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“I made a pact with God, with nature, and with myself”: exploring deep agroecology

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ABSTRACT

This article reports on the consequences of agroecology for smallholders' personal and social world in a coffee-growing region of Zona da Mata in Brazil. Agroecology is usually considered a technically and politically rational approach for smallholders to counter large-scale agribusinesses. However, while practicing agroecology, smallholders come to reinforce their religious views and rearticulate personal relationships with the natural and social environment. This article argues that we need to pay more attention to such “deep” experiences that are caused by agroecology and to clarify the relevant policy implications. Some aspects of studies on indigenous cosmology in Latin America and deep ecology may become useful.

KEYWORDS

Agroecology; Brazil; coffee; deep ecology; smallholders

Introduction

It is widely recognized that agroecology is promoted as an agenda to transform agricultural development models from models that are based on yield-oriented conventional agriculture practiced as part of the green revolution to models that build on sustainable agriculture (Altieri and Rosset 1996; Caporal and Costabeber 2004; Altieri and Nicholls 2005). With the emergence of peasant and family farmer movements such as Via Campesina, agroecology is becoming politically mainstreamed to ensure food sovereignty that is based on family farmer food production and consumer participation (Rosset 2008; Rosset and Martinez-Torres 2012; Otsuki 2014). To consolidate this agenda promoting agroecology and food sovereignty, researchers have suggested that farmers who practice agroecology as a farming method and scientists who practice it as a science must closely collaborate and co-generate knowledge and research systems (Warner 2007; Levidow, Pimbert, and Vanloqueren 2014).

In Latin America, successful collaboration between scientists and farmers has contributed to peasant movements that demand concrete policy reforms

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that favor agroecology and food sovereignty, and these movements have worked to counter neoliberal policies based on agribusiness and agro-export models (Altieri and Toledo 2011). Within Latin America, Brazilian peasant movements have largely succeeded in shaping an active collaboration between scientists and smallholders, putting agroecology on the public policy agenda (Ministry of Agrarian Development of Brazil 2013; Petersen, Mussoi, and Soglio 2013).

This collaboration is underpinned by the nation's historical context, which is based on liberation theology movements of the Catholic Church in the 1960s and 1970s and on rural workers' syndicate movements in the 1980s (Campos and Ferrari 2008). Religious motivation initially helped smallholders in the remote Brazilian countryside to embrace the idea of caring for and loving their land and the environment, which they considered to be given by God. Initially, this sense of caring and loving was a strong motivation for peasant movements as they called for the redistribution of large land properties (Boff 1995). However, in practice, this entailed committed technical assistance to improve soil fertility and enhance land productivity without relying on expensive chemical inputs and also entailed political partnerships between farmers and governmental extension agencies to realize this assistance (Cardoso et al. 2001). Consequently, the focus of agroecology turned to the need to link technical dimensions of agroecology with political movements in Brazil that demanded governmental support, with a view to advancing the agenda of "political agroecology" (Gliessman 2014). In this process, the religious dimension of agroecology was marginalized.

Because religion can play a major role in shaping ecological rationality in rural development (Otsuki 2013), we consider that religious influences that spiritually and personally motivate the practice of agroecology cannot be neglected. In this article, we report on a historical and environmental process that has allowed farmers to acknowledge the emergence of profound and transformative changes that occur within themselves in Zona da Mata in the state of Minas Gerais in the southeast of Brazil. Scientists at the local university have been monitoring the changes by conducting interviews, participatory observations, and joint experiments since 2008. These researchers have found that agroecological experience has allowed the local farmers to reconnect spiritually to the natural environment; this reconnection appears to have deepened the original agroecological experience and revealed new situations.

This article reviews policies and events that have converted conventional coffee farmers into agroecological farmers in Zona da Mata. As the agroecological farmers experienced agroforestry, they experienced a transformation of their worldviews and beliefs. We attempt to explain the implications of this transformation by referring to aspects of indigenous cosmology and deep ecology. This article further introduces some conflictive situations that have

emerged as the agroecology movements have progressed. The article concludes by emphasizing the importance of considering the spiritual dimension and providing a new articulation of human–nature and social relationships to clarify constraints and opportunities, with a view of consolidating the agroecology agenda.

