

Context and contingency: the coffee crisis for conventional small-scale coffee farmers in Brazil

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Brazil is the largest economy in Latin America and the world's leading producer and exporter of coffee. Smallholders are the predominant producers of Brazilian coffee and have been significantly impacted by post-ISI (import substitution industrialisation) neoliberal reforms that swept the nation's agricultural sector beginning in the 1980s. These reforms stimulated increased coffee production while simultaneously diminishing state interventions, including agricultural subsidies, farmer credits, research and development programmes, extension services, and rural development initiatives. These changes were closely followed by major restructuring of the global coffee market and the elimination of international coffee export quotas. Our research joins a growing body of recent literature exploring how changes related to market liberalisation and globalisation affect localities and regions where producers supply coffee for conventional markets. Through a case study, we describe the impacts of neoliberal globalisation on the lives, livelihoods, and environment of small-scale coffee producers in Minas Gerais, Brazil. We explore how neoliberal reform, reflected in the specific historical, geographical, and environmental context of Brazilian coffee production, has resulted in the increased marginalisation of small-scale farmers, the degradation of soils, and overall rural decline.

KEY WORDS: Brazil, globalisation, neoliberalism, agricultural development, small-scale farming, coffee

Introduction

Coffee is one of the world's most valuable commodities and at least 25 million people around the world base their livelihoods on its production (ICO 2006). The majority of these producers are small-scale farmers in the developing world, although the bulk of coffee consumption takes place in the United States and Europe (Daviron and Ponte 2005). Recent neoliberal reconfigurations of this globalised market have inflicted radical changes on the livelihood possibilities of coffee producers (Rice 2001; Ponte 2002). A burgeoning literature highlights the potential of certified coffees (i.e. fair trade, organic) to restructure existing patterns of social and economic inequality in producing

countries (Rice 2001; Goodman 2004; Mutersbaugh 2005). However, fair trade and other 'sustainable' coffee movements currently account for less than 1% of the total volume of coffee produced globally and support only a minority of farmers (Daviron and Ponte 2005). Our research, therefore, seeks to reconnect with the majority of small-scale coffee producers who lack the infrastructure and means to access alternative markets, and who continue to produce coffee bound for conventional markets driven principally by price.

As Bridge (2002) argues, research on specific conventional coffee-producing regions offers an opportunity for economic geographers to explore the consequences of globalisation at the local level:

contemporary economic geography shows only a residual interest in evaluating the outcomes of globalisation. Researchers have been more interested in understanding and debating the processes of globalisation than in relating these processes to specific outcomes or examining the significance of diverse outcomes for those who live with globalisation as an everyday social reality.

Bridge (2002, 362)

Current processes of globalisation are often related to neoliberalism – the economic and social project exemplified by Karl Polyani's 'self-regulating market' (Peck and Tickell 2002). Neoliberal transformation is embodied in policies promoting trade liberalisation, privatisation of industry and services, the intensification of agriculture, and the reduction or elimination of state-funded interventions (Jessop 2002). From an economic standpoint, the resultant relaxation of trade barriers, corporate transnationalisation, increased foreign investment and multinational involvement are thought to have reconstituted the dynamics of multi-scalar geographies by reducing the incongruities between the global and the local, thus contributing to the process of economic globalisation (Jessop 2002; McCarthy and Prudham 2004; Goldberg and Pavcnik 2007).

State retrenchment and market reconfiguration have been particularly acute in the coffee sector, but the local impacts of these changes are all too often hidden by sweeping analyses, such as economist Lovell Jarvis' (2005, 1896) assessment of the impacts of global coffee market restructuring in Brazil: 'Some producers improved quality and marketed coffee more effectively internationally, while less efficient producers exited the industry. Thus, there is strong evidence that a market oriented coffee policy resulted in greater efficiency and competitiveness among both producers and exporters'. Clearly the economic reform process results in winners and losers; however, such generalisations regarding the outcomes of neoliberalism are made largely without social and environmental context. The idea of less successful producers 'exiting the market' fails to elaborate on the consequences of 'greater efficiency and competitiveness'. Such statements underplay the marginalisation of small-scale farmers, increased environmental degradation, and overall rural decline and poverty.

