatial relations: while the "cargo" versions allocate the means of production towards the exterior, the "stewardship" version reappropriates "production power" (Turner 2009)[11] for the Sateré-Mawé and their forested and riverine environment.

From the case of the Sateré-Mawé we can conclude more generally that, while Western environmental thinking profits from looking at varied relations to nature, it will continue to do so only if it acknowledges the structural complexities and historical conjunctures that shape such regimes in the global struggle for planetary existence.

11 The website of the CPSM catches the eye of the viewer with the headline "*Nossa luta é produzir*" ("our struggle is to produce").

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Shahnaz Kimi Leblhuber and H. Vanlalhruaia

Jhum Cultivation versus the New Land Use Policy: Agrarian Change and Transformation in Mizoram

The Mizo people of India have practiced *jhum* cultivation ("slash-and-burn") for hundreds of years. However, since British colonial rule, they have increasingly lost control of communal land because of governmental development and land-use policies. The contrast between colonialism and this method of agricultural production can be seen in terms of "commodity" versus "sacred space" on the one hand, and "civilized space" versus "primitive bounded space" on the other. In post-colonial India, the practice of jhum cultivation is often considered an extravagant and unscientific form of land use. Pessimistic attitudes toward jhum cultivation practice are driven largely by the rise of liberal economic policies, and concern for potential ecological crises. This paper intends to add to current debates surrounding jhum cultivation, forest conservation, and agrarian change in Mizoram by looking at jhum cultivation in relation to the New Land Use Policy (NLUP) introduced by the government of Mizoram in 1984.

Area of Study

Mizoram is a hilly region situated in the northeastern frontier of India and inhabited by various tribal groups, such as the Mara, Lai, Paite, Hmar, Ralte, and Lusei, who together form the ethnic group of the Mizo. The people of Mizoram have been practicing jhum cultivation for hundreds of years. The cultural formation of Mizo community identity is strongly intertwined with jhum cultivation. Traditional management of the forest includes various forms of regulation, such as limited access, size restrictions, and sacred or protected areas (Vanlalhruaia 2009). Such management was based on a strong attachment to land, customary laws, norms, belief systems, and ethical values regarding the environment. The chieftainship institution was also designed to establish a management system and to formulate customary laws regarding the forest.

The Colonial Managerial System

The first half of the twentieth century witnessed a rapid shift from indigenous land management systems to a colonial managerial system. In many parts of India, strict regu-

lations to control forests were put in place, yet this was not the case in Mizoram. The British allowed the Mizo chiefs to retain control over forest resources, including the right to practice jhum cultivation. After some time, however, and for the purpose of increasing state revenue, successive policies to curb jhum cultivation were introduced. A form of land settlement popularly known as the circle system was introduced in 1901, effectively dividing Mizoram into 18 circles administered by local chiefs. The regulation limited jhum cultivation by forbidding the practice of it outside of these circles. At the same time, and in a break with the tradition of communal ownership of land, new cash crops such as coffee, cotton, potatoes, and oranges were introduced under private ownership. Wet rice cultivation was introduced in 1898 in order to gain income from taxing it (McCall 1980, 103). As Lalit Kumar Jha (1997, 27) notes, "[the] land tenure system tended to be more and more individualistic in consonance with the nature of cultivation practices."

Post Colonial State Intervention

Following independence in 1947, the Indian constitution provided a certain degree of autonomy at either local or regional levels, including the management of natural resources. In reality, successive regulations through centralized administrative mechanisms were introduced. The Chieftainship office was abolished in 1954, and two new administrative categories—Autonomous District Councils and Village Councils—emerged (Mizoram 1989, 252, 285).

According to Sajjad Hassan (2006, 13), "[the] abolition of Chieftainship meant that land became the property of the state and chiefs' privileges no longer existed. Abolition of Chieftainship, consolidation of the administrative and legal framework under the state, and the bringing of tenants directly in contact with it, have helped to consolidate the state's authority. These measures enhanced the state's social control while weakening drastically any challenges to its authority from social forces." More and more regulations were imposed to broaden the power of the state. For example, when Mizoram became a fully-fledged state of the Indian Union in 1987, the government declared ownership of the land and enacted laws to establish different categories of ownership within the state (Jha 1997, 28). All land became the property of the government; communal land in its true sense was therefore effectively eliminated. In villages, when the necessity arises for jhum cultivation, the Village Council is authorized to make annual jhum allotments in compact areas for a cluster of families.

Concerns over Jhum

The practice of jhum cultivation has become the subject of debate among foresters, ecologists, economists, and policymakers. The main contention is that it is the leading cause of land degradation in the hills of Mizoram (Lianzela 1997, 785; Maithani 2005; Raman et al. 1998, 214–31; Raman 2001, 685–98). At the same time, officials are concerned about increasing state revenue: replacing the jhum economy with more liberal economic models is seen by the government as a profitable move and as a way to open the door for large-scale development projects. On the other hand, new systems are not always accepted by local populations (Ramakrishnan and Patnaik, 1992, 220; Sharma 1994, 145). Several global agencies have even intervened in the projects.

In addition, the entire northeast region is now considered part of an Indo-Burma biodiversity hotspot, which ranks sixth among the top 25 hotspots in the world. Other groups are concerned about global warming; they believe that jhum burning is a large emitter of carbon-dioxide. The government therefore decided that the jhum cultivation system should be impeded at all costs, in order to protect the global environment.

The New Land Use Policy

It was in response to this critical situation that an alternative policy called the New Land Use Policy (NLUP) was introduced by the government of Mizoram in 1984–85. According to the government, the main aim of the policy is "to put an end to the practices of shifting cultivation by giving the farmers alternative sustainable land-based activities through the New Land Use Policy" (NLUP 2009, 2). The plan was executed by the State Forest Department; 6,086 families were assisted in establishing commercial plantations. However, after the policy proved ineffective, it was terminated in 1989–90 (Lianzela 2003).