Methodology

To explore the historical events that introduced agroecology to Zona da Mata, we interviewed three scientists and two nongovernmental (NGO) extension workers as key informants who have monitored the farmers' activities since 2008. In tracing the farmers' experiences of transformation, we used various types of data collection including semistructured interviews, participant observation, and transect walks. Interviews were intermittently carried out with 15 smallholders between 2008 and 2013. The selected smallholders produced coffee and other produce for sale and self-consumption and described themselves as “agroecological farmers” who actively implemented agroforestry systems (the combination of crop farming with tree plantations; see the section “Agroforestry experiments”). We analyzed the resulting interviews with reference to how the farmers treated the land and addressed the landscape, and the analysis was combined with descriptions of their observations. While visiting smallholders, we observed the forms of their gardens, the vegetables and plants that were grown around the houses, the presence of animals, and the locale where the farmers grow coffee and other crops. We also conducted transect walks with the farmers to clarify their rationale for maintaining and growing various types of trees and native plants. In addition, the walks generated information on water sources and their use.

Coffee plantations in Zona da Mata

Zona da Mata (literally, “Zone of Forests,” approximately 40,000 km²) is located in the Atlantic Rainforest Biome in the state of Minas Gerais (Figure 1). Originally, this area was completely covered with the Atlantic Rainforest. Today, only 15% of the original forest remains. With an exception of a state park, the forest is highly fragmented (Vandermeer and Perfecto 2007). The region has a tropical highland climate (average temperature 18°C, average precipitation 1,500 mm, with 2–4 dry months) and is undulating, with average altitudes of 200–1,800 m (Valverde 1958). The dominant soil types in the Zona da Mata are Oxisols, which can go deep and be well drained; however, these soil types are acidic and low in nutrient availability. Nevertheless, the region is heterogeneous, and other soil types cover small parts of the region; these areas are important for family-based agriculture,

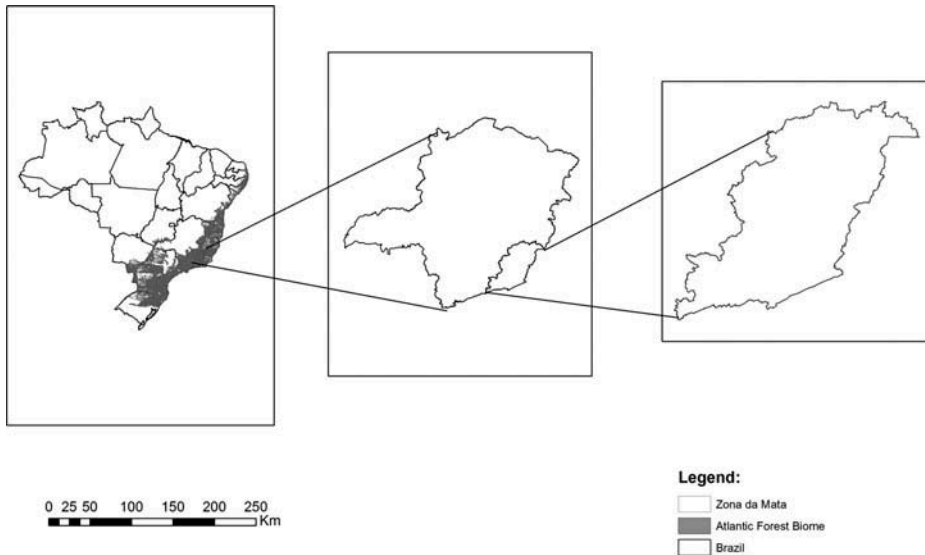


Figure 1. Zona da Mata in Minas Gerais, Brazil.

which is conducted by 30% of the population. The region is also rich in water bodies such as springs and streams.

Non-native exploitation of the region dates back to the mid-19th century, when coffee (*Coffea arabica* L.) production expanded from the east and migrants from the declining neighboring gold-mining area began to settle (Valverde 1958). The new coffee planters gradually became large-scale landlords and slaveholders. The power and wealth of the new planter class was sustained by large-scale slave usage and by patron–client relationships between retainers and smallholders (Lopes 1967). In short, coffee production radically changed the forested landscape of this region as well as the social relationships (Blasenheim 1982).