As Perreault and Martin (2005, 198) point out, 'although neoliberal policies share an underlying logic and ideological foundation, they emerge from, and take hold in, distinct social, political, cultural, and environmental contexts'. Over the past decade, geographers have made an effort to contextualise the outcomes of the neoliberal project and challenge its apparent hegemony by documenting the inequality

of the global food system and the questionable consequences of neoliberal reform (see, for example, Goodman and Watts 1997; Gwynne 1999; Bee 2000; Davis 2006).

Following Bridge (2002) and Perreault and Martin (2005), we believe it is critical to explore the impacts of neoliberal reform and globalisation on the ground and give due consideration to the contingent and contributory historical, socio-economic and environmental conditions across multiple geographic scales. Coffee production provides an excellent opportunity for such an examination, due to the relatively short links between smallholders and the global coffee market.

A small but growing number of case studies explore the outcomes of reform and globalisation on localities and regions where small-scale producers supply conventional coffee markets. These case studies highlight variations in the responses and adaptations of smallholders to the common theme of neoliberal transformation and globalisation in Latin America (see Krippner 1997; Snyder 2001; Eakin *et al.* 2006). In a recent case of three coffee-producing nations in Central America, Eakin *et al.* evaluate the ability of small-scale farmers to adapt to neoliberal reform and declining world coffee prices. Their research highlights the variable degree to which farmers cope with change and how farmer response differs due to specific national, regional, and local dynamics. The authors also emphasise that the ability of small-scale producers to withstand livelihood stress is influenced by the 'access to, and command over, various forms of assets, capitals, services, knowledge and technology' (2006, 158).

In a case study of coffee production within four separate Mexican states, Snyder (2001) demonstrates that the outcomes of neoliberal reform and globalisation differ not only between nations, but they also vary *intra*-nationally. Snyder argues neoliberal deregulation in Mexico shifted existing national-level regulation into the hands of various actors competing for control of the coffee industry within individual Mexican states. The author examines how the consequences of reform are shaped by this re-regulation process, which resulted in greater control of the coffee industry by producer groups in some states and by elitist political oligarchies in others. Thus, Snyder argues, the consequences for smallholders are largely contingent upon the specific ways that the re-regulation process played out from state to state.

Our research contributes to such ongoing analyses of the outcomes of the neoliberal globalisation project in Latin America. Virtually all small-scale coffee producers are impacted by the changes sweeping the coffee industry over the past several

tax exemptions, and the funding of widespread agricultural research. So significant was subsidised rural credit that it nearly equalled the total value of agricultural outputs (Graham *et al.* 1987).

The export-promoting measures of the 1960s and 1970s were ultimately successful at stimulating agricultural productivity and encouraging the expansion of export crops like coffee, citrus and soybeans. However, by the early 1980s, the global economy had entered a recession, with inflation rates in Brazil rising to more than 100% in 1980, and as high as 1000% by 1988 (Helfand 1999). Thus, new structural adjustments were implemented, under the guidance of the International Monetary Fund, the World Bank, and the World Trade Organisation, to transform the nation from a closed, state-supported economy to a liberalised, market-based economy. These reforms were part of a much larger macroeconomic project within Brazil aimed at stimulating the economy and remedying price instability, inflation, and the growing debt crisis. Within the agricultural sector, reforms involved trade liberalisation through decreased taxes on agricultural exports and less restrictive export quotas, and significantly decreased state involvement.¹ During this period, the Brazilian government cut back agricultural subsidies and credits (Figure 1), research and development programmes, extension services, and rural development initiatives (David *et al.* 2000).

The result of market liberalisation was overall greater productivity in many agricultural sectors, particularly export goods like soy, citrus, and coffee (Helfand and de Rezende 2004). However, the stimulation of increased coffee production in Brazil occurred with precipitous timing, as it preceded major structural changes in the world coffee market leading to an international crisis.

Coffee and crisis in Brazil

Brazil has a long history of producing coffee for the international market, dating as far back as independence from Portuguese colonial rule in 1822. A large share of the new government's revenues were derived from the tariffs and import duties of international trade; thus the newly independent government of Brazil was eager to find an export crop suitable to replace sugarcane, a market which collapsed due to foreign competition (Wolf 1982).