In 1987, the NLUP was replaced by the Jhum Control Project, sponsored directly by the National Development Council of India. Under the State Agricultural Department, pilot projects in Aibawk Block and Tuipang Block were introduced in 1987–88 and 1990–92 respectively. Of the 1,936 participants, 47 percent opted for horticulture, 20 percent for animal husbandry, 10 percent for wet rice cultivation, 9 percent for coffee plantation, and 5 percent for cottage industries (Mizoram 1991). This project was

also soon discontinued. Under the auspices of the Rural Development Department, the NLUP was implemented once more between 1990 and 1991, targeting mainly families that depended solely on jhum cultivation and families that did not have stable livelihoods. Mizoram was divided into various circles, and assistance (in the form of 30,000 Indian rupees) was provided to each family. The government distributed over 132 crores rupees[1] (approximately 24 million US dollars) to 41,000 beneficiaries (Mizoram, 2000). However, the program did not formulate specific goals to be achieved within the stipulated time. It neither improved the forest landscape nor encouraged the jhum cultivators' alternative livelihoods. The extent of the shifts in cultivation in NLUP blocks is demonstrated by the fact that, while the West Phaileng Circle showed a decline in jhum areas from 2,954 ha in 1989–90 to 2,100 ha in 1994–95 (a 29 percent decrease), other areas, such as Sairang, witnessed an increase of 72 percent (from 690 ha to 1,185 ha). Kanghmun experienced an increase of 106 percent (185 ha to 382 ha).

State statistics clearly show extensive mismanagement on the part of the government. For instance, in the West Phaileng block, there were only 3,733 houses (1991 census), but the number of recorded NLUP beneficiaries was 5,445 (Singh 2009). There were similar cases in the Khawzawl and Lungsen Blocks, where NLUP beneficiaries exceeded the number of total households.[2] The program was once again terminated in 2000–01 without having generated any fruitful results.

In 2000, with the formation of the new ministry (the Mizo National Front), the project was reformulated and named the Mizoram Intodelhna Project (Project for the Self-Sufficiency of the Rural Poor). Assistance was provided in the form of 50,000 Indian rupees per family (around 900 US dollars). One of the objectives was "to liberate the jhum*mias* from their drudgery so that they may have a more dignified standard of life" (Lianzela 2008), yet the project gives no explanation for this negative view of jhum cultivation.

In 2008, the new government (the Congress Party) re-introduced the NLUP for a period of ten years. The Indian Central Government recently set aside 2,416 crores rupees (435 million US dollars) for the project. In the first five years of the project, the

1 One crore rupees is 10 million rupees.
2 According to the 1991 census, the number of total houses in Lungsen was 4847, while NLUP beneficiaries were recorded as 5079. The number of houses in Khawzawl was 8526, whereas NLUP beneficiaries exceeded 9096.

NLUP—with the support of the Departments of Agriculture, Horticulture, Industries, Forests, Fisheries, Sericulture, and Soil and Water Conservation—aims to support 120,000 families.

Mistrust of the State

The NLUP is being promoted in Mizoram on the basis that it will improve rural livelihoods. However, we are contesting such a claim: we argue that the Indian Government's intention is to follow liberal economic policies rather than to improve the lives of rural populations. Through our fieldwork, we have discovered that the goals of the NLUP contradict themselves. The NLUP has been in place as an experiment for the past several years, but there is tremendous cause for concern, as the failure of the project would seriously erode the credibility of the government. And there are far more worrying matters.

The NLUP operates in such a way as to disrupt the well-organized system of jhum cultivation. As government roles increase, the community's role in the management of the environment is reduced. As people lose their responsibilities, they also begin to lose confidence in their communities, and thus in their ability to safeguard the traditional ethical code (or *tlawmngaihna*) and to regulate their customary laws. In this way, people become increasingly dependent on government management programs. Moreover, the policy "works out to be a high-cost activity, requiring not only high investment, but also high recurring expenses" (Singh 2009, 298–315). Under the government's policy, the majority of cultivators grew cash crops (among other activities), while, paradoxically, they continued to depend on jhum cultivation for food production. Mizoram is too heterogeneous, both socially and politically, for the government's policy to be successful. During the implementation of the NLUP system, power struggles between state bureaucracy and local village councils have increased. It is difficult for the jhum cultivator to trust an administration that has yet to prove its credibility. Such distrust also arises from the historical trajectory of top-down development plans, which provided neither incentives nor opportunity for growth. A serious challenge to the regional development of Mizoram is posed by the underlying mistrust felt by local populations towards government agencies, engendered by the political favoritism and the misuse of public funds present in the system.

Voicing Concerns

Local populations frequently raise their voices against new regulations imposed by hegemonic state projects, which indicates that their voices are "poorly reflected in the formulation of national laws and policies, [and that] they may also receive little consideration in judicial decision making" (Poffenberger 2007, 2). Others (local elites, local political party workers, NGOs, and so on) speak for them, very often misrepresenting and distorting reality to suit their respective interests.

The main contradiction is in the state's "claiming to promote indigeneity, while blaming indigenous practices for the demise of the environment" (Kumar 2008, 139). Finally, discussions of jhum have always been led by actors outside of the jhum space, a practice that reinforces stereotypes and leads to a misunderstanding of the system. The exclusive nature of the state-sponsored policies also erases the jhum cultivators' agency and their voices. The views of the jhum cultivators are always excluded when the discussion is conducted in the language of science; no space is reserved for them to take part in such discourses. We therefore conclude that efforts to locate jhum cultivator agency amid various power coalitions are crucial for scholars currently working on jhum cultivation.

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