# Public policies for rural development and combating poverty in rural areas

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Fernando Gaiger Silveira; Pedro Arruda; Izabelle Vieira; Simone Battestin; Áquila Estevão Campos and Wesley Silva

This publication is a result of a partnership between the International Policy Centre for Inclusive Growth (IPC-IG), the United Nations Development Programme (UNDP), the Institute for Applied Economic Research (Ipea) and the International Fund for Agricultural Development (IFAD).



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# PUBLIC POLICIES FOR RURAL DEVELOPMENT AND COMBATING POVERTY IN RURAL AREAS

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## 1 INTRODUCTION

"... the agrarian structure and production relations in the Brazilian rural areas are, in many instances, extremely complex. This is particularly the case in the Brazilian Northeast, where very particularized economic systems were gradually built over time that must be taken into consideration when developing the reforms required in the current economic and social situation of the country."

Caio Prado Jr.[5]

Brazil has become a good example of public policies aimed at combating poverty and fostering rural development, or, in other words, promoting family farming. The country has even 'exported' some of its policies, notably the *Programa Bolsa Família* and the *Programa de Aquisição de Alimentos* (PAA—Food Acquisition Programme). This paper aims to present an evaluation of this set of policies, starting with their recent performance in terms of resources and beneficiaries, going through an identification of coverage indicators, and, finally, recovering studies and analyses that assess these policies. Specifically, for the monitoring and evaluation of rural development policies, the main source of information for this work were the chapters on the subject in the Institute of Applied Economic Research (Ipea) *Social Policy Bulletin*.

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5 In his introduction to Manuel Correia de Andrade's 1963 book entitled A terra e o homem no Nordeste: contribuição ao estudo da questão agrária no Nordeste (Land and man in the Northeast: contribution to the study of the agrarian issue in the Northeast).

This publication is a result of a partnership between the International Policy Centre for Inclusive Growth (IPC-IG), the United Nations Development Programme (UNDP), the Institute for Applied Economic Research (Ipea) and the International Fund for Agricultural Development (IFAD). It was also published by the IPC-IG as Working Paper No. 142, May/2016.

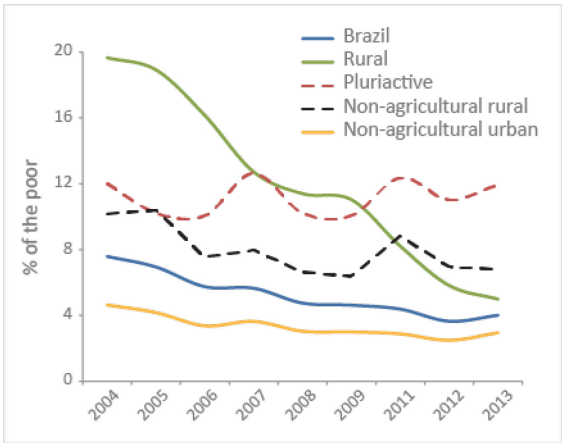
The main conclusions of that bulletin can be summarised, in broad terms, as follows: The Agrarian Reform programme has been losing ground, especially its dispossession instrument; the resources of the *Programa Nacional de Fortalecimento da Agricultura Familiar (Pronaf) Crédito* modality are highly concentrated in the capitalised family farms of the South region of Brazil; the PAA presents an interesting alternative to support smallholder farmers but cannot expand its scale or generate more transformative structural results; and we are witnessing the historical continuity of the criminalisation of rural social movements and of violence in rural areas.

The narratives of the Brazilian success are based, on the one hand, on the performance of such policies, especially when it is estimated from the volume of resources and beneficiaries they encompass. On the other hand, these narratives are also based on the significant improvements in poverty, income and inequality indicators in rural areas of Brazil,[6] not to mention the abating of rural–urban migration. The prevalence of extreme poverty and poverty in rural and/or agricultural populations (for example) drastically decreased, from 16 per cent and 40 per cent in 2004 to 8 per cent and 19 per cent, respectively, in 2013. In the same period, income from agricultural labour grew at a rate of 5.6 per cent per year in real terms, while the rural population declined by only 3.1 per cent. As for agrarian and agricultural policies, the total number of *Pronaf* contracts stands at almost 2 million, with invested resources in the order of BRL24 billion, while the Agrarian Reform programme now totals nearly 1 million families settled on approximately 90 million hectares of land.

Figures 1 and 2 show poverty and extreme poverty levels between 2004 and 2013 by type of household. As can be seen, the most significant decreases were seen in households with members engaged in agriculture (the green lines in the figures). The decline was less pronounced for poverty levels in the proportion of the population living in rural areas that are not involved in agricultural activities, especially among those living in extreme poverty. One notable observation is the stable level of extreme poverty among residents of pluriactive agricultural households, among which poverty declined at a less pronounced pace.

FIGURE 1

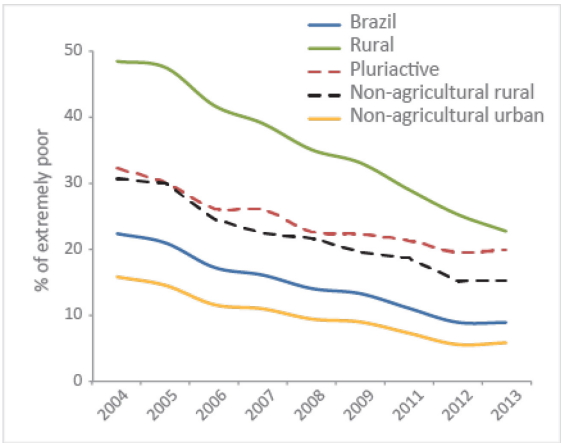
**Percentage of poor population by type of household, Brazil (2013)**




Source: Soares et al. (2016).

FIGURE 2

**Percentage of extremely poor population by type of household, Brazil (2013)**

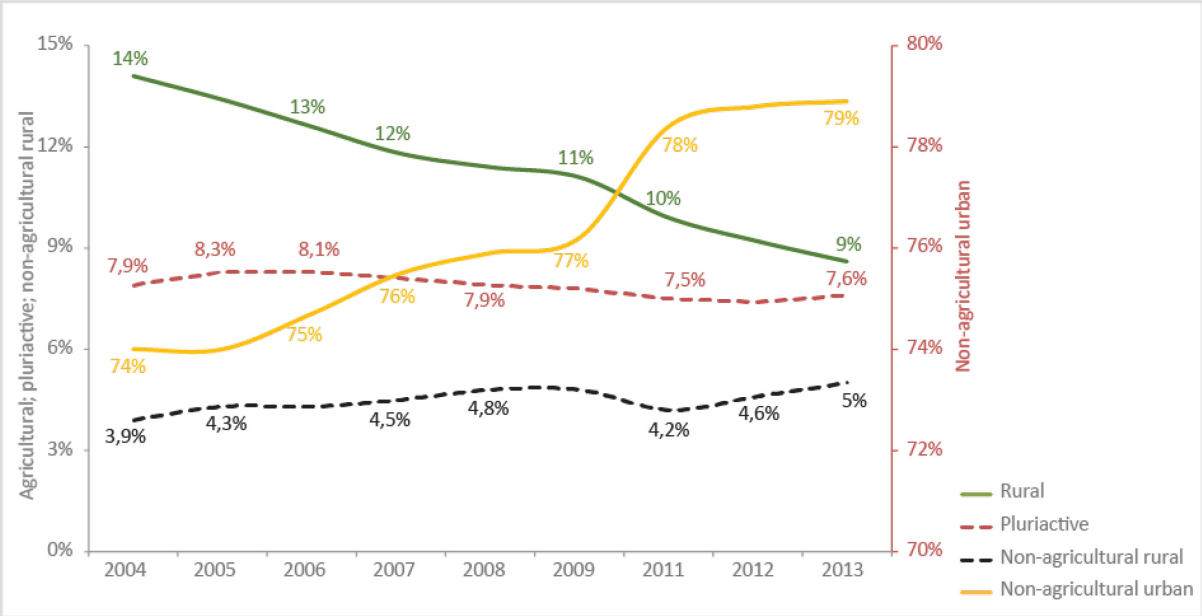



Source: Soares et al. (2016).

It is important to note the changes that took place between 2004 and 2013 in the composition of the population by type of household (agricultural, pluriactive, non-agricultural rural and non-agricultural urban). Figure 3 clearly shows that the decline in poverty in the rural population took place in a context of a significant reduction of its importance as a subset of the population. In absolute terms, the segment of the population living in households with members engaged in agriculture declined by more than 8.5 million people. On the other hand, there has been a very significant increase in the population living in rural households that are not engaged in agriculture: that segment expanded by 3 million people—or an increase from 3.9 per cent to 5.0 per cent of the total population.[7] We stress that the annual growth rate of this population segment is 4.2 per cent, much higher than that of other population groups. The population of residents in pluriactive households also expanded, but much more subtly: a 5 per cent increase—adding about 750,000 people—during the whole period.