Coffee originally entered Brazil in 1727 from French Guiana (it may have reached Brazil as early as the 1600s but was of no importance commercially at this time), and by 1770 it had spread through northern Brazil to the southeastern states of Rio de Janeiro and Minas Gerais. Coffee thrived in these mountainous areas, as the temperature, heavy

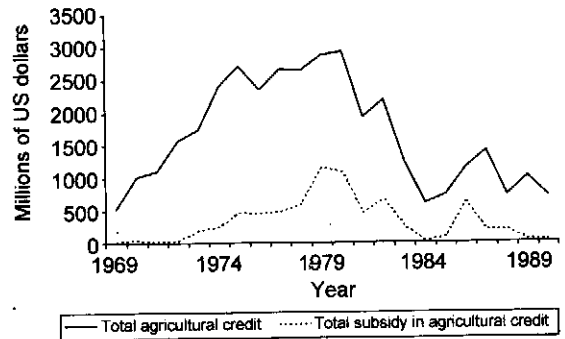


Figure 1 Total agricultural credit and subsidy for coffee in Brazil 1969–90. Adjusted for inflation, in current US dollars
Source: Adapted from Helfand (1994)

rainfall, and a distinctive dry season provided near-optimum conditions for its growth (Burns 1993; Dean 1997). With the Portuguese traders supplying adequate slave labour from Africa to work the labour-intensive plantations, coffee became Brazil's largest agricultural export (Wolf 1982). By the middle of the nineteenth century, coffee production was booming in Brazil. At the end of the 1800s, Brazil supplied three-quarters of the world's coffee, with the bulk of production going to the United States (Burns 1993; Dean 1997).

As the US economy grew, coffee exports steadily increased and Brazil's national economy shared in this progress. Coffee was an important catalyst for the rapid growth of the Brazilian economy, and exports of the crop continued to rise annually. By 1860 Brazil was exporting more goods than it imported, and by 1890 coffee exports represented nearly 65% of Brazil's total export market. As a result, a burgeoning export trade network was established and by the turn of the twentieth century the US was Brazil's major trading partner (Burns 1993).

Today, no other country in the world produces more coffee than Brazil, which exported nearly 23 million bags² in 2005 – considerably more than the world's second and third largest exporters, Vietnam (12 million bags in 2005) and Colombia (just under 10 million bags in 2005) (ICO 2006). Brazil exports the majority of its coffee to the US and Germany. These countries have traditionally had less discriminating tastes and import the relatively lower-quality Brazilian Arabica coffees. Robusta and higher-quality Arabica coffees are produced in other countries throughout South and Central America, as well as in Africa and Asia (ICO *et al.* 2000; Ponte 2002). The demand for cheap Arabica coffee allowed Brazil to corner the US market successfully, and later the German market, while out-competing other coffee-producing nations.

The historical importance and influence of coffee served to protect and insulate the industry within Brazil, even through modern periods of substantial economic restructuring. Coffee was exempt from many of the export-penalising measures of Brazil's ISI period, and the coffee export tax established in the 1970s was largely used to fund the state-run Brazilian Coffee Institute (IBC). The IBC, until its abolition in the 1990s, acted on behalf of coffee producers, enacting guidelines to maintain favourable international prices and to control surpluses (Helfand and de Rezende 2004).

The export-promoting period of the late 1960s and 1970s meant a wealth of credits and subsidies available to coffee growers, as well as significant state-financed research on high-yielding trees, disease-resistant varieties, and agronomic measures designed to increase plantation efficiency and yields³ (Graham *et al.* 1987). Following structural reforms and the ushering in of market liberalisation, the government continued to provide limited support to coffee growers. Today, the Agricultural Ministry of Brazil makes loans available to coffee farmers through the *Banco do Brasil* – the nation's largest bank, with a history of conservative lending policies strongly favouring the production of coffee and little else (Le Breton 2000).

Coinciding with Brazilian neoliberal reform, the 1980s initiated a period of structural change for the world coffee market. In 1989 severe price drops occurred when the International Coffee Agreement (ICA) price control clause was suspended. Without mandates for price controls, coffee prices dropped dramatically. Major coffee-producing nations like Brazil were unable to agree on export quotas, which, through the withholding of coffee reserve stocks, had in the past helped to sustain artificially high prices on the world market. Following the collapse of the ICA, country after country flooded the market with coffee reserves which pushed prices lower and lower. As a result of this market flooding and a lack of increased demand in the United States and Europe, the price of coffee plummeted (Daviron and Ponte 2005).

