

Women, nature, and development in sites of Ecuador's petroleum circuit

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This article argues that the contradictory character of Ecuador's current development project is made evident through a focus on energy resource management from a feminist ecological perspective. The hydrocarbon exploitation fundamental to these projects transforms women's roles in social reproduction and production, their relationship with nature, and their dependence on state-institutionalized energy regimes. We examine changes in women's territorially based work of care at sites in Ecuador's petroleum circuit. An ethnographic focus on the transformation of women's daily lives at sites of petroleum exploration, exploitation, and processing in Ecuador reveals an often overlooked dimension of the socioenvironmental conflicts produced by the intensification of national economic insertion into the global energy market. This article thus examines the intersection of state development policies and the gendered construction of subjects of development. The exploitation of natural resources transforms the meanings and values of nature and development, of women's work of care, and of the participation of these in different energy regimes.

Keywords Care Work; Ecofeminism; Development; Petroleum Circuit; Ecuadorian Amazon

The postneoliberal projects of South American governments such as Venezuela, Bolivia, and Ecuador have been championed as antineoliberal and characterized by redistributive social policies. Yet to what extent have the development projects of these governments, now in power over a decade, led to more just and sustainable social relations? The contradictory character of these development projects is evident in the energy resource and management effects of Ecuador's petroleum-based development policies on indigenous economies and sociocultural transformation. From a feminist ecological perspective, this article highlights the ways that the oil exploitation considered fundamental to the government's policies transforms indigenous women's roles in social reproduction and production, alters their relationship with nature, and creates dependence on state-institutionalized energy regimes.

In contemporary Ecuador, the postneoliberal development project seeks to transform the country's economy beyond its historical dependence on the export of raw materials, especially the oil extraction that currently sustains the country's position in the global economy, and toward the capitalization of the country's comparative advantage in biodiversity and bioknowledge. Ironically, however, public funding for the massive investments necessary to move toward such a transformation depends on international financing and investments in natural resource exploitation. State policies since 2008 have extended petroleum and mining concessions, and as the intensity and extent of extractive enterprises have increased, so have associated social conflicts.

In this context, development programs are aimed at pacifying conflict in strategic territories for continued exploitation. These programs create subjects of development, objectively and subjectively dependent on state-institutionalized energy networks. These dynamics are evident in the concentrated changes taking place in the strategic territories at the points of petroleum extraction. In Ecuador, the state has developed important infrastructure in its bid to rapidly incorporate those territories' inhabitants into dependent positions in the petroleum circuit and its energy networks.

A central concept in the theoretical framework to be explored in this article is the relationship between commodified energy regimes and local use-based energy cycles. We look at this relationship through a focus on

women's territorially based work of care, in dialogue with feminist theorization on production and reproduction. These perspectives help us to juxtapose the massive system of petroleum-based energy production to localized spheres of care. Attending to one's family through cultivating local cycles of energy has given way to caretaking that aims to better position family members in wider energy and labor markets, particularly through the modern focus on formal education. Through their work of care, women establish diverse relationships to territories, to the environment, and to the spatiality of the state.

We begin by outlining some of the important changes in Ecuador's national development policies, which include a projected transformation of its energy sector as well as a greater inclusion of marginalized groups through infrastructure and service provision. We contextualize these changes in the recent rise of progressive governments in Latin America, looking at implications of these new governments' policies vis-à-vis global energy and capital flows. In the second part of the article, we develop fundamental insights from feminist ecological literature to interrogate these processes, particularly as they constitute understandings of energy, nature, and resources. We highlight theoretical contributions that help us think through the ways that both energy production–consumption cycles and related conceptualizations of nature change the reproductive work of care.

In the third part of the article, we identify the developmental projects that accompany these processes, focusing on the recently established City of the Millennium in the Ecuadorian Amazon as a prime example of state policies providing benefits to communities whose territories, livelihoods, and energy use are being transformed by the petroleum industry. We conclude with an analysis of the ways that the City of the Millennium is transforming women's participation in energy networks. From participation in a diversity of energy cycles, women become dependent on the institutionalized state energy regime. We explore the implications of local energy practices and subjectivities for our understanding of the possibilities and limits of the contested Ecuadorian development project.

By focusing on the transformation of women's daily lives in sites of Ecuador's petroleum circuit, our research explores often overlooked dimensions of the socioenvironmental conflicts produced by the intensification of national economic insertion into the global energy market. Examining sites of oil production from a feminist ecological perspective highlights the unequal social and ecological distributions that result from processes of accumulation and dispossession. The exploitation of natural resources transforms the meanings and values of nature, of women's work of care, and of the participation of these in different energy networks.