Brazilian coffee cultivation accompanied extensive deforestation that followed the traditional production methods of sugarcane and cotton (Dean 1997). Over many years, Brazil had developed full-sun coffee plantations, unlike in other tropical countries such as the Philippines, where coffee cultivation was traditionally conducted in association with other tree species (Schroth et al. 2004). By the mid-20th century, the Atlantic Rainforest was largely replaced by open coffee plantations, which ended the nutrient recycling of the forest ecosystem and led to a drastic reduction in soil fertility. Because coffee was cultivated on hills, soil erosion accelerated, leading to extensive land degradation. Nevertheless, except for a short period after the Great Depression in the 1930s, when international coffee prices fell dramatically, the Brazilian government continually encouraged farmers in the region to plant coffee and to expand new cultivation areas. This resulted in the occupation of new and more fertile areas by coffee farms and further

deforestation, and some of the old coffee fields were subsequently used as pasture or for the production of staple foods (Valverde 1958).

Meanwhile, with the end of slavery, new agrarian landscapes gradually emerged based on smallholdings. A productivity decline that was associated with soil degradation and the world market crisis of the 1930s led to new work relations based on sharecropping or on the joint marketing of subsistence crops. Advances in the occupation of marginal areas eventually consolidated smallholdings that depended on subsistence activities that were complementary to coffee growing. Today, farmers mainly cultivate pastures and coffee. Coffee is the main cash crop and is either planted as a monoculture or intercropped with corn, beans, or both. Sugarcane, cassava, and beans are also important.

In the 1960s, the military government started to give financial and technical support to the coffee farmers to enable them to acquire the technological package termed “the green revolution,” which included chemical fertilizer and pesticides for use in monoculture. The adoption of this package was expensive and eventually marginalized smallholders who could not afford it. Thus, the green revolution was only partially adopted due to the environmental and socioeconomic constraints of smallholder production in the region. Nevertheless, the partial adoption of the green revolution contributed to significant environmental deterioration (biodiversity loss, agrochemical pollution, erosion due to deforestation, degradation of water resources, etc.) and to the weakening of family farming as an economic enterprise (indebtedness, dependency on single crops, competition with large commercial enterprises, etc.). In general, the agroecosystems in the Zona da Mata exhibited an acute decrease in productivity due to the increasing intensity of soil use and to practices that were inadequately adapted to the environment, such as the further development of open coffee plantations on steep slopes without soil conservation measures (Ferrari 1996).

In the 1970s, marginalized smallholders began to face severe decreases in income. Soil fertility had deteriorated rapidly, but the smallholders were unable to access the financial resources or technical support needed to reinvest in and improve their land.

The beginning of agroecology in Zona da Mata

The situation described above led smallholders in the region to actively participate in the annual Fraternity Campaigns of the Catholic Church. These campaigns aimed to facilitate a set of actions taken by laypersons and clerics with the primary goal of rethinking land use and ownership in the Brazilian countryside and to implement Grassroots Ecclesial Communities (CEBs), which were formally established by the National Conference of Bishops in Brazil (CNBB) during the 1960s. CEBs represented

intensified liberation theology movements that aimed to counter both the military regime and state-supported large-scale agribusinesses, and these movements advocated the adoption of environmentally friendly agriculture on redistributed land plots, embodying emerging spaces of new consciousness and resistance in the region (Betto 1981).

After Brazil's redemocratization in 1985, CEBs strongly encouraged small coffee farmers suffering from a lack of support and deteriorating quality of life to engage in political discussion and to contribute more openly by affiliating with the National Workers' Union and shaping rural workers' syndicate movements known as STRs (*Sindicato de Trabalhadores Rurais*). Some of these farmers became involved in founding the Labor Party and remained politically active to press their agrarian reform agenda. The activism of these farmers was often directed at supporting autonomous land acquisition and management by family farmers; this movement became known as "Conquering the Land Together" (*Conquista de Terras em Conjunto*, see Campos and Mendes 2011).

In 1986, STR members in Zona da Mata participated in the annual Fraternity Campaign meeting entitled, "Land of God, Land of Brothers." At the meeting, the members attended a CEB discussion group to search for concrete methods to engage in new forms of land management that could sustain soil fertility without using chemical inputs. According to some farmers, the participants were encouraged to manage the land with love by using alternative technology, and this event marked the beginning of their encounter with agroecology.

