

CHAPTER 15

Regional Impacts of Land Reform in Brazil

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Introduction

Though a great deal of research on rural settlements in Brazil has analyzed internal conditions in land reform settlements, related policies, and the progress of settlers, few studies have examined the importance of land reform settlements for the regions in which they are located. This article tackles this issue by identifying the processes of change that the rural settlements have triggered in their local settings.¹

The term “impact” may perhaps be an exaggerated way of expressing these changes, for it brings to mind that which is most evident and spectacular, when in reality the changes are often subtle and lead to observable results only after some time. The magnitude and characteristics of these changes depend on different geographical contexts they are examined in—for example, local, regional, and nationwide—so a linear pattern should not be sought in this transformation process. In addition, the creation of the settlements results in short-, medium-, and long-term changes, the effects of which are felt both within the settlement projects, that is, on the lives of the settlers, and beyond them.

Far from assigning them a negative or positive value or declaring them successes or failures, our analysis is designed to measure and characterize the changes, with the aim of creating indicators and identifying relationships that reflect the meaning of these experiences by comparing the settlers’ before-and-

This chapter reports on the impacts of expropriative land reform in Brazil, which has typically come about as a result of pressure and direct action by the Landless Workers’ Movement (MST) and other peasant organizations and unions, in contrast to the “market-led” land reform credit programs of the World Bank, discussed in part II of this volume.

TABLE 15.1 General characteristics of sample zones

Sample zones and states covered	Number of municipalities chosen	Total number of families settled in the municipalities (1985–1997)	Total area (hectares) of settlement projects in chosen municipalities (1985–1997)	Number of settlement projects studied	Number of questionnaires applied
Southern Bahia, Bahia (Cocoa-producing region)	8	734	12,919.5	14	87
Ceará Sertão, Ceará (Canindé)	4	2,999	110,401.7	10	306
Federal District and neighboring areas, Federal District,* Goiás, and Minas Gerais	6	2,409	114,803.2	14	237
Southeastern Pará, Pará (Conceição Araguaia)	2	3,320	240,929.3	10	366
Western Santa Catarina, Santa Catarina	8	1,802	27,292.9	19	185
Northeastern Sugarcane Region, Alagoas, Paraíba and Pernambuco	11	3,849	29,888.7	25	387
TOTAL	39	15,113	536,235.3	92	1,568

Source: INGRA records and data from the study.

*Located within the state of Goiás

after situations (both objectively and subjectively), as well as by comparing the social and economic conditions of settlements with those in the surrounding areas. The effects brought about by local and regional projects are also analyzed.

In broad terms, the effects of the settlements must be discussed with regard to multiple relationships, in which different avenues lead to different results. Thus, hasty generalizations should not be made. Rather than solely identifying impacts, we must analyze the economic, political, and social effects of the transformation processes triggered by the creation of the settlements. The pace and intensity of these processes vary and have a bearing not only on the families of the settlers but on the rest of the local population as well.

The focus of our study was a set of Brazilian regions, or zones, with a large concentration of land reform settlement projects and a high density of settled families per unit of land, based on the assumption that this would increase the chances of understanding the processes of change underway. The defining criterion was the existence of a set of neighboring municipalities with a relatively large concentration of settlements, in terms of number of projects, families, and occupied areas, in order to be able to consider the historical, economic, social, and organisational dynamics they have in common. We chose six large zones, reflecting the diversity of Brazilian realities: Federal District and surrounding areas, the Northeastern Sugarcane Region, the Sertão (semi-arid region) of the state of Ceará, Southern Bahia, Southeastern Pará, and Western Santa Catarina.² Sample areas were chosen within each of these zones. The sample areas contained groups of municipalities that had the largest concentrations of settlement projects and the greatest proportion of settlers within the overall rural and urban populations.³ We administered questionnaires to carry out a detailed analysis.

The settlements analyzed were either implemented or recognized by the Agrarian Reform Institute (INCRA) between 1985, when the National Agrarian Reform Plan (PNRA) was announced, and 1997. Table 15.1 shows some data on the sample zones in the study.⁴

Though the selected zones all have higher concentrations of settlements than the other parts of the same states (often one-third or more of the statewide number of settlements), the participation of the settlement projects (whether in terms of occupied area or number of settler families) in the municipalities and zones studied varies considerably. This factor, coupled with the fact that the dynamics of the respective regions differ, and that some settlers have greater organizational capacity than others, explains the large variation between the effects produced by different settlements.

The Land Distribution Process and the Study Zones

The structure of the zones, which is contrary to that of the isolated expropriations that characterized previous government interventions in land issues, is in itself a relevant aspect of the changes the settlements have brought upon the regions where they are located.

The original idea behind the PNRA was to establish priority areas for land reform. However, the responding outburst of antiagrarian reform pressure led to this idea being abandoned. From then on, only unplanned expropriations were carried out. These actions were indeed more frequent than during the time of the military regime, and occurred as a consequence of the social struggle and mobilization that developed at a greater pace after oppression diminished with democratization. Although the measures that resulted in the establishment of settlements during the democratic period (after 1984) were not designed to attain the massive land reform that the social movements demanded, they were clearly the result of the pressure put on the state by the land reform movements.

Furthermore, the movements gained momentum and leverage by the degree of simultaneity in the execution of the expropriations, and by the fact that these were concentrated in regions in which the movements were already active. The perceived success in achieving some expropriations stimulated workers in neighboring areas to push for the same, and new expropriations were carried out due to the force exerted by these workers; in this way settlements spread, and the movements tried to repeat this experience in other areas. This process ended up generating "reformed areas," even though the idea of such had been abandoned.