The productive matrix: Dependence and projections

While regions such as Europe and North America seek alternatives to supplement the fossil fuel basis of their energy regimes, and emerging economies such as China and India locate sources to provide for their growing consumption, peripheral economies like Ecuador and Bolivia are caught in a bind. Externally, these countries depend on the increased demand for hydrocarbons, yet internally, they must respond to the constituencies that brought them to power. These included coalitions of social movements—rural, environmental, indigenous, and women's groups—demanding the recognition of alternative forms of development in a refounded plurinational state. The resolution of this central contradiction, as we show in this article, is the constitution of subjects of development incorporated into and dependent on state-directed labor and energy markets. This is only possible through transforming the relationship between the spheres of production, social reproduction, and nature, which implies new forms of energy use and new dependencies.

Ecuador's government under President Rafael Correa, in power since 2007, has drawn up an ambitious National Development Plan for Good Living that increases public spending within redistributive social policies. Yet the political and economic project of the state depends fundamentally on the management of energy resources for international export. Three points are central in the state's policy projections: a planned decrease in the nation's economic dependence on primary commodity exportation, particularly petroleum; the paradoxical need to fund the transformation in the “productive matrix” through further exploitation; and the constitution of subjects of

development to be incorporated into this “productive matrix.” The “productive matrix” refers to the national network of economic structures and relations that both shapes dynamics of production internally and connects Ecuadorian products to global flows of capital. The current government has popularized the term to signal its goal of moving the country from an economy dependent on a few primary materials toward a diversified economy that generates value and knowledge.

Yet that transformation—and the self-proclaimed Citizens’ Revolution that accompanies it—depends on the accelerated dynamic of national economic growth that the country is now experiencing. Just last year, President Rafael Correa declared, “While I am president, I will make the most of every last grain, every last drop of natural resources, to move my country as quickly as possible from poverty.”¹ Long a primary commodity exporter of agricultural products such as bananas and cacao, Ecuador has continued and deepened that role, now primarily exporting petroleum. Although the actors and sources of credit may have changed, the country’s economically dependent role in the global flows of capital has not. Ecuadorian development is thus vulnerable to the instability of supply and demand as well as the volatility and the fluctuation of prices in the global energy market (Acosta 2001:128–156). Primary products still represent 92 percent of Ecuador’s exports; petroleum accounted for 55 percent of total exports between 2000 and 2012, and oil revenues made up an average of 29 percent of the government’s revenues in that period (Larrea 2013:3).

Nevertheless, the Citizens’ Revolution is the banner by which Correa’s government proclaims its rupture from neoliberal economic models. Social policies have directed important investments in transportation infrastructure, health, education and basic services such as energy, water, and sewage. For the Amazonian populations living in territories of oil extraction, such redistributive policies are heralded as their inclusion in the national economy and its concomitant forms of liberal, universal, and individualized citizenship. According to the Secretariat for National Development and Planning, the Citizens’ Revolution extends social well-being to the Amazonian people through a redistribution of the economic benefits of oil extraction to its “real owners” to “diminish territorial inequalities and incorporate historically excluded actors in the development of the market economy” (SENPLADES 2011).

The term *sumak kawsay*, Kichwa for the indigenous concept of “good living,” was fundamental in the reformulated Ecuadorian Constitution of 2008. The use of the term signaled the inclusion of indigenous groups’ demands for an alternative ethos of development driven by elements other than individual and national economic progress. *Sumak kawsay* as a worldview underlies the recognition of collective rights, the respect and harmony with nature, and the social economy framed by solidarity that are declared in the constitution. Yet the government now prefers to employ the more moderate Spanish version of the term for “good living,” *buen vivir*. State policies have neither incorporated alternative development concepts nor generated mechanisms for the participatory inclusion of diverse indigenous nations and peoples in their planning. The transformation of the productive matrix as laid out in the National Plan for Good Living (*Plan Nacional para el Buen Vivir*) seeks to achieve conventional social development goals and the national economic growth needed to sustain the unidirectional path toward them.

The sections that follow explore in more detail the constitution of paradigms and new subjects of development. For now, we would like to point to the contradictions between the hopeful incorporation of alternative forms of development in Ecuador—*sumak kawsay* in the recent past, bioknowledge in the uncharted horizon—and its national economy based on petroleum production. The oil industry converts the rich biodiversity of the Ecuadorian Amazon into natural resource commodities that position the country in global capital structures. The politics of *buen vivir* have not led to a new path of postdevelopment but to a bracing and strengthening of development dependent on exploitation and export for the global energy market.