The making of agroecological farmers

After the meeting at the Fraternity Campaign in 1986, the participants approached the Project of Alternative Technologies (PTA), a network of NGOs that search for alternative methods to the green revolution model of agriculture.¹ The PTA network was eager to establish close contacts with newly established STRs and to reinforce farmers' organizations that were interested in engaging in agroecological farming. Together, the PTA and STR created an NGO in 1987, with the objective of promoting agroecology as an ecological and alternative agricultural practice in Zona da Mata. This NGO was named the Centre for Alternative Technology of Zona da Mata (*Centro de Tecnologia Alternativas*, or CTA-ZM).

In an interview, one participant said, "CTA-ZM fell in a fertile soil," and another said, "No, all soils were degraded, it fell at the right time." The right time was understood to be the moment when the smallholders genuinely agreed to partner with CEBs to search for alternative farming methods to manage the land with love. CTA-ZM engaged actively with rural workers and smallholders, making commitments and alignments with the syndicate

movements, and provided technical assistance for agroecological practices (Comerford 2001).

By the 1990s, agroecology in Zona da Mata had grown to incorporate three dimensions: the religious and spiritual (through CEBs), the political (through STR and the Labor Party), and the technical (through CTA-ZM). The partnership between CEB, STR, and CTA-ZM enabled various experiments with alternative soil conservation practices (such as the use of green manure), and mutual learning (especially between the farmers and technical staff members of CTA-ZM) led to continual attempts to convince skeptical or indifferent smallholders who did not wish to engage in agroecology but rather to expand conventional coffee plantations.

CTA-ZM attempted to translate the general guidelines of the PTA program into more concrete actions that might be relevant for the region to encourage more farmers to agree to experiment with agroecological practices. For one thing, there was an urgent need to establish focal points where the suggestions and criticisms of the farmers could be incorporated into the process of technical assistance. Using participatory methodologies, the technical staff attempted to identify and implement the farmers' concrete demands. During this process, CTA-ZM broadened its areas of intervention to address local development, health, education, environmental conservation, commercialization of the produce, and land purchasing.

The efforts of CTA-ZM allowed farmers to reframe their own farming experiences and to become active in promoting agroecological practices in the region. In 1993–1994, STR and CTA-ZM jointly promoted a Participatory Rural Appraisal (PRA) in Zona da Mata to identify widespread problems. The continual decline in productivity due to soil degradation, health problems emerging from the use of chemical pesticides and insufficient land entitlements for smallholders and sharecroppers were highlighted as critical problems for family-based agriculture. In the perception of small farmers, these problems caused a growing number of farmers to quit agriculture.

Although the problems noted did not represent novel insights, they represented problems that were well known in the region. The PRA process allowed the farmers to clearly describe their perceptions and to discuss them with the technical staff members of the CTA-ZM. Furthermore, this description led the farmers to prioritize their land use problems and to create a committee named *Terra Forte*, or strong land, which comprised farmers, NGO staff members, and scientists from the Soil Department of the Federal University of Viçosa. The committee was expected to present land conservation proposals, first in the municipality of Araponga. Several practices were proposed to overcome the problem of land degradation, including the adoption of an agroforestry system (Cardoso et al. 2001).

Agroforestry experiments

Agroforestry is a type of agroecological farming method that combines the production of tree crops with agricultural crops, animals and/or other natural resources within the same land management system. This method aims to increase or sustain land productivity while maintaining ecosystem stability, especially in (sub-)tropical regions. Agroforestry is considered capable of allowing smallholders to increase their income and improve their quality of life (Sommariba 1992); however, agroforestry has various constraints for smallholders (e.g., Smith et al. 1998). For example, to implement and sustain agroforestry systems, special knowledge and longitudinal observations are required regarding the performance of specific trees among the agricultural and other tree crops; this knowledge is based on solid understandings of how certain crops coexist with newly introduced trees in the same area (Lasco and Visco 2003).