FIGURE 3

**Population distribution by household type, Brazil (2013)**




Source: Soares et al. (2016).

With regard to income, there was a substantial increase in income from agricultural work (of the order of 50 per cent in real terms) between 2004 and 2013, and an even more significant increase in income transfers—from rural social security and *Bolsa Família*. Rural social security saw an increase of 29 per cent in the amount of benefits and of 64 per cent in the minimum wage in real terms. As for *Bolsa Família*, 8 million more families benefited from the programme over the period, leading to a 39 per cent increase (in real terms) in average benefit pay-outs.[8]

With regard to demographics and the labour market, rural–urban migration continued to occur, albeit much less intensely. On the other hand, there was also a significant reduction in rates of both agricultural activity and occupation in rural areas. This decrease in the proportion of the population engaged in agriculture was mostly among young people, affecting employers, employees, self-employed workers and unpaid members, although it has spared those engaged in production for self-consumption.

TABLE 1

**Rate of activity in the rural population, share of the population engaged in agriculture, and income from agricultural work as a main occupation, Brazil (2013)**

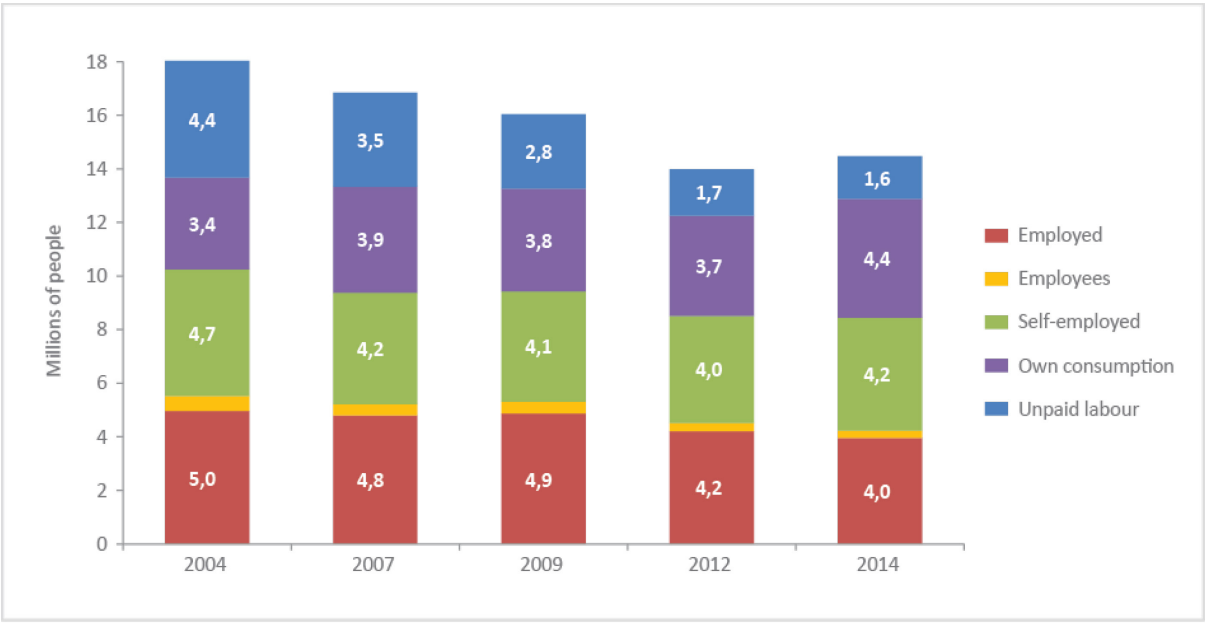
| Year | Rural activity rate | Income from agricultural work as a main occupation | Proportion of the population engaged in agriculture |
|---|---|---|---|
| **2004** | 66.2% | 576.66 | 27.1% |
| **2005** | 66.9% | 592.19 | 26.3% |
| **2006** | 65.2% | 621.76 | 24.5% |
| **2007** | 63.6% | 662.41 | 22.9% |
| **2008** | 62.3% | 687.60 | 21.4% |
| **2009** | 61.7% | 687.13 | 20.7% |
| **2011** | 58.3% | 777.48 | 18.7% |
| **2012** | 57.3% | 838.46 | 17.1% |
| **2013** | 56.8% | 888.51 | 17.0% |

Source: IBGE (2013).

There are, however, four important changes: 1) a decrease in wage-earning agricultural labour and self-employed work, due to the deepening impacts of the technological model; 2) the removal from activity of workers employed precariously: unpaid workers, young people and women; 3) a significant expansion of formalisation among wage-earning employees, with formalisation rates going from 33 per cent to 50 per cent; and 4) an increase in the number of individuals engaged in production for self-consumption, especially in households whose members engaged in agriculture do not receive monetary income.[9]

FIGURE 4

**Distribution of the population engaged in agriculture by type of engagement, Brazil (2004/2007/2009/2012/2014)**

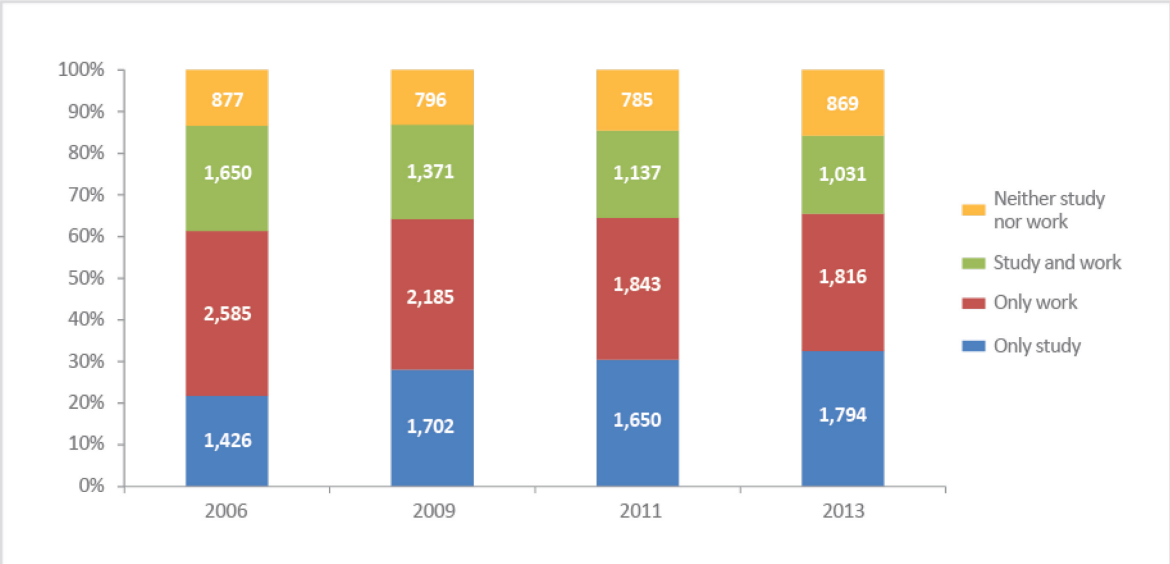



Source: IBGE.

Figure 5 shows the changes in the distribution of rural youth either working or studying between 2006 and 2013. The decrease in the rural youth population—from 6.5 million to 5.5 million—mostly affected those who only work and those who work and study. On the one hand, this decrease can be seen as something positive, since the number of those who only study actually increased, in a context of a decreasing population overall. On the other hand, this can also be seen as a mere reflection of the lack of opportunities for young people in the job market—a hypothesis reinforced by the fact that there was no decrease in the number of rural youth who neither study nor work, the so-called 'neither-nors'.

FIGURE 5

**Distribution of rural youth (aged 15–24) engaged in work and/or study, in absolute (thousands of individuals) and relative numbers, Brazil (2006/2009/2011/2013)**




Source: IBGE (2013).

To a large extent, the progress achieved in rural areas is due to the boom in Brazilian agriculture and the expanded coverage of the social protection system in rural areas. It was not, as, such, the result of major changes in ownership structure or in the degree of heterogeneity of Brazilian agriculture.[10] What can be seen is that productive concentration has in fact intensified under a highly concentrated agrarian structure, as did the precariousness of access to other services and assets—education, technical assistance, technology, water—for the poorest segments of the agricultural population.

In the context described above, this discussion on policies conceived to foster rural development or to promote and strengthen family farming focuses particularly on the scope and relevance of these initiatives. In other words, this work seeks to assess the extent to which said policies are able to benefit the programmes' target audiences, and, when they do, how effective and/or impactful their actions are. In this context, the *Pronaf* and the Agrarian Reform emerge as objects of study of particular interest, due to both the volume of resources they mobilise and the interpretation schism to which their analysis tends to lead. On the one hand, there are analyses that support the unsustainability of family farming, pointing to a two-pronged development scenario that suggests targeting this audience only with social security/welfare policies, not rural development ones. On the

other end of the spectrum are those analyses that emphasise the historical resilience of family farmers, and which, therefore, insist on the improvement of rural development policies so that they can support this trajectory of resistance.