Our analysis of the Ecuadorian case emerges in dialogue with the work of Gudynas (2011), which identifies two prevailing types of extractivist development in Latin America: conventional extractivism, in which the dominant role is played by transnational companies, and progressive extractivism, or neoextractivism, in which the state is a primary actor. Neoextractivism does not imply substantive transformation in structures of accumulation (Gudynas

2010).² One of the most important changes in extractive policies in the region, however, has to do with shifts in the links between state, corporations, and communities in the neoextractivist countries. Sawyer (2004) describes the 1990s links between multinational oil corporations and local communities in the Ecuadorian Amazon through compensation policies during seismic exploration activities. The state's minimal interventions were limited to tenders, concessions, and, occasionally, safeguarding exploration activities, such as the militarization of territories.

In contrast, the current state presence in the Amazon is evident not only in the Secretariat for Hydrocarbons's oil block concessions and in the state oil company PetroAmazonas's management of oil blocks and camps. A critical state role, as we will see later, is the constitution of gendered subjects of development through its "social inclusion policies" that include the construction of educational units, roads, and basic services in communities located in areas influenced by extractive activities. These state investments replace oil companies' previous compensation activities.

Thus, though the Ecuadorian state has renewed its control of national economic policies to restore the social welfare regime devastated in the 1980–90 era of structural adjustment, the productivist vision of the economy has not changed in the ways proposed by the social movements that ousted the neoliberal government before Correa. Instead, the current developmental project of *buen vivir* tends to conceal the continuity of the national economic policies of primary commodity exportation. If, in the 1990s, the logic of the economy was guided by the invisible hand of the market, today that logic is guided by the conspicuous and strong hand of this state. And whereas Sawyer (2004) shows how indigenous politics in the previous neoliberal period was shaped by resistance and negotiation with oil companies, this article focuses on the more quotidian construction of Amazonian political subjects through the gendered transformation of livelihood reproduction that today's state development policies imply.

Energy and social reproduction

How do these development dynamics play out, then, in lifeworlds at the sites of the petroleum circuit, situating understandings of energy, nature, and resources? We point, in particular, to feminist and ecological theories that can help us think through the relationship between energy production and consumption in the reproductive work of care as well as the role and the conceptualizations of nature and natural resources in these processes.

Energy can be conceived as the labor force that promotes the establishment of social interdependence between humans and nonhumans. These forces make reproduction possible, in terms that Marx called social metabolism³ (Martinez Alier 2011). The history of capitalism shows us that the extraction and exploitation of primary materials create and direct flows of capital through the transformation of nature into resources. Only with difficulty can such intensity of exploitation recognize and respect the energetic cycles for the renewal of life, the cycles of fertility in which live elements of nature are regenerated. Furthermore, nonrenewable sources such as petroleum are often found in the context of rich biodiversity (Amazon Defense Coalition 2012). This is the very biodiversity that the Ecuadorian state hopes to take advantage of in a future productive matrix no longer dependent on fossil fuel exploitation. Yet the production and consumption of energy have a social life, and decelerated energy systems for social reproduction—such as the nursing of a newborn or care of a small vegetable garden that provides sustenance for the family—may be the asynchronous elements of an energy regime that coexists with the fossil fuel-dependent regime (Fischer-Kowalski 2011:154).

This emphasis on social reproduction trains our analytic eye on the biological reproduction of the species that includes its "ecological framework, the reproduction of labor power, and the creation as well as maintenance of communities through caring activities" (Kaijser and Kronsell 2014:426). The importance of these insights for the consideration of energy regimes is the link between the externalization of social reproductive work and use of energy sources (Perkins 2007). In their study of the relationship between unpaid household work and relative consumption of energy, D'Alisa and Cattaneo show that "substituting labor and skills from household-based production to the commodity-based economy [resulted in] an increase in energy demand" (D'Alisa and Cattaneo 2013:71). With the drastic changes experienced by the sudden urbanization of an indigenous community that we

describe later, household reproductive work creates a dependence on the commodified use of energy and a greater insertion into the fossil fuel energy regime.

We study these dynamics in dialogue with feminist literature on reproductive work, such as that of Galcerán (2007), who reminds us that the underlying and hierarchized sexual division of work remains, reinforcing the separation of the spheres of production and social reproduction that accompanied the emergence of capitalism (Federici 2005). Galcerán examines the way that the naturalization of women's work minimizes its central role of the reproduction of the species, as the use value of domestic labor is obscured by abstract and commodified work. The market economy increases women's dependence on salaried work (Galcerán 2007; Dalla Costa and Dalla Costa 1999), concealing the work that care implies (Aguinaga 2012; Galcerán 2007; Monasterio and Weingärtner 2010).