An analysis of information on land conflicts and on demands for expropriations reveals a close relationship between the initiatives of the rural workers' movements and the expropriations. Almost all of the settlements encountered had arisen out of conflicts (96 percent). In 89 percent of cases, the initiative for expropriation requests came from the workers and their movements. In our sample, only 10 percent of the settlements resulted from the initiative having been taken by the state.⁵ The data clearly show the importance of the Landless Workers Movement (MST) and other peasant and union movements in driving the land reform process.

Although the workers' initiatives have taken many different forms (sometimes involving a combination of strategies and sometimes changing over time in a given place), as table 15.2 shows, 64 percent of the settlements studied

TABLE 15.2 Distribution of settlements by type of struggle used by workers in the different zones (in number of projects)

Zone	Resistance on the land (%) [*]	Occupation (%) [†]	Other (%) [‡]	Total percentage
Southern Bahia	6 (43)	8 (57)	—	14
Sertão of Ceará	4 (40)	6 (60)	—	10
Federal District and surrounding areas	2 (14)	9 (64)	3 (22)	14
Southeastern Pará	9 (90)	1 (10)	—	10
Western Santa Catarina	—	16 (84)	3 (16)	19
Northeastern Sugarcane Region	6 (24)	19 (76)	—	25
TOTAL	27 (29)	59 (64)	6 (7)	92

Source: Heredia et al. 2002.

^{*} Land resistance: This includes all cases of struggle on the part of rural workers (inhabitants, partners, tenants, squatters) to stay on the land where they already lived and/or worked, but lacked title. It also includes cases of gradual occupation (four in the south of Bahia and nine in Southeastern Pará), covert actions that are usually carried out by small groups of squatters who wish to build and eventually acquire land tenure rights. In these cases, conflicts arise only when the occupation is discovered, at which point land resistance begins.

[†] Occupations: These are the massive and public occupations of land that have become frequent during the past fifteen years. The actions were originally initiated by the Landless Workers' Movement (MST), but have also been taken up by other movements.

[‡] Others: All cases in which the initiative did not come from workers and their movements, and cases in which the actions by workers and their movements do not fit into the aforementioned categories.

were the result of land occupations. Land resistance tactics also played an important role, and were responsible for almost one-third (29 percent) of the settlements studied.

Presence of the Settlements in the Regional, Political, and Social Dynamics

Settlers and Their Families

A large part of the settler population already lived in the rural areas where they are now settled, prior to moving into the settlements: Over 80 percent of those

studied in the sample came from the same municipality or from neighboring municipalities.⁶ In addition, 94 percent of them had already had some sort of experience with farming.

An analysis of the type of work they carried out prior to moving to the settlements shows that 75 percent of the settlers were previously employed in farming activities, as permanent or temporary paid rural workers, squatters, sharecroppers, land tenants, or as unpaid family members.⁷ As to the level of schooling of those responsible for the plots of land, the overall results for the zones show that 87 percent of them did not attend school past fourth grade; of those, 32 percent never went to school at all and only 2 percent attended beyond eighth grade. Thus, the settlements have made landownership possible for a population that has historically been excluded by society, and that, even in cases in which they were somehow incorporated into the labor market, did so in unstable and precarious conditions.

The people who go to live in the settlements do not do so alone: most of the holders of land plots move in with a family. In general, the family formations on the plots are similar to those on ordinary family farms, with a nuclear family (mother, father, and children) that finds in the settlements an important source of work as well as conditions for social and economic development. Children make up part of the families on more than 80 percent of the plots; they are mostly under the age of 14. The average number of children is three per family.⁸ In approximately one-quarter of the cases (24 percent) families also included other relatives, such as parents, in-laws, siblings, grandchildren, and so forth. In most cases, these other family members did not live with the nuclear family before moving into the settlements but were incorporated into the family unit at the time of the move, which implies the settlements have played the role of reuniting families.⁹ Thus the settlements contribute both to reestablishing family ties (formerly severed or threatened because sons, daughters, parents, or siblings had to leave the family household in search of means for survival), and to giving shelter to relatives.

Moving into a settlement not only involves isolated families (families living in one home with or without added relatives), but also extended family groups: 62 percent of settlers have a relative who lives on another plot in the same settlement. Thus, the settlements seem to group together (or to regroup) segments of communities, if not whole communities.

In the case of settlements in which a significant number of the settlers belonged to families already living in the expropriated area, the implementation of the settlement projects not only makes it possible to maintain existing

relationships; it often also leads to a rearrangement of the families (as new neighborhood ties are formed), which fosters the coexistence of people who were strangers or near strangers, thus producing new opportunities for meeting, sharing, and determining new forms of community and organization.

The Settlements and Their Internal Organization

The internal physical organization of the settlement projects for the most part seems to obey a certain pattern already existing among local family farmers before the settlements were established, while some innovations did take place.

In most of the units studied, houses are located on the plots. Farming communities were found in almost one-fourth of the projects (most of them in Southern Bahia and in the Sugarcane Region), usually coexisting with population groupings that existed before the settlements were established. In the Ceará Sertão zone, there are communities (different-sized groupings of settlers' houses) surrounded by subsistence croplands. The pastures are often collective. In the larger projects, each community has an association, which organizes the economic activities of its members, and the whole settlement has one central cooperative that coordinates the associations.