From its inception, the *Pronaf* has historically concentrated investments/credit lines in the South region of the country, a trend that has been worsening recently due to increases in the average amounts of funding and investment contracts, which indicates that the programme may suffer from a scope-of-coverage issue.[11] In terms of its impacts, this concentration of resources in the South and Southeast is also accompanied by a bias that favours commodity-based production models, with little capacity to absorb labour and requiring a very high degree of specialisation and integration.[12] As such, this encourages an agricultural model that is not inclusive, since it can hardly be accessed by the most vulnerable farmers. Even in the Northeast, where rural microcredit loans (*Pronaf B*) are more frequent, an economic bias remains: the poorest benefit the least among the poor (Ipea 2014).[13]

As a response to this scenario, a few analysts and the programme's managers have claimed that the *Pronaf* does not have as a target audience the half of the family farming population that is productively marginalised and has no ability to pay, and thus there is no reason to seek to strengthen the agricultural base of that segment, since said base is dispensable and has reduced productivity.[14]

The question that remains, then, is: what policy should be developed or incremented to serve these rural poor populations that the *Pronaf* does not reach and already have access to land? It seems to be a consensus that the way forward is through education and technical assistance, both majorly prevalent bottlenecks in public policy (particularly the latter). Under this logic, the prospect of a two-pronged development policy suggests that, while human capital gains do not mature further, the majority of these farmers, supposedly productively unviable, should rather be targeted by welfare and social security policies. It is stated, then, that no economic reason exists for the credit and marketing policies currently developed for the smallholder segment.

In the case of the Agrarian Reform and all the arguments employed in its defence (namely "expanding the domestic market, increasing food production and foreign exchanges, distributing income and, finally, assessing the social issue in the countryside, especially the issue of rural poverty" (Buainain, Alves, Silveira, and Navarro 2013; Navarro and Campos 2014)), important voices from national agricultural development studies consider that these have lost their currency. Regarding the first two goals, conservative modernisation showed that there were other paths which, regardless of changes in the structure of land ownership, would cater to these roles of agriculture. As for the goals related to income distribution and poverty reduction, it is considered that such an argument has lost relevance since "the dynamism of agriculture is mainly a result of investments and technological intensification", with the importance "of land and labour as determining factors of total production values" having decreased "from 18.1% to only 9.6% and from 31.3% to 22.3%" (respectively) between 1995-1996 and 2006 (Buainain, Alves, Silveira, and Navarro 2013; Navarro and Campos 2014).

This same type of argument also maintains that government policies to foster rural development can be considered inept for not properly assessing the current framework of national agricultural development, which has two faces: 1) a positive one, which is the significant growth of agricultural and agro-industrial production; and 2) a negative one, namely the selectivity of the process, which renders farmers increasingly unnecessary in this

process. This analysis is largely based on how the value of agricultural production is distributed throughout the country's farms. According to the 2006 census, just under 30,000 establishments account for half of the country's agricultural gross value added (GVA), while the 3 million farms with gross income of no more than two minimum wages account for just over 3 per cent of that amount (Navarro and Campos 2014). These same data also indicate that half of these poor people are found in the northeast semi-arid region, and sustain the conclusion that, given "the economic processes that have intensified in recent years [...] the diagnosis" regarding the chances of poor people in the countryside remaining as producers is bleak, predicting "a rapid emptying of the countryside".

In opposition to this argument for a two-pronged development policy that proclaims the obsolescence of the Agrarian Reform, one wonders if this level of concentration was not already present before. After all, it makes little sense to decree the demise of the small farmer based on land concentration and production estimates not taken as part of a historical series, which would in fact allow for an objective judgement of whether this context, supposedly incompatible with family farming, is in fact a new development. It is noteworthy that the same data analysis used to reveal the concentration of production based on the 2006 agricultural census has not been made for the 1995/1996 and 1985 censuses.

In fact, it is quite plausible that the alleged peculiarities which led to the study authors' prediction of the imminent doom of small farmers are actually long-standing characteristics of the Brazilian agricultural sector: a finding that this is actually the case would counteract the most catastrophic forecasts of the historical resilience of small farmers in Brazil. Objectively, there have been few changes in the country's land ownership structure, with recent increases in production largely attributable to better land use—the occupation of internal borders—and increased labour productivity. According to Guanziroli et al. (2012), "the persistence of family farming's share of the country's agricultural production (or the slight decrease thereof) in a decade that saw strong expansion in the sector confirms the economic importance of this segment, which, in addition to producing food for self-sustenance, managed to grow at almost the same pace as the most prominent agricultural production chains of the Brazilian countryside". It also goes to show that "family farming shared, in some form, in the agribusiness boom of the 2000s". Additionally, Guanziroli et al. point out that small farms also presented advances in the physical performance of soil and labour productivity.[15] Based on the arguments brought by Guanziroli et al., then, the assumption that the agricultural boom has not also extended to the poorest farmers and that, on the contrary, it has somehow decreed the extinction of small farmers, seems absurd.

It is not known, therefore, which data could support the claim that "having remained more distant from efforts for the technological appropriation and production modernization of their facilities, smaller farmers, when compared to more modernized ones, only confirm their economic infeasibility" (Navarro and Campos 2014). How can one make such a claim without presenting indicators that reflect this trend over time? The mere identification of processes based on data obtained by a cross-section analysis, as is done by many of the critics of family farming, does not seem to be enough for such a deterministic prognosis. Nor does it seem correct to base one's assessment of the potential of small farming solely on income as determined via the agricultural census, which both disregards the so-called 'imputed rent' and more broadly dismisses the characteristic home–work configuration of small farming, which has its own intangible gains.

An analysis of data from the Household Budget Survey by the Instituto Brasileiro de Geografia e Estatística (IBGE) (2002/2003) reveals that about 40 per cent of the income earned by these families comes from non-monetary sources: home ownership and own production. While the agricultural census does capture data on production for self-consumption, its scope does not include information on income derived from non-agricultural work, wage-earning members of smallholder families and income transfers, which implies that such data are either not collected or underestimated. As for the data collected by the National Household Sampling Surveys *(Pesquisa Nacional por Amostragem de Domicilio*—PNAD), the numbers show a significant increase in agricultural income, especially for wage-earning employees but also for self-employed workers.[16]

Thus, what the data and the facts mentioned above reveal, in contrast with an alleged impracticability of family farming, is the great resilience of this category, especially considering that the size of its population has not decreased. Quite the contrary; it has been increasing. It would be too tiring to mention the entire body of literature that has, for a long time, announced the end of small farming in agriculture without ever having its prophecy fulfilled.

In light of all of the above, then, it becomes clear that the two-pronged development hypothesis is not only a case of misplaced fatalism but also a typical return to a dualistic view of rural Brazil that ignores the intrinsic relationships between its different sectors and agents. The small subsistence farming and commercial agriculture segments are interconnected, a relationship that still maintains, to some extent, traits of the relationship between large and small properties that marked the initial occupation of the country's territory. It is estimated that 10 per cent of the wage-earning labour in Brazilian agriculture lives in agricultural households they own; it is also noteworthy that around a quarter of such labour comes from urban households.

Therefore, the thesis that there is no room or need for agrarian reform seems to have two major weaknesses. The first is to treat as agrarian reform the settlement model now in practice in Brazil, which does little more than settle families in new areas and (more recently) regularise the areas they have long occupied. An agrarian reform of true structural importance for the Brazilian countryside must go beyond the mere creation of settlements by colonisation and/or regularisation. An agrarian reform of (re)structuring consequences must be fundamentally based on land dispossession instruments focusing on areas of high land concentration, areas with a significant number of small farms with poor access to land and working conditions and/or areas in which there are violations of environmental laws and the social role of land. Thus, the use of dispossession for the settlement of the landless, the regularisation of smallholdings and the provision of land credit to increase the area of small farms would reorganise the agricultural space, making distribution less concentrated and overcoming a major obstacle to the development of small farms: inadequate and precarious access to land.

The second big mistake of those who defend the obsolescence of agrarian reform as a necessary item of Brazil's rural development agenda has to do with their rushed and imprudent dismissal of the importance of rural land ownership in the country's current production model. Some authors even argue that "access to land is... a policy [concern] made absolutely innocuous in the current contextual framework" (Navarro and Campos 2014). This is not what one observes when estimating earnings equations for agricultural work that consider, in addition to classic variables, employment status (employer, self-employed and employee), ownership and size of the establishment. Hoffmann (2011) estimated earnings

equations using data from the 2009 PNAD, and concluded that "there is no doubt regarding the major importance of the size of the land as a determining factor of the income earned by individuals engaged in Brazilian agriculture, along with whether or not said individual is the owner of the land". Added to this is the fact that land concentration also determines the degree of well-being or quality of life. Specifically, the application of regression models to determine human development indexes and mortality rates indicates that the higher the Gini index for land tenure distribution, the lower the Human Development Index (HDI), and the higher the infant mortality.