Such perspectives on reproduction and the division of labor are extended by feminist ecological authors such as Shiva (1995), who reminds us to think of development in terms of its destructive impacts on nature's processes of the regeneration of life. Despite her problematic naturalization of femininity, she shows that the objectivization of nature conceals vital relations and economies of subsistence. Warren (2003) also helps us to understand the ways that nature has historically been constructed from a male perspective, based on the expansion of territories for the growth of world capitalism and dependent on culturally embedded binaries (women – men, nature – culture, and body – mind) that have legitimated the conquest, penetration, and exploitation of both nature and women's bodies. These feminist ecological authors show us how the sites of original accumulation and labor exploitation have implied both androcentric and anthropocentric domination. They thus add a necessary perspective overlooked by geopolitical Marxist critiques aimed at understanding how capitalist expansion has depended on the spatialization of capital (Harvey 2006; Lefebvre 1974; Oslender 2010). One of our challenges is to understand the ways that the spatial and temporal dimensions of capital are materialized in everyday gendered practices. The feminist insistence on situated knowledges (Haraway 1995) helps us to attend to both macrosocial processes and the ethnographic everyday.

As we see subsequently, in the Ecuadorian Amazon, nature as a site of the social reproduction cycles of life involves not only the activities of production but also those of distribution, consumption, and waste disposal. It involves knowledge creation as well as moral and reciprocal relations between human and nonhuman beings that sustain ecosystemic chains (Narotzky 2002; Martinez Alier 2011). Considering the provision of food, attention, and care as modes of reproduction *and* production helps us to explore the ways that these dynamics shift in territories that are currently pressured by extractive enterprises and state institutions, with their promises of progress and development (Narotzky 2002; Orozco 2012).

The critique of the capitalist division between the spheres of production and social reproduction forces us to see accumulation by dispossession in the daily efforts of care and the reproductive sustenance of life. Externalizing both unpaid work and the environment as unproductive allows for their exploitation. Both social and natural reproduction are dimensions of work and life too often decontextualized from the dynamics of global capital, especially in studies that address indigenous communities. Thus our work pays special attention to the ways that reproduction creates subjects within a particular social fabric, produced in its symbiotic relation with the nonhuman (Gebara 2000) in dependency and interdependency of life (Paredes 2008) and woven in networks and cycles other than the dominant capitalist and energy regimes.

The analysis of the transformation of care in the contemporary petroleum circuit in the Ecuadorian Amazon not only shows the differential impacts of oil extraction on men and women but also helps us to understand how this process is territorialized in forms of extraction dominated by male imaginaries (Rodríguez-Carmona et al. 2013) in what Svampa and Viale (2014:121) call the "reenactment of patriarchy." We recontextualize the sphere of care and social reproduction in a particular history and place to understand its engagement with contemporary forms of capital and energy regimes.

Urban jungles

We turn, then, to the site of our study, the recently established City of the Millennium in the Ecuadorian Amazon. As a model project for the state development company, Strategic Ecuador, this surreal urbanization is a prime example of the compensatory benefits provided to communities whose lives are being transformed by petroleum exploration and extraction.

The Amazon has been historically constituted in transnational networks. Extractive booms in the region began with the demand for forest products in the Upper Amazon, then dramatically increased during the nineteenth century to include gold, agave, vanilla, wild cocoa, resins, quinine, tagua, and sarsaparilla (Little 2001). A subsequent period saw the upsurge of the rubber industry in the Amazonian territory, incorporating indigenous populations as a workforce and establishing a series of trade relations that linked Indian and white – mestizo populations (Muratorio 1991). The extraction of rubber devastated Amazonian populations, almost leading to the extinction of several indigenous peoples (Taussig 1987; Pineda 1993).

In the mid-twentieth century, renewed efforts to integrate and extend territorial frontiers increased transactions and relations between Amazonian populations and diverse actors, including evangelical missionaries, multinational oil companies such as Shell, and government planning officials. The Summer Institute of Linguistics began its evangelical activities in the northern and central regions of the Ecuadorian Amazon, including the province of Sucumbíos. Its work dovetailed with growing state interest in the national incorporation of lowland territories, and the missionaries were granted the protectorate of the Amazonian Waorani people. Evangelical activity paved the way for the 1970s arrival of the Shell and Texaco oil companies in the northeastern provinces of Sucumbíos and Orellana, where petroleum activity in Ecuador has since been concentrated. Sucumbíos is the site of the City of the Millennium.