Demographic and Land Impacts of Settlements

The rural settlements in this study did not radically alter the scenario of landownership in this country, nor in the states or regions in which they are located. The rural settlement policy, therefore, still cannot be considered a profound land reform process.

In the states studied, a comparison of the total area of rural settlements established by INCRA up to 1999 (excluding the settlements implemented by the state governments), with the total area of farming and cattle ranches listed in the 1996 census, reveals that except for in Pará, the area of the settlements ranges from 0 to 5 percent of the total area.

Nevertheless, in the sample zones studied, the ratio of settlement area to farming area in the municipalities is significantly greater, which indicates a territorial development process in the land reform. As shown in table 15.3, there are important variations among the zones (and even among the municipalities that compose a given zone), going from a mere 3.1 percent (1999 data) in the Southern Bahia zone to 40.39 percent in the Southeastern Pará zone. This means that although the impact may seem modest at the state level, it tends to be meaningful in the chosen areas, especially in certain municipalities in which it increased significantly between 1997 and 1999.

TABLE 15.3 Percentage of settlement project (SP) area over total farming area

<i>Zone</i>	<i>States (up to 1999)*</i>	<i>Municipalities in sample (up to 1997)†</i>	<i>Municipalities in sample (up to 1999)‡</i>	<i>Area strata (up to 1997)§</i>
Southern Bahia, Bahia	3.0	2.3	3.1	5.5
Ceará Sertão, Ceará	5.3	15.9	23.7	113.2
Federal District and surrounding areas, Goiás and Minas Gerais	1.4	3.1	5.4	57.6
Southeastern Pará, Pará	25.3	34.6	40.4	119.5
Western Santa Catarinaina, Santa Catarina	1.1	9.6	11.3	18.8
Northeastern Sugarcane Region, Alagoas, Paraíba, and Pernambuco	1.5	12.1	18.4	142.7
TOTAL ZONES	5.6	8.7	12.0	62.0

Sources: Heredia et al. 2002.

* Percentage of total area of the SPs created up to 1999 in the zone state(s) over the total area of farmlands in those states. The projects belonging to the Land Title Program in Bahia, Ceará, Minas Gerais, and Pernambuco were included.

† Percentage of SP area in the municipalities studied: Percentage of total settlement area (established by INCRA up to the year shown) over the total farming area in the set of municipalities of the sample zone.

‡ Area percent of the plots in equivalent size ranges in the municipalities: The comparative size is used to determine the percentage of the total area of the settlement plots as compared with the area of farms of the same size range in the municipalities (according to data from the 1996 farming census). An average of the areas reported by the settlers was used to establish the size range that predominated in each zone, which were: 0 to 20 hectares in the Sugarcane Region; 0 to 50 hectares in Southern Bahia, Ceará Sertão, Ceará, and Western Santa Catarina; 0 to 100 hectares in Federal District and surrounding areas and Southeastern Pará.

The last column in table 15.3 gives an approximation of the impact of the settlements on land distribution in comparison with other classes of land tracts within the same size range as the settlers' plots. It indicates that there was a significant impact¹⁰ on some zones, such as the Ceará Sertão, Southeastern Pará, and the Northeastern Sugarcane Region, where the total area of the settlements was greater than the area occupied by other farmlands in the same size stratum at the time of the IBGE census.¹¹ Consequently, although the implementation of the settlements has not altered the scenario of land distribution on a large scale, it has produced a significant redistribution at a local level.

As to the demographic impact, the settler population has caused a significant increase in the rural population of the municipalities, but not in the population of the regions as a whole. One possible inference is that, with some exceptions, the increase in settlements has helped to detain the migration of the rural population to the cities, if not to reverse it. In municipalities with few inhabitants, the settlement population is important, even when compared with the urban populations.¹²

Access to Public Policies and Infrastructure Conditions

In general, the infrastructure of the settlements in the zones studied is quite faulty, in keeping with the substandard conditions found in most Brazilian rural areas. However, this does not mean that nothing has changed; the creation of the settlements and the expectations of those involved necessarily has given rise to a number of demands and claims, which have been successful depending on the extent to which settlers have been able to organize themselves and on the local political state of affairs.

The initial stages of arrival in the settlements (in cases in which the population did not already live in that area) are quite difficult, because everything needs to be done on the plots, including building houses. For the families to have minimum starting conditions for their social, economic, and productive integration, they need to have access to credit. INCRA offers three different forms of credit: development, housing, and food. In the settlements studied, 81 percent of the families benefited from development credit, 72 percent from housing credit, and 74.63 percent from food credit, which represents a reasonable amount of coverage.

These data must be interpreted taking into account the fact that credit takes a long time to be granted, and generally only arrives as a result of organized

pressure by the settlers and their movements. Delivery of the development and food credit took an average of nine months, counting from when the projects were officially created. The housing credit took over two years (twenty-eight months on average), which made the beginning stages more difficult and undermined the families' capacity to carry out their activities.¹³

Questioned about their current and past housing conditions, 79 percent of the settlers reported an improvement. Answers varied among regions. On average, only 8 percent of the settlers stated that their situation had become worse. Official figures regarding types of buildings match these opinions: 74 percent of the settlers' houses in the studied zones are made of brick or cinderblocks, as opposed to 39 percent—in the best of cases—of their previous houses. Credit disbursement and the changes in types of houses also served to foster local commerce (because of the demand for construction materials) and the local labor market (construction work).

With regard to the water supply, most settlements studied had problems due to the lack of water or bad water quality. In nearly 46 percent of them, interviewees reported there were plots that had problems with the amount of water available for irrigation.