The world market price for coffee reached all-time lows in the year between 2003 and 2004, averaging approximately 50 US cents per pound, a significant decrease from average prices of 120 US cents per pound in the 1980s (ICO 2006; Figure 2). Today, the world coffee market is dauntingly oversupplied. Perhaps more importantly, market liberalisation, deregulation and globalisation have allowed corporate interests to gain a greater share of coffee's global export revenues – meaning less profit and less power for producers, particularly small-scale producers (for a detailed discussion on this process, see Talbot 1997; Ponte 2002).

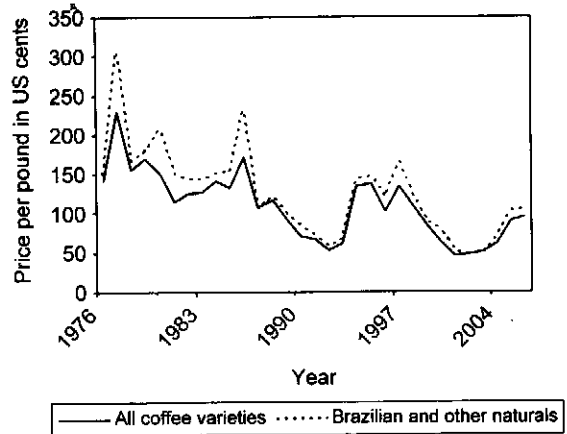


Figure 2 World coffee prices 1976–2006

Source: ICO (2006)

Additionally, demand for coffee in consumer nations is changing. In the US, Brazil's primary coffee importer, consumers are increasingly turning to high-quality specialty coffees, yet Brazil predominantly supplies lower-quality beans⁴ (ICO *et al.* 2000; Ponte 2002). Despite decreased demand, Brazil's coffee production has continued to increase. Astoundingly, Brazil increased total coffee production by more than 50% between 1989 and 2004 (Jarvis 2005; ICO 2006). One reason for the increase can be attributed to a bout of high coffee prices in the mid 1990s, which encouraged increased production. The subsequent harvests from trees planted during this prosperous time are often referred to as the 'Brazilian monster crop' on the world market.

In response to the global coffee crisis, the International Coffee Organization (ICO) has suggested a number of ways in which coffee-producing nations can cope with declining returns. Along with attempts to increase the global consumption of coffee, and thereby create new markets (including campaigns to encourage the traditionally tea-drinking Chinese to consume coffee), the ICO also promotes agricultural diversification in coffee-producing nations. Yet, diversification may be difficult in many areas of Brazil due to specific environmental, socio-economic and political conditions that continue to favour the production of coffee as a major export commodity. We explore these conditions in the following sections with a discussion of coffee production at regional and local scales.

Coffee-producing Minas Gerais State

The impacts of the coffee crisis are apparent throughout Brazil, where coffee is often grown in rural, isolated and poverty-stricken areas. Small-scale

producers in these areas are most vulnerable to instability on the world coffee market, as their incomes are precariously tied to world coffee prices (Vakis *et al.* 2004). Largely unpredictable, price fluctuations leave farmers laden with risk. Many farmers are financially dependent solely upon coffee, dedicating their land, water, and labour to its production, while reserving few resources to grow subsistence crops or to diversify production.

Minas Gerais is the nation's leading coffee-producing state contributing approximately 50% of Brazil's total coffee production (FAEMG 2006). In total, 74% of the total income produced by agricultural activities in Minas Gerais comes from the sale of coffee, followed by dairy, meat, soybeans, corn, and a relatively small percentage from the production of sugarcane and fruit (FAEMG 2005). The spread of coffee production in Minas Gerais came in two waves. First, in the 1950s, coffee prices soared on the world market, and the Brazilian government responded with a programme to provide financial credit to farmers willing to grow coffee. Second, during the credit and subsidy boom of the 1970s, farmers were encouraged through both fiscal and financial incentives to increase coffee cultivation throughout the state. Minas Gerais offers not only favourable growing conditions, but is north of the traditional coffee-growing regions in Paraná and São Paulo and is less likely to experience crop-damaging frosts (Graham *et al.* 1987).

Additionally, the state's low land prices, abundance of cheap labour, and the mountainous topography and climate are ideal for coffee. Due to the region's steep topography, poor soils, and limited access to markets, coffee is one of the only crops grown on a large scale throughout Minas Gerais, although cattle grazing is also common, particularly on abandoned coffee plantations (Franco *et al.* 2002). While citrus and soy are increasing in prominence in some areas of Minas Gerais, steep terrain makes much of the state unsuitable for commercial crops requiring mechanization (Andrade 1994; Le Breton 2000).