Despite the misconceptions we see implicit in the two-pronged development hypothesis, our analysis suggests that social policies with a rural focus tend to largely replicate its logic. Impact assessments and analyses of the results of policies seem to point to a split in policies directed to rural areas and to smallholder farming. On the one hand, welfare and social security policies stand out in the poorest regions, particularly in the North and Northeast, which are also the main target of agrarian reform efforts based on non-onerous land acquisition. On the other hand, credit and trade-support policies concentrate efforts on the so-called 'modernised farms'—i.e. establishments that have the potential to grow on an agricultural basis.

On the one hand, one must recognise that productivity-focused programmes have not been effective in their goals of maintaining employment in the field (since some 3.5 million jobs have been eliminated in self-employed households) or creating opportunities for the poorest farmers (given that poverty remained at the same levels in pluriactive households and that the size of this group has actually increased in relation to other rural/agricultural population segments). On the other hand, it is not known for certain to what extent these failures are incorrigible, or even to what extent they are not the result of an implicit two-pronged development interpretation that skews and limits such policies from design to operation.

In any case, what seems the most certain is the need to reverse this scenario by creating opportunities in agriculture itself for marginalised smallholders. Considering that the alleged impracticality of smallholder farming is due to limited and precarious assets—land, water, education, technology, technical assistance and capital—it seems wiser to cover the lack of public offerings in these areas than simply to abdicate the possibility of an inclusive agricultural sector.

There is no doubt that great challenges remain for public policies focused on creating the conditions and means so that small impoverished farmers—around 2.5 million people—can be productively inserted and continue to be engaged in agricultural activity.[17] In any case, the social and economic costs of continuing with the demographic bloodletting of rural areas are very high. Therefore, although welfare and social security policies have managed to reduce poverty to some extent (with the help of income from agricultural and non-agricultural work), it remains imperatively valid that small farmers need to have their freedoms expanded so that they can go beyond the 'inevitability' of urban migration and/or income protection policies.

## 2 SIZING AND REGIONAL DISTRIBUTION OF PROGRAMMES

Social security, welfare and other rural policies that promote smallholder farming have strong institutional support and significant size, as shown by the number of beneficiaries—families, people and contract farmers—and the amount of resources allocated to these policies (see Table 2).

TABLE 2

**Size of public policies for rural development and combating poverty, Brazil, North and Northeast regions, as per most recent data for each programme. Number of benefits paid (thousands), amounts paid (BRL millions)**

| Policies – Programmes | Brazil | | Northeast | | North | |
|---|---|---|---|---|---|---|
| | Number of benefits or contracts | Amount | Number of benefits or contracts | Amount | Number of benefits or contracts | Amount |
| **Social Security (2012 – Dec 2012)** | | | | | | |
| Retirement pensions and assistance | 25,176 | 278,778 | 6,561 | 57,288 | 1,074 | 9,459 |
| Rural retirements and other rural pensions | 8,482 | 60,945 | 4,112 | 28,707 | 712 | 4,831 |
| **BPC (2014 - Dec 2014)** | 4,130 | 35,141 | 1,500 | 12,741 | 414 | 3,520 |
| **Bolsa Família (2014 – June 2015)** | | | | | | |
| Total | 13,717 | 27,186 | 6,915 | 14,120 | 1,646 | 5,595 |
| Rural | 3,744 | 8,422 | 2,455 | 5,595 | 522 | 1,365 |
| **Pronaf (2014)** | | | | | | |
| Funding | 615 | 10,152 | 51 | 461 | 15,741 | 267 |
| Investment | 1,224 | 14,596 | 773 | 2,994 | 87,623 | 1,783 |
| **PAA (2013)** | 96 | 467 | | 37 | | 180 |
| **PNAE (2013)** | | 3,693 | | 1,138 | | 253 |
| Family farming | | 2,474 | | 660 | | 152 |
| **Harvest Insurance (2013/14)** | 909 | 773 | 868 | 738 | | |
| **Cisterns (2013)** | 77 | | | | 74 | |
| **Total 2003–2013** | 1,049 | | | | 966 | |
| **Green Grant (2014)** | 37 | 11 | 5 | 2 | 29 | 9 |
| **Closed-season assistance (2014)** | 861 | 2,355 | 437 | 1,195 | 293 | 802 |
| **December 2014** | 168 | | | | | |
| **Subtotal (rural/agricultural + BPC)** | | 97,840 | | 39,194 | | 8,587 |
| **Total** | | 338,010 | | 77,972 | | 18,347 |

Source: INCRA Administrative records, MPS, MMA, MEC, Brazilian Transparency Portal.

Note: BPC = Benefício de Prestação Continuada.

The funds allocated to these policies in general—which include social security and labour benefits (retirement and other pensions, assistance benefits and closed-season assistance), welfare benefits (*Benefício de Prestação Continuada*, *Bolsa Família*, *Bolsa Verde*) and family farmer benefits (*Pronaf*, Harvest Insurance, PAA, the National School Feeding Programme (*Programa Nacional de Alimentação Escolar*—PNAE) and the 1 Million Cisterns Programme (*Programa Um Milhão de Cisternas*—P1MC)—together amount to almost BRL350 billion annually. Of that amount, benefits specifically targeting rural areas and populations connected to agricultural production total BRL140 billion (40 per cent), a proportion that is closer to the social relevance of family farmers and people living in rural areas than to their economic importance.

It is worth noting that this heading does not include information from the Agrarian Reform programme and policies associated with it—namely the National Land Credit Programme (*Programa Nacional de Credito Fundiário*—PNCF) and the National Agrarian Reform Education Programme (*Programa Nacional de Educação na Reforma Agrária*—Pronera)—because administrative records from those programmes do not allow for a distinction of which share of those funds are actually benefits paid (development aid, credits, grants, subsidies) and

which is attributable to administrative and management costs of policies and to the National Institute for Colonisation and Agrarian Reform (Instituto Nacional de Colonização e Reforma Agrária—INCRA). The information available on those two programmes also does not allow one to establish the regional distribution of spending by the policies. Also, the total amount would be even higher if it included (in addition to the policies described above that are not covered) the amounts spent on public health, education and infrastructure policies.

The amount of expenses included in Table 2, BRL338 billion, amounted to about 7 per cent of gross domestic product (GDP) in 2012. Expenditures were concentrated in the North and Northeast regions, where spending on these policies amounted to BRL18 and BRL78 billion, respectively, which in turn amounted to 7 per cent and 12 per cent, respectively, of the GDP of these regions in 2012. Viewed as a share of the GDP of the rural/agricultural universe, the resources spent (including policies) represent 31 per cent, 27 per cent and 82 per cent for the whole country, North and Northeast, respectively.

Several of these data are remarkable for their magnitude. In the case of the Northeast region, there are more than 4 million rural retirement and other pensions being paid, almost 2.5 million rural families receiving the *Bolsa Família*, 800,000 micro investment contracts for poor family farmers, nearly 1 million farmers supported by the *Garantia Safra* (Harvest Insurance) and 500,000 fisherfolk with guaranteed income during the closed season. For the whole Northeast (not just the rural population), there are 6.5 million retirement/other pensions and assistance, 7 million families receiving the *Bolsa Família* and 1.5 million beneficiaries of the *Benefício de Prestação Continuada*. In the North, as in the Northeast, one observes a very significant weight of some programmes when the size of the beneficiary population is correlated with target or potential audience estimates.

Social security coverage is very widespread, both for the population as a whole and for those living in rural areas or engaged in agricultural activities, reaching about 80 per cent in the case of the elderly population and just over 90 per cent for the universe of households containing elderly people. The *Bolsa Família* also presents very high coverage indicators, both from the data collected in sample surveys (demographic census samples and PNADs) and from a comparison of administrative records and estimates of the number of people living in poverty. The degree of coverage of the *Bolsa Família* is higher in the North and Northeast and in the rural and/or agricultural population. In the case of the *Pronaf*, proxy coverage indicators (contracts per type/family farm) achieve good ratios (a half to two thirds) for the programme's funding contracts in the South and investment contracts in the Northeast, and, to a lesser extent, also for investment contracts in the South. The Harvest Insurance benefit, together with the *Pronaf* investment modality, covers nearly 1 million farmers in the Northeast, compared to a universe of 1.6 million beneficiaries of the *Pronaf B* programme (rural microcredit).