On-farm electricity was present on 78 percent of the projects, while only 27 percent of them have an adequate supply. In 66 percent of the cases studied, electricity had been furnished only some time after the settlement had been established. In 53 percent of the projects that have electricity, the settlers reported having to have made demands in order to obtain it.

Public telephone systems are scarce on the settlements: only 16 percent of the projects have any at all, which means that in a medical emergency, or when in need of basic commercial information, settlers must go elsewhere, sometimes at a great cost in terms of money, time, and effort.

In the overall sample, the average distance from the settlements to the nearest city is 28 kilometers, which usually takes approximately an hour of travel.¹⁴ Roads leading to the entrance of the settlements are usually dirt roads (46 percent of the projects), or a combination of dirt and paved roads (34 percent). In the interviews, 70 percent of the settlers reported bad roads, half of which cannot be travelled during the rainy season. The condition of the roads within the settlements is even worse: In only 18 percent of the settlements studied are all of the plots accessible year round. Therefore, the settlers usually face difficulties getting around, especially during the rainy season, which further undermines their access to health and education and makes it harder to sell their products. With regard to collective transportation, although the overall scene

is bleak, field observations revealed that in several municipalities the presence of the settlements led to an increase in the number of town vehicles and machinery, such as school buses, ambulances, and tractors. The settlements' presence also caused changes in the routes of bus lines and an increase in alternative services, such as motorcycle taxis and pickup trucks, which probably benefited neighboring areas as well.

Data from the interviews show that one of the most serious concerns of settlers is whether or not there will be schools for their children. There are schools in 86 percent of the settlements researched. Most of them were built after the settlement had already been established (84 percent). This relatively large number of schools seems to have been the result of organized demands made by the settlers and their movements: in 71 percent of the cases it was necessary to fight for the construction of schooling facilities. Most settlement schools are maintained by the local authorities (87 percent). In some cases, they are set up, supported, and even run by social movements (for example, the MST or rural workers' unions), sometimes in partnership with non-governmental organizations (NGOs) and the government.

Living on a settlement seems to improve the chances of children going to school. A large percentage of the school-age settlement population goes to school: approximately 90 percent of the children between ages seven and fourteen, and 60 percent of the youths between fifteen and nineteen. In a comparative assessment by the settler interviewees who were asked to compare the current versus previous schooling situations, they acknowledged shortcomings, but 70 percent considered the situations had improved, 20 percent that they had not changed much, and 9 percent that they had become worse.

On the other hand, in terms of grade levels, school arrangements are not so favorable: 77 percent of the projects with schools have multiple-grade classrooms; in 73 percent of these, the schools go up to only fourth grade. Only 19 percent of the projects that have schools offer education up to eighth grade. We found no high schools or technical schools in our sample.

There are also youth and adult education programs in 64 percent of the cases studied. This has made literacy possible for part of the adult population on the settlements: in the projects studied, 6 percent of the adults over 30 years of age attended these programs.

As to health services, while there are a good number of community health workers in most of the projects (78 percent), there are community health centers in only 21 percent of the settlements studied, most built after settlers and their organizations pushed for them. Even when there are medical facilities,

there are usually no doctors on a regular basis.¹⁵ Given this bleak situation, most of the settlers seek health services in the same municipality (in 92 percent of the projects), in neighboring municipalities (42 percent), or in cities that have general hospitals (25 percent).

This means that the establishment of settlements, especially when it involves populations from other municipalities or regions, puts a great deal of strain on those health services, and it is a known fact that these services already provide an insufficient level of health care. The presence and effect of the settlers in this case, therefore, tends to cause new demands, or to add upon existing ones. Additionally, settlements are normally far from urban centers, and access roads and/or collective transportation services are inadequate, adding a further burden on settlers who must go outside the settlements for health care, having a serious effect on their lives.

The Principles of Association and Political Participation

Given the precarious infrastructure, coupled with the difficulties found in getting settled on the land and, in more general terms, in reproducing family farms, the establishment of the settlements is not as much the end point of a process of struggle as the starting point for new social and economic demands. Their new situation forces the settlers into life experiences that they would hardly have encountered in their previous situations. They begin to organize themselves, establish dialogues with the government, make demands, exert pressure, negotiate; in sum, they begin a number of activities that put them at the front line of political participation.

The study showed that in the various zones, the presence of the settlements brought about changes in the relationships between the workers who live in them and the local authorities, either requiring new forms of action, strengthening traditional patronage systems (which are common in precarious situations), or empowering new leaders to run for public office.

Associations are a predominant form of organization representing the settlers and are present in 96 percent of the settlements studied. They represent the settlements legally and in formal connections with government departments and other agencies. In some cases noted in the study, settlers' representatives sat on municipal management councils (rural development, health, education, and agriculture councils) or in municipal agriculture secretariats, or they were candidates for local public office (aldermen or mayors).

These data indicate that the political experience acquired in the struggle for

the land (in whichever form or forms it took place) resulted in producing new leaders and forms of representation, as well as in providing the opportunity for lessons on the importance of different forms of organization and their capacities to produce demands. Thus, the existence of the settlements has to some degree modified surrounding local political scenarios.

The Presence of the Settlements Within the Dynamics of Regional Economies

Employment

In the current context of crisis in the farming sector and of difficulties in reproducing family farming, along with the fact that the labor market has become more and more difficult for the less educated segment of the population, the settlements provide an important source of employment and access to land tenure.