Until relatively recently, much of the mountainous landscape of Minas Gerais escaped modern cultivation and settlement and remained covered in forest, the burning of which provides the soil with the temporary boost in fertility important for coffee growers (Dean 1997). From an ecological perspective, the substitution of tropical and sub-tropical moist forest with coffee plantations has modified the region's nutrient cycling and caused significant declines in soil fertility through both soil erosion and the removal of nutrients from the soil with subsequent harvests (Dean 1997; Cardoso *et al.* 2001).

Unlike shade-grown coffee plantations in Africa, Asia, and other areas of Latin America where trees

are planted under at least minimal forest cover, Brazil practices a system of sun-grown coffee. Sun coffee is a highly exploitive cultivation strategy that relies on high-yielding coffee varieties grown in full sun. This strategy was promoted following an outbreak of coffee leaf-rust disease, a fungus that was believed to infect the traditional shade-grown cultivars at a higher rate than the new, modern varieties (Rice 1999).

Coffee trees on Brazilian plantations are grown very close together and planted in horizontal rows across steep slopes, with the area between tree rows left bare. Coffee is sometimes even planted vertically on slopes, a practice that accelerates soil erosion and is thus avoided in most coffee-growing regions of the world. Following the monoculture model imposed by Brazilian development policy, and supported by local agricultural extension agencies, farmers typically plant and tend 3000–5000 trees per hectare in an attempt to maximise yields. These are high demands for weak rainforest soils on steep mountainous slopes.

Smallholder coffee plantations in Minas Gerais are often situated on steep, bare slopes and exposed to heavy rains during the wet season. As a result, soil erosion reduces the average productive life of a coffee tree to 15 years, after which time the area is either abandoned or turned into cattle pasture. Although sun-grown coffee may provide higher yields than shade-grown coffee in the short term, it quickly exhausts the soil and is more reliant on fertilisers. For comparison, consider that the average productive life of shade-coffee plantations found in tropical moist forest regions of Latin America is at least double that of sun-coffee plantations in Brazil (Perfecto *et al.* 1996), and while coffee trees can reach a height of 25 m in shade-grown systems, sun-grown coffee trees rarely grow above 10 m (Rice 1999).

The short lifespan of the Brazilian sun-coffee plantation means that farmers must seek out new, fertile land after as little as 15 years. The need for increased land in the face of perpetual declines in soil fertility and declining incomes puts pressure on small-scale farmers to clear forest. Although the government now prohibits the clearing of the highly fragmented and severely threatened Atlantic Forest, it is quite common for farmers to increase slightly the size of their fields each year by burning only a short distance into the forested areas bordering their farms. The Atlantic Forest is recognized as one of the world's most critically endangered biodiversity hotspots, not only due to high rates of deforestation, but because of exceptionally high levels of species endemism, notably primates and birds (Myers *et al.* 2000). Between 1500 and the late 1990s, the Atlantic Forest in Minas Gerais was