Currently, given the new state role in extractive processes, the Amazon has explicitly been integrated into national development plans and holds a strategic territorial place in the national productive matrix. Yet while areas rich in petroleum are fundamental to the national economy, they are also territories of high biodiversity, important watersheds, and diverse indigenous groups. Thus the public state company Strategic Ecuador was created in 2011 to implement local and site-specific development programs in strategic territories. Its official mission is

to implement national public policies for Good Living (*Buen Vivir*) for communities in zones of influence of strategic sector projects, through the implementation of integral programs of local development, through an equitable and planned redistribution of the income generated by the responsible and sustainable use of natural resources.⁴

Under this mandate, the company has built infrastructure for basic services such as water, electricity, schools and health clinics, and housing and recreation areas. Strategic Ecuador's flagship project is the City of the Millennium, an entire urban neighborhood constructed in the Cuyabeno Wildlife Reserve on the site of the Playas de Cuyabeno community, accessible only by the Aguarico River.

The Cuyabeno area, considered ancestral territory by the Siona and Secoya indigenous groups, was occupied by diverse indigenous groups in the second half of the twentieth century. Playas de Cuyabeno, the predominantly Kichwa indigenous community that has become the City of the Millennium, was established in the 1970s by families from other parts of the Amazonian basin. Through the 1980s, the Playas de Cuyabeno community was a dispersed group of houses: there were three family houses in the center of the community as well as a communal house and a school founded by Capuchin missionaries. In 1979, the government created the Cuyabeno Wildlife Reserve in the area such that indigenous groups subscribed to agreements with the Ministry for the Environment to allow for their use and management of natural resources in the 79,000 hectares of the natural reserve.

Before extractive activities began, therefore, Playas de Cuyabeno was already in regular exchanges with diverse groups of institutions and actors. Kichwa community members married mestizos and members of other indigenous groups and worked hard to send their children to schools in nearby cities. This connection to cities allowed

them to engage in commercial activities, conduct administrative bureaucratic processes, and remain in constant contact with urban dynamics. In the 1990s, a tourism company trained community members as tour guides. Other nongovernmental organization projects included the conservation of endangered turtles and fish farming to complement the local economy driven by subsistence farming, river fishing, and hunting.

In 2007, when the state company PetroAmazonas began exploration for petroleum, Playas de Cuyabeno community members saw the company as yet another actor with whom they would learn to interact. PetroAmazonas, however, is not just any other actor. Its importance is based on the role of petroleum production in the national economy and the state's increased involvement in the sector. As such, PetroAmazonas has the power and resources to radically transform local landscapes. PetroAmazonas began processes to exploit nearby oil sources in 2008 but met with mobilizations that staged a battle on the river to prevent the company's heavy machinery from entering the area. These protests did not oppose petroleum activity in the territory, instead seeking more favorable compensation conditions. The National Secretariat for Planning and Development and the state company Strategic Ecuador intervened. As officials met with community leaders and members, they aimed to persuade them that the environmental impacts would be minimal and that Amazonian inhabitants' solidarity was necessary for national development.

The community presented government representatives with a list of demands to compensate them for PetroAmazonas's exploration and exploitation activities that included school classrooms, canoes, scholarships for students to study in a nearby city, and other items. Strategic Ecuador made a counterproposal for an entire City of the Millennium, complete with a School of the Millennium; cobblestone streets and sidewalks; street lighting; playgrounds for children; 83 prefabricated and fully furnished houses, each including two bikes, a computer, and an Internet connection; an electric stove; running water; and more urban consumer items. The Cuyabeno City of the Millennium became the model for another 200 planned cities in the Amazonian region.⁵

In 2010, PetroAmazonas began to operate in the area, and in late 2011, construction for the City of the Millennium began. In October 2013, with all pomp and circumstance that befit the national and media introduction of the Strategic Ecuador's flagship project, the City of the Millennium was inaugurated. At the inaugural ceremonies, the president of the Republic proclaimed, "This is the new Amazon. Poverty is no good." Investing oil profits in the construction of this city, President Correa declared, was an expression of the government's commitment to benefit communities located in and near the exploited oil fields. These cities represented new opportunities for Ecuador's indigenous peoples.

Transformations of territories and care

Despite decades of critique, development is reasserting itself as an organizing principle of Ecuadorian life. It is critical that we understand its new forms, practices, and concepts, as contemporary notions of development in Ecuador differ from both nationalist conceptions in the 1960s and the modernization projects of the 1990s. New geopolitical alignments bring together the need to create particular subjects of development.