As mentioned, in the areas studied, most of the settlement population comes from the same municipality or from neighboring municipalities, and the plot owners have a low level of formal education and have previously had a precarious position in the rural/farming labor market. With the establishment of the settlements, it has become possible for these people to center their family development and financial livelihood strategies on their own plot, combining the activities they carry out there with other activities related to the existence of the settlement.

In the total population above the age of fourteen in the settlement projects studied, 79 percent worked only on the plot, 11 percent on the plot and also elsewhere, 1 percent only elsewhere, and 9 percent declared they did not work. This means that 90 percent of the settlers over fourteen years old worked or helped on the plot. There was an average of three people per plot. Of those who did any type of work in other places (12 percent in all),¹⁶ 44 percent did so occasionally, 24 percent temporarily, and 31 percent on a permanent basis. It is worth mentioning that of those who worked in other places, more than half (56 percent) carried out activities only within the settlement itself, which included nonfarming work created by the implementation of the settlement project (construction of roads and collective infrastructure, teaching, food and health services, collective work, product processing, and so forth).

Although the settlements are evidently job creators, some of the settlers end up leaving (temporarily or definitively): 28 percent of the families in the settlements of the zones studied reported having had a family member leave the

plot (there are regional variations, the highest percentage being that of the Southeastern Pará (38 percent), and the lowest that of the Northeastern Sugarcane Region (approximately 15 percent). Overall, 42 percent of the departures were due to the need to search for employment and/or another land property (the highest percentage being 60 percent, in Ceará).¹⁷ In all, 12 percent of the plots in the settlements studied had lost members who left in order to find employment elsewhere.

Agricultural Production

The settlements produce a wide variety of products. Table 15.4 shows for each zone the five top farm products produced (P), sold (S), and considered important (I) in the 1998–1999 harvest. It also includes the five products that contributed the most to the plots' gross value of production (GP).¹⁸

It is evident that there is not necessarily a match between the products most grown, sold, and considered important, nor between these and the products with the greatest GP. Corn, cassava, and beans are clearly the most commonly grown products and are those considered important by the greatest number of settlers, with exceptions in some zones. This choice has strategic value: these products are easily sold and are crucial in the families' daily diet. These are followed by taro root, bananas, and rice. Other, mainly cash crops, such as cotton, sugarcane, pineapples, and tobacco, are also high on the lists.

Analysis of the share of different farming products in the overall GP (the only animal products included are milk and eggs),¹⁹ showed that milk, cassava, corn, beans, eggs, rice, pineapples, soybeans, taro root, and cassava flour were in the top ten positions (representing 78 percent of the GP). Of these, the first three account for 48 percent of GP and the first five for 61 percent.

Table 15.5 shows the top ten animal products raised, sold, and considered important.

Both dairy and beef cattle are important in all of the zones except for Southern Bahia and the Sugarcane Region. It is especially important in Southeastern Pará (sale of calves and milk production), Western Santa Catarina, and Federal District and surrounding areas. Poultry for meat is considered important by many producers, but it seems to be reserved mostly for subsistence rather than commercial use (meat and eggs), except for in the zones in Southeastern Pará and Federal District and surrounding areas, in which they are also sold. Pork is common (except for in the Southern Bahia and Sugarcane Region zones) and is almost exclusively used

TABLE 15.4 Main plant products grown in the 1998–1999 crop season

Zone	Category*	Highest percentage	2nd highest percentage	3rd highest percentage	4th highest percentage	5th highest percentage
Southern Bahia	P	cassava	Corn	bananas	beans	pineapples
	S	cassava	pineapples	bananas	corn	cocoa/coconuts
	I	cassava	Bananas	coconuts	corn	pineapples/coconuts
	GP	cassava	pineapples	cocoa	rubber	coconuts
Ceará Sertão	P	corn	Beans	cotton	squash	watermelon
	S	cotton	Corn	beans	squash	bananas
	I	cotton	corn	beans	bananas	—
	GP	corn	beans	cotton	watermelon	rice
Federal District and surrounding areas	P	corn	rice	cassava	sugarcane	beans
	S	corn	rice	cassava	beans	sugarcane
	I	corn	rice	cassava	sugarcane	beans
	GP	cassava	beans	corn	rice	soybeans
Southeastern Pará	P	corn	rice	cassava	squash	watermelon
	S	rice	corn	pineapples	bananas	cassava
	I	rice	corn	pineapples	cassava	bananas
	GP	cassava	pineapples	rice	corn	squash
Western Santa Catarina	P	corn	beans	cassava	rice	sweet potatoes
	S	corn	beans	tobacco	soybeans	rice
	I	corn	beans	tobacco	soybeans	—
	GP	corn	beans	tobacco	soybeans	matte
Northeastern Sugarcane Region	P	cassava	beans	corn	taro root	bananas
	S	cassava	beans	corn	taro root	bananas
	I	cassava	taro root	beans	sugarcane	corn
	GP	cassava	taro root	beans	potatoes	sugarcane

*P = produced, S = sold, I = considered important to the settlers, GP = contributed most to the gross value of production

for subsistence. Goats and sheep are considered important only in the Ceará Sertão.

Gathering activities are important in some zones: *piçava* palm, in Southern Bahia (where 44 percent of the interviewees produce and sell it) and *matte* in Western Santa Catarina (sold by 14 percent of the settlers and placed among the products with the greatest GP). Timber for fence posts is considered important in Southeastern Pará (17 percent declared selling) and firewood for charcoal in Western Santa Catarina. Other forest products mentioned as important for household use in different zones include firewood, clay, timber (for fences and for construction), and medicinal plants.