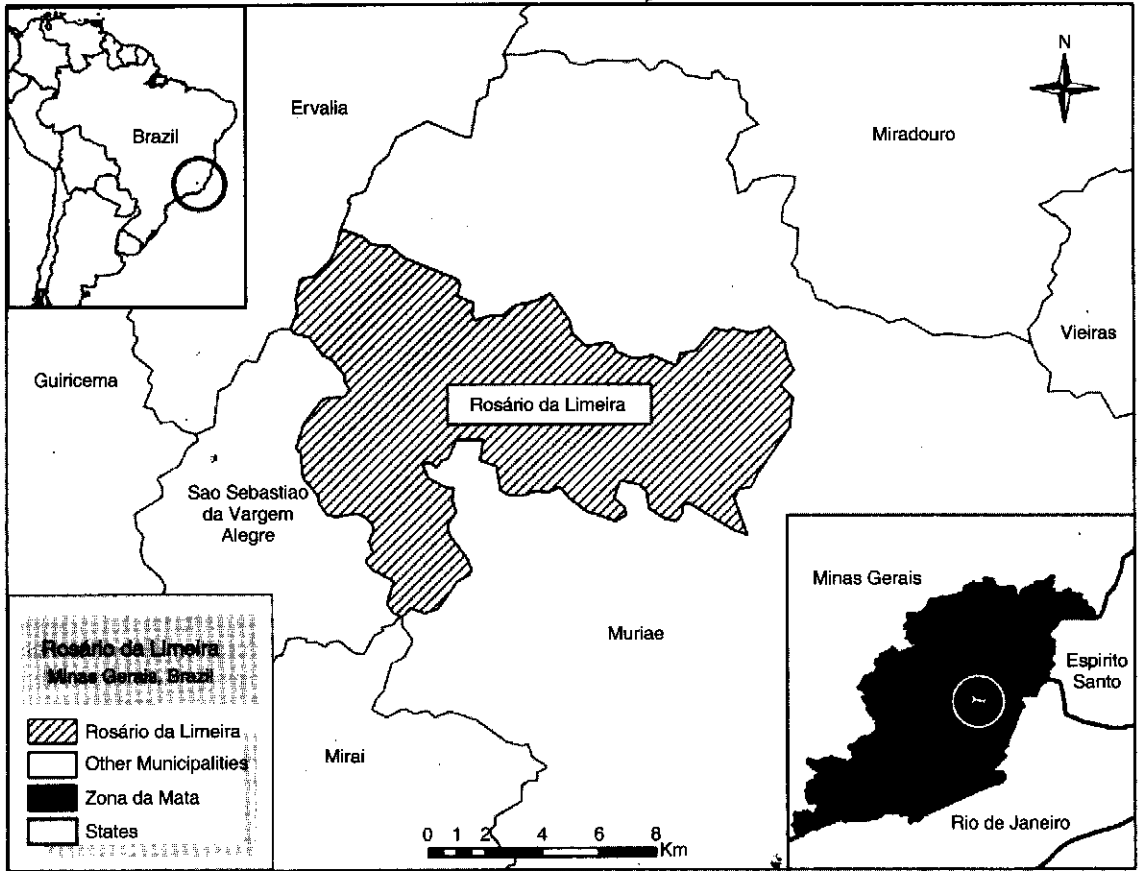


Figure 3 Rosário da Limeira and surrounding areas

reduced from 48% coverage to a mere 2%. Although, clearing was made illegal in 1988, a further 50 000 ha were felled in the state from 1985 to 1990, largely for agricultural expansion (ISA 2001). Heavy fines may be charged to farmers for clearing, but with small-scale burning they are usually not caught, and due to limited enforcement staff, state officials are unlikely to notice such gradual changes from year to year.

Coffee farmers in Rosário da Limeira

Rosário da Limeira is a typical coffee-producing *município* in Minas Gerais state (Figure 3). Neoliberalism impacts the current state of coffee production in Rosário da Limeira in a number of ways. Despite curtailment of state support in the agricultural sector, the government remains interested in coffee as an important export crop. The agricultural sector of the Brazilian economy is highly taxed and national inflation renders investments risky.

However, the national government offers limited agricultural support to farmers who grow coffee, as coffee is seen as a relatively secure investment (Le Breton 2000). Small-scale farmers in Rosário da Limeira are able to access low-interest government loans for coffee – but only coffee. Additionally, an extension agency is in place to provide services to farmers who grow coffee. The agency promotes a monocrop model of high-yielding sun coffee and is not active in measures to sustain soil fertility.

Beyond these loans and pro-coffee extension services, the government is involved very little and adopts a hands-off, market-based approach to agriculture. Coinciding with economic reforms and market liberalisation within Brazil, the restructuring of the global coffee market has led to declining returns for small-scale producers in Rosário da Limeira, while profit margins increase for local dealers and other intermediaries. Yet, despite the predicament of smallholder coffee producers, state

involvement in rural development, soil conservation, agronomic improvements, and crop diversification programmes are minimal.

Ninety percent of Rosário da Limeira's nearly 10 000 residents rely on agriculture and agricultural services for their livelihoods (Le Breton 1998). Situated in a mountainous area with elevations ranging between 300 and 1500 m, the region has an ideal climate for *Coffea arabica*, and the percentage of agricultural land used for coffee dominates all other crops (Franco *et al.* 2002). Rosário da Limeira is located in southeastern Minas Gerais, in the Zona da Mata region, where coffee was first introduced to the state. Originally settled in the 1920s, most inhabitants lived from subsistence farming and timber extraction until coffee was introduced to the region in the 1950s (Le Breton 2000).

Today, the prominence of coffee in Rosário da Limeira has virtually eliminated agricultural goods produced for the local and domestic markets. Family gardens provide a small amount of staple foods like beans, corn, and vegetables; however, farmers typically rely on coffee as a cash crop that provides income for the purchase of food, household goods, clothes, basic medical care, and other commodities.