In the Amazonian region, Strategic Ecuador builds and promotes infrastructure such as bridges, highways, schools, health centers, and infocenters with free Internet access for students. Huge billboards boast, "The Amazon progresses with the force of the Citizens' Revolution" and "Finally, the benefits of petroleum are for the Amazon." The Coordinating Ministry for Strategic Sectors, which oversees the Secretariat of Hydrocarbons, Strategic Ecuador, and other critical state entities, publicizes that "poverty and the abandonment of the Amazon will be banished through more resources for infrastructure." Defined in opposition to the government's notion of *buen vivir*, poverty has once more become a key concept in public policies, justifying support for economic growth and continued national participation in international energy markets.

But what are the ways that transformations in the new City of the Millennium change the social reproductive work of women? How does this affect their participation in energy networks? Here we examine community members' movement from participation in a diversity of energy cycles to a dependent position in the



Figure 1 The City of the Millennium from the river. Photograph by Lisset Coba.

state-institutionalized energy regime. We explore the ways that this institutionalized energy network incorporates local subjects into the state development project, and we identify the implications of local energy practices and subjectivities for our understanding of the possibilities and limits of the Ecuadorian project of *buen vivir*.

Coming upon the City of the Millennium by the Aguarico River is striking (see Figure 1). Nearby indigenous communities combine the use of wood and palm for houses dispersed some distance from the central communal house. There is no communal house in the City of the Millennium. Its urban architects did not include one in their plans, despite its traditional and organizational importance. Precipitous changes in Playas de Cuyabeno inhabitants' daily lives—changes in the structure of the settlement, in the architecture of the homes, and in access to electric light from a diesel generator and permanent Internet connections through fiber-optic technology—are experienced as an accelerated modernity.

Although it has only 83 houses, the City of the Millennium is definitively urban: houses equidistant one from the other, built along square blocks; streets flanked by sidewalks in an area where there has never been a car; streetlamps at regular intervals that stay on all night; mononuclear homes granted one per married couple. Community members have agreed to withhold from making any modifications on the houses that have been given to them for the first five years they live there. Neither can they grow crops in the City of the Millennium, nor keep animals such as poultry, certainly not pigs. Rules set by Strategic Ecuador, such as prohibitions against smoking meat or fish, or preparing *chicha*, the traditional manioc-based and mildly fermented drink, especially transform the lives of women. One of the women leaders in the community said,

Before, we lived in huts made of palm. Now it's different. In the houses we had before, we had everything. Now it's difficult to get used to Before, the children went to school, and we went to work in our plots. We had our crops, right here by our houses ... banana, yuca. We had animals: chickens, dogs. I miss all that, on weekends

I can go to our land. But [during the week] I have to stay here for my children who are in school. On weekends on our land, I can clean the banana tree, be with my chickens and pig, and there is silence. [Interview, Playas de Cuyabeno, February 2014]

The sexual division of labor implies a series of complementary yet hierarchized activities. Traditionally in this region, women have cultivated manioc (*yuca*), and although the entire family is in charge of clearing the scrub of the forest, men must do the heavy lifting. In the Kichwa community of our study, only some dimensions of family life are monetized, although that is now rapidly changing. In such a context, migration becomes a necessity, particularly for men, given the common fear that women leaving the community run a greater risk of cultural loss or undesired pregnancies. All of this affects the social organization of the work of caring for the family and community. Money makes the value of feminine work more difficult to recognize (Borda 2010). Generally, the arrival of petroleum companies has generated masculine interlocutions, increasing the authority of some leaders and decreasing the authority of others (Brownhill and Turner 2006).

Considering transformations in women's social cycles of reproduction helps us to explore the relationship between humans and nature (Guzmán 1997; Muratorio 2000). To understand the characteristics of women's modes of provisioning in this context, one must take into account their kinship links, vital cycles, reproductive histories, activities of daily caretaking that have traditionally included both the household area and a nearby forest dwelling, as well as gendered participation in community decision making.

Despite the enormous flows of economic resources with the oil industry during the neoliberal period, the communities in the northern Amazon region of Sucumbíos remained marginalized in terms of access to basic service infrastructure and in relation to education and health. Women's work of care included diverse subsistence economic activities that took place both in areas beside households and in their nearby crop areas. Under the new development paradigm of the postneoliberal state, the promise of universal citizenship circumscribes and deepens women's care work, creating new dependencies as men increasingly receive monetized income in their transactions and informal work with the state oil company. With the extension of public education and its growing importance in the benefits of citizenship ideally accessible to all, the energy of young mothers can no longer be directed toward care of the crops and animals or toward the making of *chicha* in their homes; instead, young mothers must wait for their children to arrive from school, unable to attend to their previous diverse economic activities. The community members of the City of the Millennium redirect their productive forces to the functioning of a market-based metabolic cycle that defines new actors: individuals and natural resources.