In the mid-1990s, studies on agroforestry experiments became widely available; these studies reported that the technical procedures regarding agroforestry, which concerns soil management, water use, and resource conservation, are required to transform conventional, monocultural, and modernized agricultural practices (Altieri and Nicholls 2005). The studies confirmed that the modern, green revolution-type agriculture that is widely promoted in Brazil has converted the countryside into a large laboratory: If the land is too dry, it needs to be irrigated; if the land is too wet, it needs to be drained and made suitable for planting (Graziano da Silva 1982). Through collaborative agroforestry experiments, the agroecological farmers of Zona da Mata came to realize that instead of trying to fit the land and soil to predetermined crops, it was more important to reconstruct soil fertility by managing the existing biodiversity and that this reconstruction could be conducted through the agroforestry system.

In practice, first, the farmers must identify native trees that have the best characteristics for intercropping with coffee (Souza et al. 2010). The farmers, CTA-ZM staff members and scientists, thus, began to further experiment with different combination of tree crops and animals to counter soil degradation and enhance land productivity; the aim was to establish and apply a method to care for the environment without relying on chemical inputs (Cardoso et al. 2001).

After almost two decades of agroforestry experiments, the farmers have noticed that this break with conventional agricultural practices was changing their knowledge and belief systems. The farmers were becoming more appreciative of traditional farming knowledge and, with the rediscovery of traditional knowledge, the farmers came to reinterpret their relationship with nature and God.

Rearticulation of the human relationship with nature and God

The identification of tree species that are appropriate for agroforestry use involves intensive observation of plant behavior and the landscape. Observations such as these bring the farmers closer to their surrounding natural environment and, in this process, nature begins to acquire a new importance and status: nature is no longer subordinate to human interests but is seen as an entity with its own characteristics and intentions. This transformation in thinking about nature opened a new rural space in which once-abandoned traditional knowledge began to be rediscovered.

For example, *Inga subnuda*, a native tree species of the Atlantic Forest, was previously introduced to coffee plantations through agroforestry practice because of its capacity to supply a certain quantity of leaves and provide the coffee plantation with adequate shade. Through observation, the farmers realized that the leaves could also be used as organic fertilizer once they fell to the ground. Likewise, fruit trees such as bananas and avocados were no longer planted only for fruit production but also for their ability to supply organic materials to the soil. The farmers had heard of this use of organic fertilizer from their grandfathers but did not remember it after the practice had stopped (Souza et al. 2010).

Technologies were also developed to solve locally specific problems, such as the use of small improvised tools that were customized for the improvement of their agroforestry systems. In addition, through intense observations of nature, the producers came to identify new feed for animals among the staple crops introduced into coffee cultivation; this feed occasionally and unexpectedly improved animal health. Such contingent innovations and discoveries were appreciated by both the farmers and the scientists.

At the same time, the agroecological farmers started to face difficulties in explaining how they came to rediscover traditional knowledge or to manage and utilize their natural resources. They expressed that they did not fully understand the impacts of agroecological practices on their relationship with the surrounding environment. The relationship between the agroecological farmers and the surrounding environment was somehow rearticulated through agroforestry experiments. This rearticulation emerged as a topic that they needed to reflect upon to grasp what they were going through.

The farmers gradually began to address the importance of “caring for the land with love.” Originally, the word “love” appeared as one of the Ten Commandments of STR, which were created during the 1980s in collaboration with the CEBs (Campos and Mendes 2011).² Today, agroecological farmers are expressing the idea of caring more clearly to emphasize their objective of moving completely away from the conventional, exploitative relationship between humans and land in modern agriculture. The words “care” and “love” express that the farmers intend to revitalize an emotional

attachment to nature, connoting the religious origin of the agroecology movement.

One agroecological producer, 24-year old Alexandre, has described this new orientation and emphasis in the following sentence: “I made a pact with God, with nature, and with myself, believing that the system of agroforestry would work and it worked.” In this statement, Alexandre is implying that his engagement with agroforestry has enabled him to spiritually reconnect with nature and that this reconnection has changed him into a new person who can now see new possibilities that the plants and the natural environment teach him to explore.