TABLE 15.5 Animals raised, sold, and considered important by settler families in each zone (by percentage)*

Zone	Beef cattle [†]			Dairy cattle [†]			Poultry			Goats / Sheep			Pork		
	Raised	Sold	Important ^{††}	Raised	Sold	Important	Raised	Sold	Important	Raised	Sold	Important	Raised	Sold	Important
Southern Bahia, Bahia	20	13	15	10	8	8	9	7	6	0	0	0	3	3	2
Ceará Sertão	29	25	17	76	10	5	88	19	12	74	26	22	44	7	3
Federal District and surrounding areas	34	34	21	77	26	18	95	34	14	7	0,4	0	54	5	3
Southeastern Pará	58	57	43	52	40	30	89	37	13	3	2	0,6	30	8	4
Western Santa Catarina	39	36	26	83	34	21	97	14	4	6	0	0	83	11	7
Northeast Sugarcane Region	30	16	13	12	2	2	64	9	6	19	6	3	3	1	1
TOTAL	38	32	24	52	20	14	80	22	10	21	7	5	34	6	3

Source: Heredia et al. 2002.

* The figures in the table represent percentage of the total number of interviewees in the sample. Besides those mentioned, 83 settlers (53 percent of the total) declared other animal production, such as beekeeping and fish farming.

[†] In the cattle sector, the idea was to know which type of cattle product was most important: dairy or beef.

^{††} Raised, Sold, Important:

Raised: percentage of settlers interviewed who declared they raised animals.

Sold: percentage of settlers who declared having sold animals during the previous year.

Important: percentage of the settlers who declared considering the product important. In the case of poultry, the percentage of sales covers both meat and eggs.

Impacts on Local Production

A comparison between the data on production obtained from the study and secondary data may provide some indication of the impacts of the settlements studied in the municipalities where they are located.²⁰

Comparing the settlers' overall production (based on an estimate of the settlements' farming products in 1998–1999) and the municipalities' overall production (obtained from data of the 1999 PAM/PPM and of the 1996 farming census), we observe that the settlements definitely contribute to diversifying the farming products in their areas by introducing new crops and significantly increasing the production of some secondary crops. Moreover, the settlements are leading producers of many of the products that are already traditional in various locations.

Thus, in Southern Bahia, even with only 2.3 percent of the total area of farms in that municipality, the settlements topped the local production of pineapples, oranges, milk, passion fruit, corn, rice, sweet potatoes, tobacco, and papayas, as well as squash, *acerola*, eggs, cucumbers, okra, and tomatoes (in the comparison with the 1996 census). In the Ceará Sertão zone, the settlements (23.7 percent of the area) had an important participation in the production of eggs and, according to the 1996 census comparison, in the production of cotton as well. In that region, however, they did not have a major impact on bolstering the region's production. In the zone of the Federal District and surrounding areas, where the settlements account for only 5.4 percent of the total farming area, they introduced sweet potatoes and became leaders in the production of passion fruit, eggs, sorghum, and (in the 1996 census comparison) cassava flour and root. In the Southeastern Pará zone, where the settlements occupy 40.4 percent of the area, they topped the production of rice, milk, eggs, soybeans, and (in the 1996 census comparison) of squash, *acerola*, sugarcane, *cupuaçu*, lima beans, sesame seeds, taro root, firewood, honey, watermelon, cassava starch, and okra. Settlements were also responsible for introducing ginger and orange. Though they had an important role in introducing pineapple crops in the region as a commercial product, their relative position as producers has declined.²¹ In the Western Santa Catarina zone, the settlements (11.2 percent of the area) were shown to be leaders in the production of beans, cassava, and eggs. In the 1996 comparison, the production of squash, peanuts, rice, potatoes, sweet potatoes, onions, matte, and wood for charcoal were considered important. It is noteworthy that the settlements in this zone have been on the forefront of the creation of collective approaches to transforming the agro-industry. In the Northeastern Sugarcane Region

zone, the settlements (18.4 percent of the area) introduced products such as saffron, cashew nuts, and sesame seeds, and became leading producers of peanuts, beans, passion fruit, corn, pineapples, and (in the 1996 census comparison) squash, firewood, cabbage, sweet potatoes, watermelon, and cassava flour. Sugarcane, which is still the predominant crop in the region, is not important in the settlements, except in some specific projects.

As to livestock, the chief products are cattle (26 percent of the region's production, in heads of cattle) and pork (22 percent) in the Southeastern Pará zone; goats and sheep in the Ceará Sertão (27 percent), Southeastern Pará (24 percent), and the Northeastern Sugarcane Region (45 percent). The settlements are also leaders in poultry production in the Ceará Sertão (32 percent of municipalities' production), in Federal District and surrounding areas (48 percent), and in Southeastern Pará (56 percent).

Clearly, there has been a diversification and intensification of production in areas where monocultures or extensive cattle grazing have been predominant, leading to changes in the forms of production and often in the reorganization of land use, in regions afflicted by the crises caused by the patronage farming systems. Product diversification has also had an effect on the lives of the settlers themselves, since the coexistence of subsistence and commercial production serves as a safeguard for the families at times when sales are difficult (besides the fact that it represents a quantitative and qualitative improvement).

Productivity, Technical Assistance, and Level of Technology

Relevant products were compared in terms of productivity by comparing the average productivity in the settlements (1998–1999 harvest) with the average productivity in their respective municipalities, according to the 1996 farming census.²² This analysis revealed that in 42 percent of cases, the projects attained greater productivity than the average farms in the region. In 11 percent, their productivity was roughly the same, and in 48 percent it was below that of the other farms. These figures varied among zones.