## 2.1 AGRARIAN REFORM

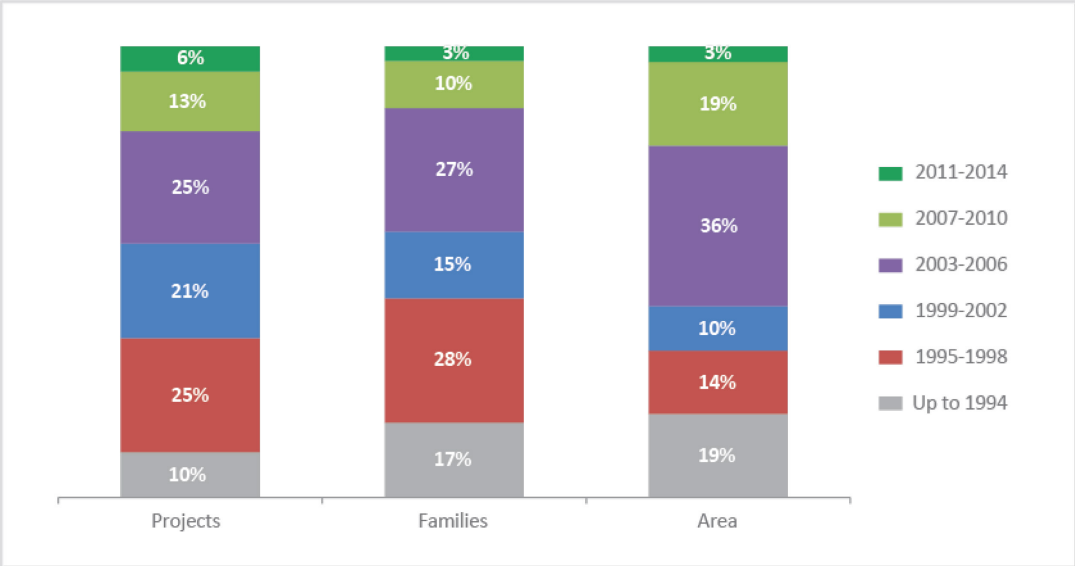
Brazil's Agrarian Reform programme covers about 90 million hectares in just under 10,000 projects, with nearly 1 million families settled. The magnitude of the policy becomes more evident when one compares data on the structure of Brazil's agricultural land ownership with data on the number of families settled: Agrarian Reform is directly responsible for around a fifth of the total number of farms and more than a quarter of the area occupied by farms in the country. Specifically for family farming, Agrarian Reform is directly responsible for 23.7 per cent of farms and 21.9 per cent of the area occupied by farms. A total 44 per cent of the projects, 40 per cent of households and 58 per cent of the total area covered by Agrarian Reform are

the result of activities from the last 12 years (2003–2014); the same percentages for the period between 1995 and 2002 are 46 per cent, 43 per cent and 24 per cent, respectively (see Figure 6).

There are two key characteristics of the recent evolution of the Agrarian Reform: the significant decrease in the number of families settled, with the consequent stabilisation of beneficiary audiences, and the growth of the use of non-onerous means to obtain land for settlements. Thus, if the number of beneficiary families and the acquisition of land through dispossession have both decreased considerably in recent years, there is no doubt that the main objective of the Agrarian Reform—i.e. changing the scenario of high land concentration—is seriously compromised.

FIGURE 6

**Proportion of total projects, families settled and total area covered by agrarian reform by selected period, Brazil**




Source: SIPRA/SDM/Relatório 0227, Date: 12 February 2015.

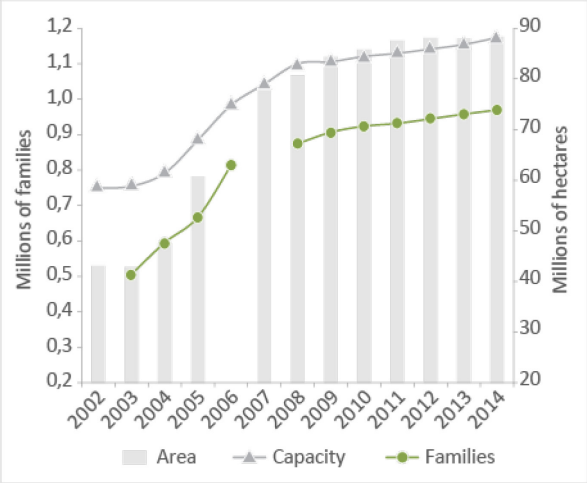
Of the 970,000 families settled from 1900 to 2014, 16.6 per cent were settled up to 1994, 42.4 per cent between 1995 and 2002, 37.9 per cent between 2003 and 2010 and only 3.2 per cent in the last four years (Ipea 2013). These figures show that, even though the struggle for land is an old issue, the Agrarian Reform's most significant advances began in the mid-1990s—that is, over the last 20 years. Such advances fall short of what is expected in terms of numbers and context for the effectiveness of the Agrarian Reform, especially by those who have fought for it, as highlighted during the systematic monitoring conducted by the Directorate of Studies and Social Policy (DISOC) of the Ipea.

In short, 5,214 Agrarian Reform projects were created in Brazil between 1990 and 2002, 3,700 were created between 2003 and 2012, and the period 2011–2014 saw the least progress in the number of families settled over the last two decades, with the lowest point during the Collor administration (Ipea 2013).

Figures 7 and 8 present two important aspects that illustrate the main points outlined above. Figure 7 illustrates the capacity of settlements, the area occupied by them and the total number of families settled at the end of each year. Figure 8 shows the number of families settled each year, and among those which were settled in projects created in that same year.

FIGURE 7

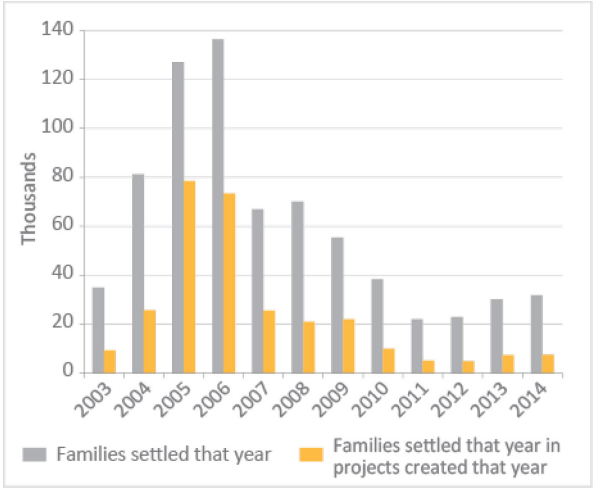
**Area used by settlement projects, settlement capacity and number of families settled by 31 December 2014**




Source: SIPRA/SDM/Relatório_0227, Date: 12 February 2015.

FIGURE 8

**Families settled per year and families settled in projects created in the same year, Brazil (2003–2014)**




Source: SIPRA/SDM/Relatório_0227, Date: 12 February 2015.

Figure 7 showcases the significant growth of the Agrarian Reform's 'stock indicators'—i.e. the area occupied by projects, settlement capacity and the number of families settled between 2004 and 2008 (showing an increase of about 300,000 families settled). Since then, the number of settled families increased more slowly, by only about 100,000. The area occupied by settlements increased by about 35 million hectares, or 75 per cent. After 2008, about 7 million hectares were allocated by the Agrarian Reform.

The 'stock' of settled families changes mainly by new families being settled, which is largely made possible by the vacancy of lots due to 'abandonment' by former beneficiaries for various reasons. Thus, a proportion of the increase in the stock of settled families does not necessarily result from an expansion in the stock of land reserved for settlements. Many settled families are accommodated in previously existing Agrarian Reform projects.

Despite the limited information available regarding the 'flow' of families within the Agrarian Reform, it is known that in recent years about two thirds of settled families were allocated to existing projects: this proportion also holds true for year-on-year analyses. It is also known that around two thirds of the families settled between 2012 and 2014 were allocated to projects created four years earlier. Still, the analysis by the Ipea is right to point out that "the reasons for new occupants in old projects, however, need to be clarified: one must find out if those are the result of abandonment, neglect, inheritance, expansion of the project's perimeter, land parcelling etc. But the fact is that they have not produced consequential effects on local or regional land concentration" (Ipea 2013).

Regarding the average size of the lots, the average size between 1995 and 2002 was just over half of what it was for the set of settlements in other periods. It can be said that this difference is a reflection of the fact that this particular period was marked by the rise of dispossession as an effective instrument, with more projects using it in the country's Centre-South region. In subsequent periods, the average size of lots grew due to the concentration of activities in the North and the predominance of non-onerous ways of obtaining land.