Discussion: indigenous cosmology and deep ecology

Classical anthropological studies on indigenous cosmology in Latin America have shown that the relationship between smallholders and the nature can be understood as a fundamental element of survival, especially when the available natural resources for people are limited and people take care of the natural resources to ensure their own physical existence (Redfield 1964; Mendras 1976). In many cases, nature is also permeated with symbolic dimensions and can be seen as a gift from God subject to its own laws. People often believe that nature is designed as an instrument of God, which reflects primary and bodily relationships between God and themselves and confirms that the will of nature is the will of God. For example, if a tree falls on a person, the event is interpreted as divine will, and the revenge of God (i.e., nature) is always dangerous and unpredictable (Woortmann and Woortmann 1997).

Alexandre implied above that because he made a (new) pact with God, he assured God that he would take care of the divine nature through agroforestry, and God will bless his agroforestry. This type of spiritual expression has long been observed among Mayan peasants. According to Barrera-Bassols and Toledo (2005), the Mayan landscape constitutes three dimensions: 1) *Kosmos*, representing a cultural context that embeds belief systems and worldviews; 2) *Corpus*, the corporeality consisting of an entire repertoire of personal knowledge; and 3) *Praxis*, a set of production practices. When these three dimensions work together, it is believed that the Mayan peasants are able to produce and reproduce their material conditions in a sustainable manner.

In the context of Zona da Mata, the agroecological farmers invoke a similar belief as the Mayan peasants because nature’s divinity is restored through agroforestry, and the farmers’ personal knowledge is practiced in their production system. Such an indigenous cosmology clarifies in turn that the modern scientific approach tends to be obsessed with separating intellectual phenomena from practical purposes; consequently, this approach

decontextualizes local meanings, views, practices, and different bodies of knowledge from the local environment. The decontextualization has been necessary to treat individuals as situated in an economically coordinated system of modernity, such as the global market (Ingold 2000).

From this perspective, the agroecological farmers are recontextualizing their knowledge and practice within their environment. The farmers ceased being purely economically rational smallholders and instead became embodied producers who are capable of putting their knowledge and beliefs into concrete action, such as through agroforestry experiments. The action then further consolidates the belief that nature is a divine entity with its own proper characteristics and intentions. In other words, the agroecological farmers are embedded within the divine nature, and this embeddedness nurtures their personal and practical knowledge, enabling them to care for the land with love.

This type of process resonates with the process that was described while advancing the deep ecology that emerged in the 1970s and 1980s. As a theory of environmental advocacy, deep ecologists have promoted the thinking that human beings are one of many species, fully embedded in the ecosystem, and should not have control over the natural environment (Naes 1973; Devall and Sessions 2001). To embrace this thinking, it is important to reconnect the self to the community of natural species and to change one's way of life in relation to the social world (Naes 1989). Deep ecology as a discipline is thus highly normative, but regarding the cosmology of agroecological farmers, it suggests that the farmers' expression of reconnecting themselves with the surrounding nature renders agroecology a "deep" experience that is underpinned by their daily experience with agroforestry systems.

However, as agroecological farmers reconnected their inner self to their surrounding environment and began to practice deep agroecology, some possibilities and constraints have become apparent in their social and economic relationships, and these deserve attention.

Social implications of deep agroecology

Throughout the 2000s, agroecological farmers enlarged the scope of their organizational initiatives, principally to share their experiences and reflections with others and to improve their agroforestry systems. These farmers began to participate in local and regional farmers' associations, women's associations, municipal forums, credit cooperatives, and family-farm schools. Farmers also raised their voices and cast votes during the deliberations of the CTA-ZM. In meetings and discussions, individuals were encouraged to reflect on their previous experiments with combining different species and to share this reflection for the purposes of promoting practical action in plantations and commercializing the produce.

A recent study conducted in the region shows that agroecological farmers have started to generate more income than farmers who engage in conventional coffee monoculture (Souza, de Graaff, and Pulleman 2011). The new social exchange affected by agroforestry has also indicated a new possibility of selling their harvest in differentiated, “solidarity-based” markets, thereby targeting socially and ecologically conscious consumers who agree with the food sovereignty agenda. Through collective deliberations, the farmers have contacted an organic coffee cooperative outside Zona da Mata to learn to certify their coffee as organic and to commercialize it at a better price (Botelho 2009).