The political history of this community traversed by petroleum is characterized by ruptures in its social metabolism, including changes in gender and generational relations and in relationships with nature. It striking to note, for example, how rapidly community members' relations with the river have been transformed. Not long ago, the river was a space for women to meet and wash while their children played nearby, as is common to see in other communities in the Amazon region. A woman from Playas de Cuyabeno explained, "Before, we had barrels of water that collected rain for drinking. Before, we bathed in the river; we knew how to row; we crossed by canoe Now it seems that we don't know the river" (interview, Playas de Cuyabeno, February 2014). Now, piped water comes into every house. Along the river, a waterfront promenade and dock have been built, adding to the community's new physical and psychological distance from the water.

As everyday dynamics are transformed, so are the relationships with the forests and the jungle. The establishment of this urban neighborhood in the middle of the jungle included a fence to separate the City of the Millennium from the forests around it. These new spaces of habitation generate ambivalence, as community members long for what was lost, beset with uncertainty regarding the future even as they take pride in the infrastructure and services they succeeded in securing.



Figure 2 Cuyabeno resident cooking on induction stovetop. Photograph by Ivette Vallejo.

Most importantly, the City of the Millennium is no longer a self-sustaining community. The food supply from farm and forest activities in agriculture, hunting, and fishing has been disrupted as mainly young families have become more dependent on products purchased in local markets. No longer do families reach their farms through long walks or slower traditional canoes; rather, they use modern motor canoes that have increased their dependence on gasoline. Women now cook on electric stoves (see Figure 2), among other changes, which increases households' need to generate income and their dependence on the monetary economy.

Its members are dependent on state subsidies to access recently installed services,⁶ subsidies that will last five years. After this period, community members will have to earn money to pay for these services. This is the beginning of new chains of external dependencies and evidences a rupture in previously established cycles of social metabolism. That is, there has been a critical change in the materials and energy needed for this socioeconomic system to reproduce itself. Does this rupture place residents of the City of the Millennium in the sociometabolic cycles, then, of the national productive matrix?

As noted earlier, this is hardly the first attempt to modernize Amazonian populations. Religious reductions, rubber plantation labor, and the arrival of state schools (Rival 2000) all shared the same urgency to decontextualize the indigenous population, to intervene in their landscape for the sake of their education. In the case of the City of the Millennium, modernity meant changing habits, resettling populations, and cutting off daily contact with the natural environment. "Progress" in these cases has meant the loss of self-determination and the autonomy to define development priorities and manage particular gendered relationships with nature, knowledge, and cultural practices.

As the possibility for the production of the means of subsistence deteriorates, the need to provision oneself externally increases. More dimensions of the domestic economy are monetized, and the work of social reproduction and care is geared toward the reproduction of commodified human labor. The presence of the petroleum company has not translated into job offers, as the community members had hoped, though some members of the community received canoes or motorboats as part of the state oil company compensation politics. There are now about 10 community members—all men—who work as guards, gardeners, assistant operators, and auto or boat drivers. Furthermore, monetary compensation received by families whose land is directly affected by the seismic activity of exploration generates economic inequalities among community members.

In this context, the meanings of social reproduction and of the work of care changes. Social reproduction in its general definition is not only the material biological and physical continuity of a population but also the propagation of its social and cultural values. With the arrival of the City of the Millennium, time accelerates, ruptures are

deepened, and the “intergenerational transmitting of historically derived values, norms, skills and knowledge as well as the construction of identities and subjectivities, individual and collective, across generations” (Steans and Tepe 2010:5) changes.

Older children and teens are mostly still starstruck with the newness of their urbanized environment and their access to communication facilities and technology. Many of them now only see their grandparents on weekends, when they visit the family's croplands. Family networks crisscross the boundaries of this surreal city: Whereas young people from other communities come to the City of the Millennium to study, older family members who have always lived here prefer to remain on their cropland outside of the town. There, they find silence from the large electric generator and darkness from the streetlights that remain lit all night long. On their land, they fish, hunt, and cultivate crops. One elderly community member said,

I get tired of the noise and would rather be where it is quiet. In the house [in the city, with zinc roofs] it's too hot in the afternoon. I work well on the land, I've raised cattle, rice, corn. My land is right near the oil fields, there is a creek which goes through there to my land. That's why we're always sick. I've complained to the company, but they only have technical words for me. [Interview, Playas de Cuyabeno, February 2014]

But the petroleum company also marks the possibility of future technical work for the youth if they study well. A universalist education has replaced the disincentivized bilingual intercultural education that had been an achievement of the indigenous movement decades before. Education in the Citizens' Revolution seeks to create uniform members of new Amazonia with newly acquired urban protocols and a domesticated form of diversity. Such formal education is necessary to access the benefits of citizenship, particularly to secure more formal and stable jobs such as the technical positions with the oil companies—although two years after the inauguration of the city, this is still a frustrated expectation. The centrality of education for families in the Cuyabeno area is clear in neighbors' hopeful comments, in the ways that mothers rearrange their family lives around their children's education, and in the social and spatial centrality of the school in the City of the Millennium (see Figure 3).