While the size of the Agrarian Reform should indicate deeper changes in the distribution of land ownership, this is not what is observed when one reviews the results of the last agricultural census (IBGE 2006). Indeed, the trend of the concentration of land seen at the end of the last century (a result of the modernisation policy applied to rural and agricultural areas), called conservative, remained undisturbed by the distributional effects of the Agrarian Reform. As for the beginning of this century, what was observed was that the sheer volume of Agrarian Reform projects created in a single decade, despite being almost equivalent to the number of all projects created in the previous 100 years, has not actually been translating into land redistribution. Despite the large, significant numbers, Brazil's land ownership structure has not been affected; the number of rural workers without land or with insufficient land is still quite high.

There is no doubt that the little impact the Agrarian Reform has had on the concentration of land ownership in Brazil is a result of its preferential use of non-onerous instruments for obtaining land.

TABLE 3

**Mechanisms used to obtain land for rural settlement projects, Brazil (1900–2014)**

| Form of acquisition | Number of projects | Area (ha) | Number of families (capacity) | Number of settled families | Percentage of projects | Area (%) | Percentage of families (capacity) | Percentage of settled families |
|---|---|---|---|---|---|---|---|---|
| **Onerous** | **6,133** | **25,546,067** | **629,194** | **537,013** | **66** | **29** | **54** | **55** |
| Purchase and sale | 527 | 1,591,819 | 53,777 | 46,923 | **6** | **2** | **5** | **5** |
| Dispossession | 5,606 | 23,954,248 | 575,417 | 490,090 | **61** | **27** | **49** | **51** |
| **Non-onerous*** | **2,804** | **59,544,588** | **471,432** | **370,233** | **30** | **67** | **40** | **38** |
| Recognition | 1,608 | 35,115,359 | 186,236 | 161,436 | **17** | **40** | **16** | **17** |
| Discrimination | 59 | 3,635,028 | 30,103 | 24,692 | **1** | **4** | **3** | **3** |
| Collection | 729 | 18,622,429 | 207,311 | 150,724 | **8** | **21** | **18** | **16** |
| Other non-onerous forms | 408 | 2,171,772 | 47,782 | 33,381 | **4** | **2** | **4** | **3** |
| **Being obtained** | **318** | **3,225,862** | **72,691** | **62,380** | **3** | **4** | **6** | **6** |
| **Grand total** | **9,255** | **88,316,517** | **1,173,317** | **969,626** | **100** | **100** | **100** | **100** |

Source: SIPRA/SDM/Relatório_0227, Date: 12 February 2015.

Note: *Other non-onerous forms of obtaining land include: awarding; assignment; confiscation; donation; incorporation; reversal of eminent domain; and transfer.

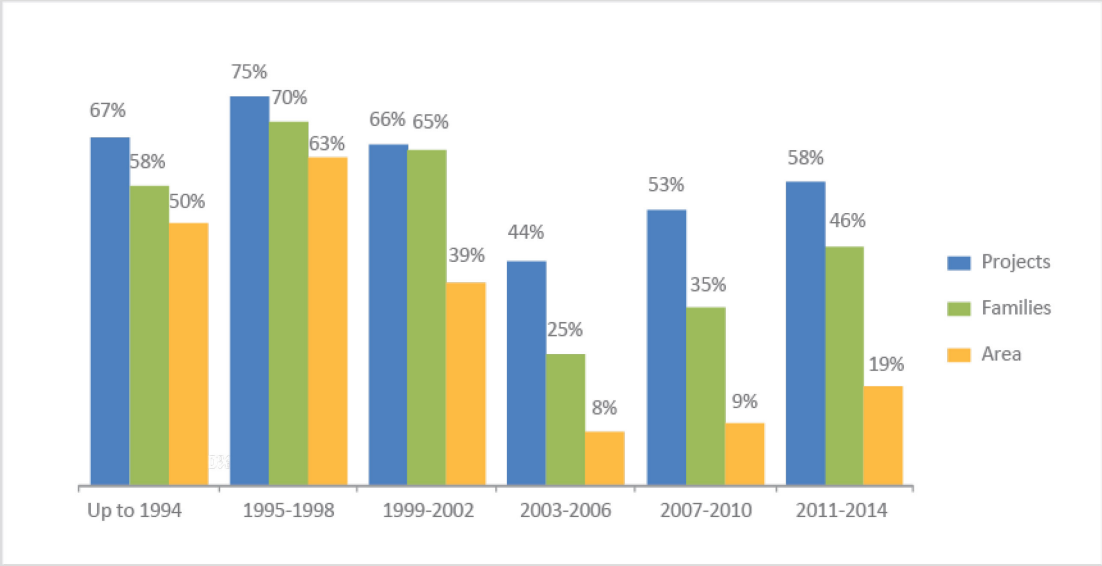
It is quite clear that dispossession was the most often used instrument to create settlements between 1995 and 2002. It is equally clear, also, that this classical way of obtaining land for agrarian reform has been losing ground every year, especially with regard to the size of the area actually obtained. Between 2003 and 2006, recognition and discrimination, and between 2007 and 2010, other non-onerous mechanisms were the prevalent mechanisms for the settlement of families and for obtaining land. In the context of the negligible performance of Agrarian Reform activities over the past four years, dispossession actually increased in importance as a way of creating settlements.

Table 3 shows that, although only one third of the total settlement projects are in areas obtained through non-onerous mechanisms, these projects account for about two thirds of the total area allocated for Agrarian Reform projects. The distribution of families in relation to the mechanism used to obtain land follows roughly the same trend as that of the number of projects.

To better illustrate how dispossession gradually lost relevance in the Agrarian Reform programme, we refer to Figure 9. It shows the number of projects obtained by dispossession as a proportion of the total number of projects, the stock of settled families and the total area of settlements. The numbers demonstrate the importance of this mechanism in the second half of the 1990s and the early 2000s. Between 1995 and 1998, dispossession was responsible for three quarters of projects, 70 per cent of families settled and about two thirds of the area obtained. Between 2007 and 2010, when a significant number of families was settled, dispossession accounted for less than 10 per cent of the area obtained, about one third of families settled and little over half of the projects: the numbers are only slightly higher than those observed in the previous period, between 2003 and 2006.

FIGURE 9

**Percentage of projects, settled families and settlement areas obtained through land dispossession in Brazil (selected periods)**




Source: SIPRA/SDM/Relatório 0227, Date: 12 February 2015.

Regarding regional distribution (see Table 4), the concentration seen in the North region is a result of the increased use of non-onerous mechanisms for obtaining land; the region has a large number of public or unoccupied lands. In specific numbers, three quarters of Agrarian Reform areas and nearly half of the settled families are in the North. The wide variation between the ways settlement policy is effected in different regions is revealed by the remarkable difference between the average area of lots in the North (157.0 ha) and in the Northeast (33.3 ha). As a result, the Northeast region, which has a third of all settled families in the country, only holds 12 per cent of the total area for Agrarian Reform settlements. The data show, therefore, that the parcelling of land in the Northeast has been intense, exactly where dispossession was the predominant form of obtaining land (Ipea 2013).

The focus on settling families in the North region is seen in all political administrations during the period considered (the Northeast did surpass the North in the number of families settled during the Fernando Henrique Cardoso (FHC) administration, and, to a lesser extent, over the last four years). While the Lula administration settled about 200,000 families in the North

region and 130,000 in the Northeast, the FHC government settled 125,000 families in the North and 170,000 in the Northeast. The differences are more marked in the case of the Centre-West, where the FHC administration settled 75,000 families, and the Lula administration settled 36,000.

TABLE 4

**Distribution of the area occupied by ongoing agrarian reform projects, settled families and average size of lots, by geographical region of the country, Brazil (2014)**

| Size | Percentage area | Percentage settled families | Average size (ha) |
|---|---|---|---|
| North | 76% | 44% | 157.0 |
| Northeast | 12% | 33% | 33.3 |
| Southeast | 2% | 5% | 33.3 |
| South | 1% | 4% | 22.6 |
| Centre-West | 9% | 14% | 58.4 |
| **Brazil** | **100%** | **100%** | **91.1** |

Source: SIPRA/SDM/Relatório 0227, Date: 12 February 2015.

Note: Average area = total area/number of settled families.

Of course, the significance of the North region is even greater in terms of the area occupied by settlements. By that metric, all governments obtained the majority of land for Agrarian Reform from the North, due to the natural conditions of the region (which require larger areas). One noteworthy development is the large area occupied by settlements created in the North during the first Lula administration—27 million hectares, or about 85 per cent of the area obtained that year.

Table 5 shows information on six states chosen due to their importance for the Agrarian Reform. The concentration of almost two thirds of settled families and 80 per cent of the total area of projects in only six states (Pará, Maranhão, Mato Grosso, Amazonas, Rondônia and Bahia) reveals, on the one hand, the concentration in areas that still have an agricultural border, and, on the other, the regional inequality in their distribution, in addition to the sparse and inconstant nature of settlement units created in different states.