At the same time, the new social exchange has begun to visualize new conflicts, as the farmers worked to challenge the traditional social roles that were assigned under conventional agricultural activities. The situations of conflict were most visible in gender relations. For many years, experimentation with agroforestry systems had been considered part of the male domain, and few women participated in the process. Recently, more women have begun to actively participate in the meetings and discussions led by the association (CTA-ZM or STR) to which they belonged. Nonetheless, the lucrative organic coffee production, for example, remains in the male domain.

Likewise, youth, especially girls, have no rights to conduct agroforestry experiments or to test new technologies in the coffee fields; however, they can do so in home gardens, which are usually considered to constitute part of the female domain. In some situations, young boys have rights to manage a part of the coffee fields; however, in general, many young farmers do not stay in the region due to a lack of autonomy in generating their own income (Oliveira 2014). These situations of conflict need to be addressed as a compromise between new and old relationships between nature and the farmers or between agroforestry practices and social relations.

The emerging social and economic consequences of agroecology experiences remind us that, after all, agroecology is not ecology, and ecological deepness involving the rearticulation of a personal and spiritual relationship with the environment cannot be blindly applied to measure the deepness of agroecology. *Agroecology* involves farming, which inevitably entails making a livelihood by caring for the environment with love. Making of a livelihood involves household decision making and the establishment of rules and norms; thus, power and gender struggles may ensue.

These issues warrant further reflection by deep agroecological farmers and scientists so that the emerging new relationship between humans and both nature and God can further influence the creation of new, more equal, social relationships among persons.

Conclusions

This article has explored the effects of the adoption of agroforestry by smallholders in Zona da Mata in the state of Minas Gerais. These agroforestry experiments offer us rich insights into changes that are occurring in the Brazilian countryside where agroecology is practiced. This article has shown that, through the adoption and collaborative development of the agroforestry system, farmers have begun to conduct intense observations of the environment in relation to plants, animals, water, and soil and to shape and renew the use of traditional knowledge in their production methods. Furthermore, because the farmers now verbalize their reflections and exchange their observations and knowledge with others, they are internalizing the idea that a profound change is occurring in their conceptions of nature. This process is similar to the process that deep ecologists describe as a metaphysical reconfiguration of the self and the ecosystem.

This reconfiguration also reminds us of the origin of agroecological movements in the region, which is based on the liberation theology movements that were led by the Catholic Church. The agroecological farmers now see their farm as a part of divine nature, and their newly articulated knowledge and practice stress the importance of caring for this nature with love. At the same time, this relational transformation between the farmers and the environment highlights the need to address gender and generational conflicts that emerge during this transformation.

The efforts made to consolidate and deepen agroecology must be aware of such social relationships that need to be transformed once human-nature relationships are profoundly altered. Researchers can identify opportunities and discuss with practitioners and policy makers the need to consider concerns about appreciating traditional knowledge and practice while addressing the necessary change to support more socially equal agroforestry experiments and the marketing of produce. Continually shaping this collaboration, we propose to contribute to the new national plans and technical assistance processes by taking the personal experiences, expressions and claims of every agroecological farmer seriously.

Notes

1. The PTA network was later replaced by the National Articulation of Agroecology—ANA, which was actively engaged in the formulation of *Plano Nacional de Agroecologia E Produção Orgânica* (the National Plan for Agroecology and Organic Agriculture) (Ministry of Agrarian Development of Brazil 2013).
2. The Ten Commandments are as follows:
 - 1) To consider the interests of the land: to show love and commitment for the land.

- 2) Good Behaviour in the Group: to be sincere, not to lie, not to take individualistic decisions, to participate in meetings.
- 3) Natural Environment: to have an ecological conscience.
- 4) Deliberation: to form a responsible group and not to make hasty decisions.
- 5) Conquering the Land: to save in order to purchase the land, to hold the idea that it is possible to live in harmony with a community.
- 6) Live Harmoniously Together: to have dialogues with and understanding between neighbours, family members, and religious congregations.
- 7) The Participation and Contribution of Women: to fight and encourage their husbands, to demand that their names be included in documents, not to be ashamed to be a farmer, to participate in owning the land and making decisions.
- 8) Participation in Farming: participation in mutual assistance and in the recovery and conservation of soil.
- 9) Improve ways of Using Movable Properties (e.g., animals).
- 10) Improve ways of Using Immovable Properties (e.g., roads and collective facilities).

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