The City of the Millennium is clearly a civilizing model for the Amazon, in which the indigenous communities in areas of extractive interest are disciplined. It is difficult to avoid comparing the City of the Millennium to the early Spanish colonial *reducciones*, nucleated settlements created for more effective Christianization and for the civilizing and the administration of indigenous populations and resources. We can also compare these with other experiences and models of implementing development zones in the Amazon in previous decades.⁷ The intervention of Strategic Ecuador does more than link petroleum companies and state interests. It also defines the possibility of a model of progress and order that transforms gender and interethnic and generational relations.

Conclusions

Among the indigenous groups in the northern Amazonian region, the Kichwa people—whose Playas de Cuyabeno community constitutes this radical experiment in the administration of population, nature, and resources—has had among the most extensive historical connections to other groups and urban areas (Whitten 1976). Yet their participation in commercial exchanges has not, until now, implied the fundamental transformation of their social, work, and economic relationships in accord with extensive regional or national productive chains.

The importance of examining development in this sense is in better understanding how the frontiers implicit in development practices constitute subjects of development (Agrawal 2005; Li 2007). These subjects of development are defined by needs that shape the production of their desires and aspirations. In this case, we see that participation in commodity and labor markets places a fundamental emphasis on the importance of education. This, in turn, shapes the work of care and its role in the changing relationship between local cycles of energy and institutionalized energy production chains. Local work of care engages cycles of energy production and consumption that are cycles



Figure 3 The School of the Millennium in Playas de Cuyabeno. Photograph by Lisset Coba.

of fertility—understood in its broad sense of participation in cycles of nature and in social reproduction. The work of care for the young mothers of the City of the Millennium now means organizing care to better position their children in a market economy that relies on the exchange value of labor and energy, that is, providing their children with education so they can later participate in the labor market in the best possible position.

These changes lead to an increased dependence on networks that are administered and managed by others, particularly by experts with technical knowledge, and on women's increased economic dependence on their husbands and men, who are more able to find occasional paid work with the oil companies. This dependence is further reinforced by practices that are part of new forms of energy use and consumption. The provision of energy has changed from a direct and autonomous provision based primarily on solar energy—the collection and use of firewood and other biomass from communal lands—to one now dependent on the energy that the oil company PetroAmazonas provides.

Under the rhetoric of *buen vivir*, which is clearly not *sumak kawsay*, Ecuador's postneoliberal government seeks to domesticate social energy cycles and incorporate local energy production and consumption into the national and global fossil fuel–dependent energy regime. It is only through this domestication that Ecuador's petroleum-based economy can be sustained. With the dependent incorporation of its citizens in the service of this productive matrix—which, as we have seen, paradoxically points to higher domestic energy consumption—the national economy may be strongly enough positioned to, ironically, continue its important investments in social development.

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Notes

- 1 Presidential declaration, October 2013, <http://www.efeverde.com/blog/noticias/el-presidente-deecuador-promete-acabar-con-la-pobreza-de-los-indigenas-del-yasuni/>.
- 2 Maristella Svampa (2011, 2013) refers to the similarities between those countries in the region that position themselves as postneoliberal and those that are explicitly aligned with neoliberal policies as the "Commodities Consensus," in which national economies continue to depend on the exportation of primary goods.
- 3 Social metabolism can be defined as the basic dependence of any socioeconomic system on a continuous throughput of materials and energy for reproduction and maintenance.
- 4 See Strategic Ecuador's web page: <http://www.ecuadorestrategicoep.gob.ec/institucion/mision-vision>.
- 5 There are two other Millennium Cities in the province of Sucumbios: in the Kichwa communities (in the area of influence of the Pañacocha field) and another being built in the Cofan community of Dureno and Pacayacu (Libertador oil field).
- 6 Basic utilities are free for the first years of the City of the Millennium, until the company has established itself. The oil company covers five years of electricity costs, the tanks for water purification, the maintenance of gardens, and the management of sewage and the collection of garbage.
- 7 Bunker (1990), for example, describes the development poles created during the 1960s and 1970s in the Brazilian Amazon in his important text *Underdeveloping the Amazon: Extraction, Unequal Exchange and the Failure of the Modern State*.

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