Rosário da Limeira is situated in an area of 117 km², with a few wealthy landowners, and many small-scale coffee farmers working private landholdings of 9 ha or less. Inequitable land tenure is a source of significant conflict throughout Brazil (see Simmons 2004; Wolford 2005). The land used for coffee production in Minas Gerais is primarily divided into small, private land holdings; however, 20% of landowners are in possession of 60% of the total land area (Le Breton 1998). Further, while *fazendas* (land holdings larger than 100 ha) represent only 3% of total land area, these lands are often the most favourable areas, with access to roads and water sources, and most importantly without steep elevation inclines. Small-scale farmers generally occupy marginal lands, often growing coffee on steep slopes (Plate 1).

Small-scale farmers in Rosário da Limeira live in simple homes which they often build themselves and they have very few possessions. Literacy rates in the *município* are the lowest in Minas Gerais, and only 66% of farmers have completed primary school (FAEMG 1996). Most homes lack electricity and running water. The roads are unpaved; children attend school in one-room classes with mixed age groups; and most families do not have their own means of transportation. Some families share a horse and cart to meet their transportation needs. Entire families work the land – preparing the soil, planting and tending the coffee trees, harvesting,

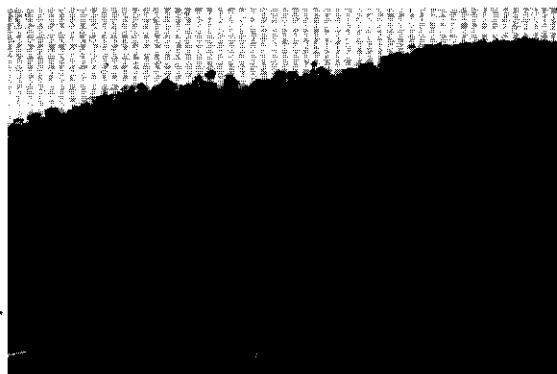


Plate 1 Coffee planted both vertically and horizontally across a steep slope in Rosário da Limeira
Source: Photo by Robin Le Breton

and occasionally basic processing. Relatives and friends contribute, especially during the harvest. In addition to farm labour, women cook the meals and take care of the home and children. Children generally work drying coffee beans, and this labour is often an impediment to educational opportunities.

Soil erosion and poverty are widespread in Rosário da Limeira, and farmers readily demonstrate concern over decreasing soil fertility on their farms, referring to the soil as 'fraco' (weak). Farmers recognize that the soil is poorer without tree cover, explaining that the soil dries out faster without trees and that it would be beneficial to have more trees surrounding coffee fields, particularly on the steeper slopes directly above coffee trees. A few farmers have left part of their land under forest cover, usually to conserve a water source. Yet, the perception of most farmers is that trees take up space on land that is more productive when devoted to coffee. Shade-grown coffee is uncommon in the region as a whole due to the longstanding belief that it does not produce as well as sun-grown coffee – a belief consistent with agricultural incentives aimed at maximizing production with minimal concerns for environmental effects or long-term sustainability. A recent study carried out by researchers at the nearby Federal University of Viçosa validated this perception, and extension agents will likely rely on this research to continue the promotion of sun-grown coffee in the region (Campanha *et al.* 2005).

Small-scale agriculturalists throughout the developing world are commonly obliged to intensify land use in order to secure short-term survival (Martinussen 1997). Indeed, farmers in Rosário da Limeira must choose short-term economic gain over the long-term benefits of preserving soil fertility – despite readily acknowledging their growing

There are two main fields of coffee which are planted ... the one farthest from the house has been planted for seventeen years, a newer field, just cleared recently has been planted for the last three years with more coffee, to supplement our income since the coffee prices have been falling.

Increasing coffee production is a logical strategy at the producer level, but at national and international scales it only serves to exacerbate the very problems of oversupply that contribute to lower prices for coffee on the world market. Additionally, the continual expansion of coffee farms leads farmers to convert even the steepest slopes to coffee, most often by clearing and burning the Atlantic Forest. Without the financial flexibility to manage their land against soil erosion, many coffee plantations are subject to increased land degradation. Farmers thus remain in debt and in poverty, and continued environmental stress is exerted on the soil, water resources, and the forest.