Access to Credit

Only by becoming settlers did this segment of rural workers begin to have access to rural credit to finance production, difficult as this process may be: 93 percent of the families interviewed had never had access to credit before. Moreover, as the financial resources for credit foster a set of local activities, they also increase the circulation of currency in the municipality. Moreover, a direct

dialogue is established with the state government authorities, i.e., with policy makers and financial agents.

In the 1998–1999 harvest, 66 percent of the families interviewed received rural credit, on average 2,200 reais each, which represents a reasonable amount of coverage.²³ The main source of financial resources was the Program of Special Credit for Agrarian Reform (PROCERA), according to 88 percent of the interviewed families who had access to credit. However, more than half (59 percent) of the interviewees who received credit reported difficulties in obtaining it. The main complaint (78 percent of the complaints) had to do with the delay in the disbursement of the money, which in agriculture significantly undermines the results, for it is not available at the moment of the planting cycle in which it is most needed.

Several statements collected by the researchers suggested that the credit received by the settlements has a direct repercussion on the dynamics of the local commerce of neighboring municipalities, where a good number of the settlers buy their goods. One estimate of the total amount of loans taken out by settlers in the municipalities studied (1998–1999 harvest) puts this figure at 12.5 percent of the total rural credit extended in the same municipalities. This figure varies greatly among regions: while in the Western Santa Catarina, Federal District, and Southern Bahia zones the percentage was below 8 percent, in the other three zones it represented more than 30 percent, the highest being 80 percent in the Sugarcane Region.

Impacts on Sales

With regard to the sale of products, the study showed that the settlements sometimes reproduce preexisting local situations, without innovating new marketing channels, or they may create new possibilities or alter existing channels. It must be kept in mind that the poor condition of the roads, and other negative aspects of the infrastructure, affect the conditions and possibilities for selling products.

In all of the zones, middlemen are very important. The presence of the settlements brought up the volume of production and/or introduced new crops, in some cases facilitating the creation of new circuits of middlemen, which, even when they operate in the traditional manner or represent channels, also benefits local farming.

In several of the municipalities analyzed, the presence of the settlements caused an increase in the supply and diversification of food products and, consequently, a reduction in their prices. This has affected mainly open food

markets, increasing the physical space occupied and the number of days per week they operate. The large numbers of registered or unregistered vendors from the settlements compete with local professional vendors. The study also showed that sales play an important role within the settlements themselves (to other settlers), and that the settlement projects may, in some cases, provide a market for the settlers' products, especially when there are large numbers of families.

Marketing through associations (and of product processing) has also been done in several places, often by establishing new points of sale (farmers' fairs or alternative roadside stands) or marketing cooperatives, by implementing small agro-industries, or by creating new brand names for the products sold, as the MST has done. These associative enterprises are often an important factor for the sale of products, but beyond their commercial importance lies the fact that they serve the purpose of turning sales transactions into a social and political reaffirmation of the settlers' identity and of the success of the settlement experience.²⁴

Impacts on the Living Conditions of the Settlers

The sale of products grown on the plots is not the only source of family income, though it has a great relative importance in all the zones studied. As several studies (not only on the settlements) have shown, the reproduction of rural family units goes beyond the sphere of farming, combining a set of other activities that bolster the household economies.

Due to the size of the study and the complexity of the analysis of family farming income, this study was conducted utilizing the concept of income generation. This is an approximation and must be viewed as such.²⁵ Three sorts of income were considered: income derived from the sale of products from the plots, from work carried out outside the plot, and from other forms of income and financial aid received (retirements, pensions, and so forth). We sought to complement this analysis with aspects of the settlers' living conditions in order not to use income as the sole measurement variable.

Access to the land gives families greater stability and enables them to rearrange their family development strategies. In most cases, this leads to an improvement in income and in living conditions, in clear contrast with the poverty and social exclusion that many of these families suffered before entering the settlement projects.

An analysis of income components (or, rather, of the capacity to generate income) for the 1998–1999 harvest shows the importance of not only the

income derived from the plots in all zones, but also that of other sources of income, such as retirement and pension, and the diverse forms of employment outside the plots. The average percentage for each type of income is 69 percent for income derived from the plot, 14 percent for external employment, and 17 percent for social security benefits. These percentages vary from one region to another.

The average monthly gross income per family in the sample was 312.42 reais, the lowest average being 116.74 reais in the Ceará zone and the highest 438.72 reais in the Santa Catarina zone. Of course, there are differences within each zone. Comparing the estimated monthly per capita income based on this data, with an acceptable parameter to define the threshold of poverty that takes into account the specifics of the settlers' conditions (adopting half the minimum wage for this purpose), it turns out that the average income in the sample is greater than this poverty level, reflecting the successful situation of the families of settlers. There are, however, important regional variations.

Although the issue of the settlers' income has constantly been raised—by some in order to support success and by others to show the supposed failure of the land reform settlements—we chose a different avenue, so as to break down that variable. Our concern was to go a little further and try to obtain a qualitative measurement of the settlers' living conditions, of their chances of having access to services and to goods, and of the way they view this new situation and the opportunities it offers.

Comparing their previous living conditions with their current ones, 91 percent of the settlers interviewed said they considered their situation had improved since arriving at the settlement. A more global analysis would seem to confirm this perception. The Ceará Sertão and the Northeastern Sugarcane Region zones (whose incomes were below the threshold of poverty in the previous analysis) are among the zones that had the highest rates of perceived improvement: 95 percent and 92 percent, respectively.