The reports on the situation of settlement projects already established is also concerning (see Table 6). Data as recent as June 2014 describing the current stage of ongoing Agrarian Reform projects reveal that more than half of the projects (54 per cent) are still at the initial stage (36 per cent with current status as 'settlement created', and 18 per cent with current status as 'being installed'). Of the remaining settlements, 28 per cent are in the 'being structured' stage, 12 per cent are 'in consolidation', and only a staggering 6 per cent of all settlements are considered 'consolidated' (Ipea 2015a). It follows, then, that 82 per cent of the projects are still in the installation or structuring stages, with only a scant few having reached the consolidation stage.[18]

This shows that the overwhelming majority of projects still require attention and basic investment, regardless of how long they have existed, since the productive structuring of settlements is slow and demands social and productive investment in the families settled. To a large extent, this stagnation can be attributed to the inability of the national agrarian reform policy to ensure that settled families have access to other guarantees to which they are entitled, such as access to initial investments and services, road construction, housing, access

to development initiatives, credit, technical assistance, education and water supply services and others. This pattern holds true for all of Brazil's major geographical regions, with the exception of the South, where the rate of projects in structuring/consolidation stages is almost twice as high as that of the other major regions. In any case, it should be noted that the South is one of the major regions with the least projects.

TABLE 5

**Ongoing agrarian reform projects by major region and in selected states, Brazil (1990–2014)**

| Geographical level | Number of projects | Area (ha) | Number of settled families | Average area (ha) | Percentage settled families | Percentage area | Percentage projects |
|---|---|---|---|---|---|---|---|
| **Brazil** | **9,255** | **88,316,517** | **969,626** | **91.1** | **100** | **100** | **100** |
| North | 2,134 | 67,235,328 | 428,229 | 157.0 | 44 | 76 | 23 |
| Northeast | 4,260 | 10,763,479 | 323,531 | 33.3 | 33 | 12 | 46 |
| Southeast | 777 | 1,457,178 | 43,712 | 33.3 | 5 | 2 | 8 |
| South | 830 | 825,360 | 36,464 | 22.6 | 4 | 1 | 9 |
| Centre-West | 1,254 | 8,035,172 | 137,690 | 58.4 | 14 | 9 | 14 |
| **Selected states** | **Number of projects** | **Area (ha)** | **Number of settled families** | **Average area (ha)** | **Percentage settled families** | **Percentage area** | **Percentage projects** |
| Pará | 1,120 | 23,149,606 | 244,778 | 94.6 | 25 | 26 | 12 |
| Maranhão | 1,013 | 4,716,566 | 130,847 | 36.0 | 13 | 5 | 11 |
| Mato Grosso | 546 | 6,083,618 | 83,475 | 72.9 | 9 | 7 | 6 |
| Amazonas | 144 | 27,381,804 | 56,179 | 487.4 | 6 | 31 | 2 |
| Rondônia | 674 | 2,009,945 | 46,908 | 42.8 | 5 | 2 | 7 |
| Bahia | 217 | 6,181,553 | 38,792 | 159.4 | 4 | 7 | 2 |
| **Total for the six states** | **3,714** | **69,523,093** | **600,979** | **115.7** | **62** | **79** | **40** |

Source: SIPRA/SDM/Relatório_0227, Date: 12 February 2015.

TABLE 6

**Current stage of ongoing agrarian reform projects, Brazil (as of June 2014)**

| Stage | Projects | | Area | | Families settled | |
|---|---|---|---|---|---|---|
| | Number | Percentage | Ha | Percentage | Number | Percentage |
| **Grand total** | **9,255** | **100%** | **88,316,517** | **100%** | **969,626** | **100%** |
| Created | 3,418 | 37% | 26,342,651 | 30% | 358,648 | 37% |
| Being installed | 1,639 | 18% | 33,097,054 | 37% | 166,764 | 17% |
| Being structured | 2,584 | 28% | 11,630,079 | 13% | 225,616 | 23% |
| In consolidation | 1,109 | 12% | 8,593,793 | 10% | 134,903 | 14% |
| Consolidated | 505 | 5% | 8,652,940 | 10% | 83,695 | 9% |

Source: SIPRA/SDM/Relatório_0227, Date: 12 February 2015.

## 2.2 NATIONAL LAND CREDIT PROGRAMME (PNCF)

According to 2013 data from the Ministry of Agrarian Development (Ministério do Desenvolvimento Agrário—MDA), Brazil's main land credit initiative, called the *Programa Célula da Terra* (PCT—Land Bill Programme) at its inception, had the target of serving 15,000 families in four states of the Northeast region of the country and northern Minas Gerais over three years. Between 1997 and 2001, the so-called PCT served 8,891 families in the five states covered, while the Agrarian Reform policy benefited 107,255 families in the same period in the same states. This shows both the embryonic nature of this initiative and its complementary

nature to the Agrarian Reform. It benefited the equivalent of 8 per cent of families settled by the Agrarian Reform in these states and 2 per cent of the total number of families settled in the country in the same period (392,262 families) (Gomes et al. 2015).

As a consequence of the PCT, in 1998 the *Banco da Terra* (BT—Land Bank) was created, designed to perform a similar function across the entire national territory, serving 34,655 families in Brazil during its six years of operation between 1998 and 2003. The states with the highest level of involvement were Rio Grande do Sul (10,241 contracts) and Santa Catarina (4,688 contracts), which together accounted for approximately 40 per cent of all contracts established by the Bank. When comparing the data from the Agrarian Reform policy promoted by INCRA with data from the BT for the same period, it can be observed that, with the exception of the two states above, Agrarian Reform was more active in all others, accounting for about 86 per cent of access to land in the country, with 239,101 families settled (ibid.).

In 2003, the merging of regulations between the PCT and the BT resulted in the PCNF. By 2013, the PNCF had already benefited 93,827 families. Between 2003 and 2013, the Ararian Reform policy pursued by INCRA covered 689,423 families, which indicates that the PNCF covered the equivalent of 14 per cent of total beneficiaries. As a summary, we show below the sum of beneficiaries served by the Agrarian Reform and by the different agrarian credit policies under way in the country from their inception until 2013, as identified by Gomes et al. (2015):

a) Agrarian Reform (INCRA activities): 1,288,444 families

b) Land credit beneficiaries (considering the three programmes): 136,873 families

c) (a) + (b); 1,425,317 families

d) Share of land credit in relation to item (c): 9.6 per cent.

Thus, land credit benefited less than 10 per cent of families covered by both policies in the country. At the regional level, 44 per cent of all land credit offered over the period was in the South region alone, particularly in the states of Rio Grande do Sul and Santa Catarina, which had more families benefiting from land credit programmes than from the Agrarian Reform policy carried out by INCRA. Interestingly, in the states/regions in which dispossession is virtually the only option for obtaining land, the obstacles to its use—lagging productivity levels and relatively high costs—have led to the use of land credit to meet the demand for land.

It is worth noting that no reduction was seen in the inequality of land ownership in Rio Grande do Sul or Santa Catarina between 1996 and 2006, which points to the low impact of land credit on land concentration.

### 2.3 NATIONAL AGRARIAN REFORM EDUCATION PROGRAMME (PRONERA)

The *Pronera* has so far conducted 320 *Educação de Jovens e Adultos* (EJA—adult education courses) at the primary, secondary and higher education levels, involving 82 educational institutions, 38 stakeholder organisations and 244 partners, with the participation of 164,894 students. These actions, as defined by the report, "qualified the educational and vocational training of workers, improving their lives, rewriting their territories and changing the Brazilian countryside for the better" (Ipea 2015b).

The *Pronera* is a dynamic policy which involves a range of institutions and organisations whose goal is to provide better living conditions in the field. A total of 320 courses were promoted by the *Pronera* between 1998 and 2011, including the following categories: EJA elementary (EJA literacy, EJA adult education and EJA final years); secondary education (EJA secondary education [teaching credential/regular secondary education], EJA mixed (regular–vocational) secondary education, integrated (regular–vocational) secondary education, and secondary education plus post-secondary education; and higher education (undergraduate modalities, with major and residence in agriculture).

The 320 courses offered, carried out through 82 educational institutions across the country, were divided into 167 courses for elementary adult education, 99 for secondary education and 54 for higher education. The courses were taught in 880 municipalities in all Brazilian states, which confirmed the programme's nationwide reach.

Ipea (2015b) presents the most important data on the programme, such as the characteristics of students, the distribution of students by region and by modality, completion rates and the characteristics of the educators and educational institutions. The most worrying data, however, are the significant drop-out rates: 37 per cent of the 131,576 students who entered the schools did not finish their courses—a figure which makes the scenario even more challenging given how students are distributed throughout the different levels and modalities. The vast majority of entrants to the programme (93.5 per cent) are going into primary education (EJA elementary), especially into literacy and early years courses, which means that demand is highest among those who have had no access to school or left school early and have been unsuccessful in returning to it. In other words, if the demand for early education is so great that demand for the next sequential levels is negligible, the high drop-out rate (and thus low level of progress) in early years indicates that the scenario is unlikely to change.