Conclusion

As the recent geographical literature emphasizes, globalisation is neither an end state nor a generic phenomenon – rather it is a complex process contingent on specific histories and geographies (Larner 2003; Peck and Tickell 2002; Perreault and Martin 2005). Both neoliberal transformation and globalisation are mediated through various national and regional policies, producing specific local outcomes. These local outcomes in turn modify the global economy and reshape the globalisation process.

Our research contributes to a growing number of case studies reiterating the contingent and contextual nature of neoliberal outcomes on small-scale coffee farmers producing for conventional markets. Small-scale coffee producers in Rosário da Limeira are illustrative of rural agriculturalists throughout the global south – locked into globalised production systems dictated by neoliberal market mechanisms, governed by price and constrained by powerful actors at various scales. In the wake of changes brought about by state retrenchment, globalisation and international price instability (in the case of coffee), we can make use of such case studies to evaluate and compare relative winners and losers, and examine those strategies advantageous to small-scale producers within the context of specific and contributory cross-scale dynamics.

The International Coffee Organization's pessimistic predictions for the future of the global coffee market are disheartening for small-scale coffee producers. The organisation recommends two strategies for coping with the coffee crisis: diversification to other

crops; and/or a shift to specialty coffees. Many coffee-producing nations in Central America are beginning to implement measures in support of these strategies, either through government programmes, NGO involvement, or coffee-producer organisations (Eakin *et al.* 2006). For small-scale farmers in Brazil, however, implementing these changes may prove difficult. Brazil has historically maintained a very high level of state involvement in the coffee sector. This legacy of dependence on state intervention shapes even the current environment of coffee cultivation, which continues to favour technification, monoculture, and emphasizes quantity over quality. And although many farmers are interested in diversifying production, diversification involves a period of significant and inhibitory capital investment and risk before potential benefits emerge.

In an attempt to offset these costs and risks, the Brazilian government created PRONAF (National Program to Strengthen Smallholder Agriculture), which is specifically designed to support small-scale coffee producers with agricultural credit at reduced interest rates. However, accessing PRONAF funds is a bureaucratic procedure and is largely limited to farmers who are members of well-organised cooperatives (David *et al.* 2000).

In 2007, the National Confederation of Agricultural Workers (Contag) initiated a programme to provide both credit and technical assistance to small farmers who are members of Contag cooperatives. In Minas Gerais, Contag currently operates only one cooperative, but plans to create 11 additional cooperatives within the state (FETAEMG 2008). Smallholders would benefit considerably from the greater collective action and autonomy offered through membership in local and regional cooperatives. Reducing reliance on government support, while also removing dependence on large land owners as intermediaries, would likely be of great reward to smallholders. A cooperative might provide timely information on global coffee prices, facilitate basic coffee processing at the local level, and perhaps assist with entering specialty coffee markets. However, given the isolation of Rosário da Limeira, these changes will first require road improvement and the development of a reliable, cooperative transportation system.

Future research examining the potential of crop diversification versus attempts to enter the specialty coffee market would be advantageous for small-scale coffee farmers interested in diversification. What is necessary for this process to occur? Is it feasible? What are the barriers? What are the opportunities? Future studies are also needed to describe and quantify the interactions between land costs, labour costs and the trade-offs for soil conservation measures. We believe additional

on-the-ground analyses merit greater consideration within geography and across academic disciplines, as well as in current and future dialogue surrounding the impacts of neoliberal reform, globalisation, and the international coffee crisis.

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Notes

- 1 However, there is evidence that rather than reducing or eliminating state involvement, neoliberal reform merely redefines the state's role in national governance (see Peck 2004).
- 2 All coffee varieties, September 2005 to August 2006 crop year. Coffee production is measured in bags – one bag equals 60 kg.
- 3 Although credit lines and state interventions were disproportionately accessible to large plantation owners, a significant number of smallholders benefited from state-funded rural development programmes, small-farm loans, and investments in agricultural technologies (Helfand 2001).
- 4 The extension service in Minas Gerais promotes the improvement of coffee bean quality. The local Secretary of Agriculture and Environment explained in an interview: '[the government] is encouraging producers to implement technologies that can allow them to improve production, taking into consideration not only an increment in the quantity but also the quality'. However, the implementation of these technologies is not yet common among small-scale producers in Rosário da Limeira.
- 5 This increase is not attributed to population change. The population growth rate is just over 1% in the region.

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