As far as food is concerned, 66 percent of the settlers reported an improvement. This percentage was highest in the Northeastern Forest Region (82 percent). Overall, access to the land and being able to cultivate crops and raise animals for subsistence, which resulted in the aforementioned diversity of products, is in itself enough to ensure the families' food is provided.

Upon inquiry as to their purchasing power, 62 percent of the settlers reported an improvement (23 percent considered that it remained the same), with regional variations. In this case the highest rates were also found in the Ceará and Northeastern Sugarcane Region zones, in which 68 percent of the

settlers stated that their purchasing power increased. An analysis of the durable goods owned corroborated that perception. Though there were variations, there was a rise, in all of the zones, in the number of families that owned gas stoves, refrigerators, television sets, parabolic antennas, washing machines, and their own means of transportation. The most common types of transportation are bicycles and animals, but there was an increase in the number of people who own cars and motorbikes, though the percentages are still low—8 percent and 7 percent, respectively. The improvements in housing conditions and in durable goods also contributed significantly to boosting local commerce.

Despite the relatively poor conditions, settlers expressed much hope when assessing their families' future. Overall, 87 percent of the interviewees stated that they believed that the future would be better, with very little variation between the zones. As other studies indicate—and the data from the present study confirm—the settlers appear confident about their future; their access to the land has given them a perspective of greater long-term stability.

Final Considerations

Factors such as the extent of social conflicts that crop up in the struggle for land, the adoption by the social movements of forms of struggle that have turned out to be effective (such as the collective occupation of land), and the greater concentration of settlements in certain regions—many of whose large properties are undergoing crises in their production systems—all ended up forcing the government to carry out relatively concentrated actions of expropriation in specific zones. This process generated the zones analyzed in the study, some of which are fundamentally reformed areas, in contrast with the individual phenomena left behind by the previous method of isolated expropriations; this, in itself, created a new paradigm in the regions in which these settlements are established.

As we show in this chapter, the changes brought about by the existence of the settlements are multiple, given the specific contexts in which they arise, the density of the different projects, and the trajectories of the settlers and regional differences in public policy.

It would be safe to say that the establishment of the land reform settlements has led to land redistribution and made land tenure possible for rural workers who usually come from the same region, but this development has still not drastically altered the overall scenario of land concentration in the larger zones:

the changes in the agrarian structure are noticeable only locally. The settlements are the result of struggle for the land, they are a point of reference for public policy, and they lack infrastructure. For all of these reasons, we may view the settlements as starting points for other demands, as fostering the affirmation of new identities and interests and the formation of new forms of organization within the settlement projects, and as searching for places where the settlers will be heard. Thus, the settlements end up bringing about changes in local political scenarios, enabling settlers to move into political spheres and to electoral campaigns.

In some of the zones analyzed, the settlements have caused a rearrangement of the rural areas, modifying the landscape, the patterns of distribution of the population, and the course of roads and highways. This has led to the formation of new clusters of populations and has changed the levels of production, often stimulating the autonomy of districts and even the creation of new districts.

In the zones studied, the creation of the settlement projects has provided a population disadvantaged by low levels of education and an unstable position in the labor market, with the possibility to centralize strategies for family farm reproduction on the land plots, even when they may seek other complementary sources of income elsewhere. The presence of the settlements also generates nonfarming employment (construction projects, teaching positions, alternative transportation, and so forth). In addition to generating jobs, the settlement projects serve as a social shelter for settlers' relatives, acting in some cases as a mechanism for the reconstitution of families. As to farming activities, one of the main changes brought about by the settlements has been an increase in the diversity of goods in the local markets, especially in areas that used to have monocultures or extensive cattle grazing. Some settlers and their movements also introduced innovations in product processing and in forms of marketing. Their status as organized settlers enabled this population to gain access to agricultural credit for the first time in their lives, though their integration into the financial market has been difficult. The volume of credit put in play as the result of the settlements also has noticeably boosted surrounding local and regional commerce and has stimulated other activities, such as construction.

The establishment of the settlements has provided greater stability of and shifts in livelihood strategies, and this has led to an improvement in the settlers' living conditions, increasing their purchasing power not only of foodstuffs but of consumer goods in general, such as home appliances, farming

inputs, and equipment. In this manner, as well, settlements have bolstered local commerce, especially when there is a great concentration of settlements.

In many areas, the settlers have obtained the social and political recognition of other social groups, overcoming tensions often arising from initial concerns that the settlers were foreigners or troublemakers (especially in the areas where the settlements resulted from land occupations). Beyond the economic issues, a new social activism has emerged, and the dignity of a previously excluded population has been reestablished. Many settlers have provided testimonials about what it means to be a settler, especially in previously monocultural areas with the power relations that characterize them. To be relieved of paying land rental, to feel emancipated, to live in freedom and able to control their own lives, to stop being a slave, these have been common themes in the discourse of the settlers, when they compare their present lives with their lives in the past. No matter how many difficulties they may currently face, access to the land has helped break many chains and has clearly brought about a feeling of improvement.

Important changes have emerged from the settlements in the zones studied. Nonetheless, health care, schools, infrastructure, access to technical assistance, and other vital social services are clearly lacking, and this indicates inadequate government intervention in the process of agrarian transformation and a marked continuity of the substandard conditions that afflict the Brazilian rural landscape.