Entrants to the secondary school programmes account for 4.5 per cent of the total, with higher demand for the mixed regular–vocational and integrated regular–vocational courses. Despite the low number of entrants to the higher education or graduate programmes (2.0 per cent), a wide variety of undergraduate and graduate programmes were on offer: 42 and 12, respectively.

The average age of entrants decreases considerably as the level of the courses increases. Students at the elementary level have a mean age of 38.4 years, whereas entrants into high school programmes average 22.2 years, and higher education students are an average of 29.9 years old. Only in higher education does the age/schooling ratio become closer to that of the general population, especially for post-graduate degree students (average of 27.4 years of age). It is evident that demand is higher for the lower levels of education, sought by people who have never attended school or have not attended in a long time, while those entering the secondary and higher education programmes have profiles closer to those of the general population.

The regional distribution of courses and entrants roughly follows the regional composition of the population of settled families. The courses developed in the Northeast and North region, in which most families have been settled, offered 35 per cent and 29 per cent, respectively, of the 320 courses. Within those regions, the states of Pará (North), Bahia (Northeast) and Maranhão (Northeast) represented almost a quarter of all courses offered in the country (33, 23 and 20, respectively). After them, the next highest demand was seen in the South and Southeast regions, with 54 and 42 courses, respectively, in particular in the states of Rio Grande do Sul (27 courses)

and Minas Gerais (22 courses). Indeed, the five states of Rio Grande do Sul, Minas Gerais, Pará, Bahia and Maranhão accounted for 40 per cent of all *Pronera* courses.

Another fact we consider worrying (but which reflects, to some extent, the state of rural education in general) is the low level of training of most educators; half of the teachers did not have adequate training for the teaching profession, not having completed secondary education themselves.

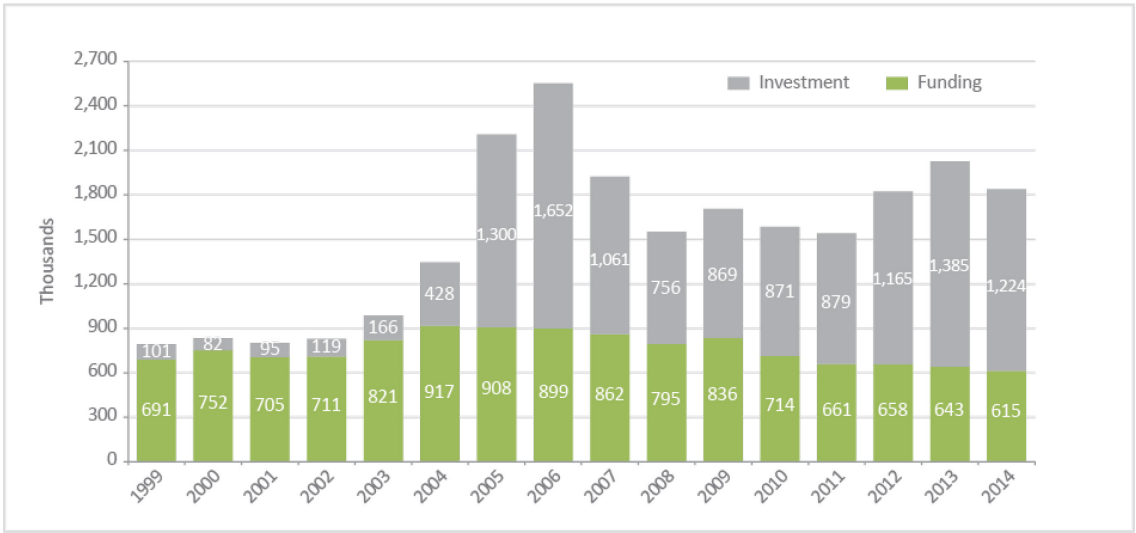
The report also points out that the educational institutions that ended up being accredited to offer courses within the *Pronera* were those that managed to overcome both the bureaucratic obstacles to being accredited and the ideological hurdles found at schools and universities regarding the teaching of courses to agrarian reform populations.

## 2.4 NATIONAL PROGRAMME FOR THE STRENGTHENING OF FAMILY FARMING (PRONAF)

The *Pronaf* has shown itself to be relatively successful, at least when measured by the increase in the number of credit contracts and the resources earmarked for its operations. Over a period of 16 years, the number of contracts more than doubled, and the volume of credit increased fivefold (see Figures 10, 11). Despite these advances, however, the same challenges and difficulties that emerged in the first years of the programme remain. The high concentration of resources in the modernised family farming in the south of the country, which enjoys significant coverage in funding, and the concentration among the richest family farmers, who enjoy higher income limits and loan amounts, are examples of long-standing hurdles still to be overcome. A positive development was the extension of the *Pronaf* to the poorest farmers through the *Pronaf B* modality. It must be noted, however, that *Pronaf B*, while having achieved significant coverage in the Northeast, also presents a distributional profile that favours the least poor of the poorest farmers.

FIGURE 10

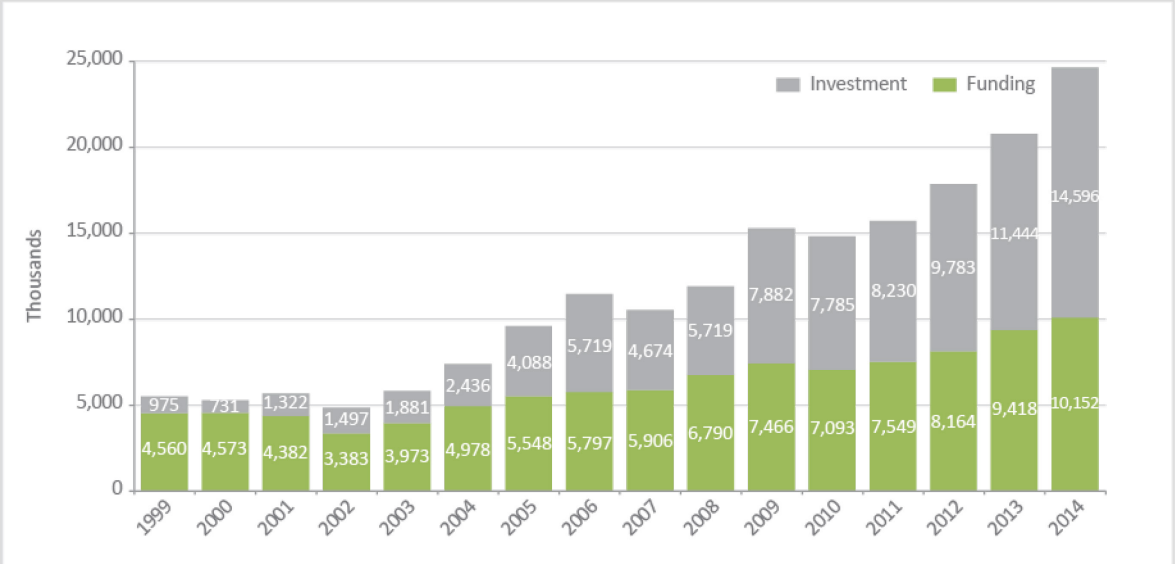
**Number of *Pronaf* contracts by modality (funding and investment), 1999–2014**




Source: Prepared based on current (nominal) data provided by the Central Bank of Brazil—namely the Statistical Yearbook of Rural Credit 1999–2012 and the Rural Credit Data Matrix (MDCR) 2013-2014—subsequently deflated based on the IGP-DI index with 2014 as the base year.

FIGURE 11

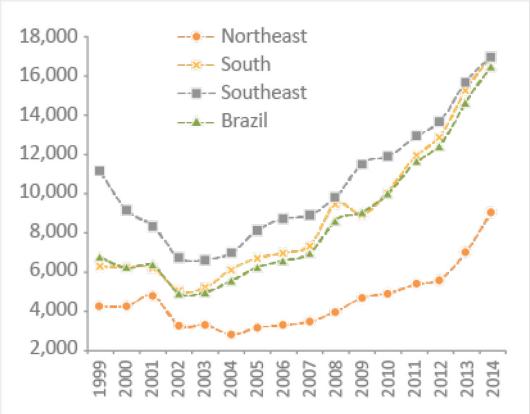
**Aggregated amount of *Pronaf* loans by type (funding and investment), 1999–2014, (BRL, 2014)**




Source: Prepared based on current (nominal) data provided by the Central Bank of Brazil—namely the Statistical Yearbook of Rural Credit 1999–2012 and the Rural Credit Data Matrix (MDCR) 2013-2014—subsequently deflated based on the IGP-DI index with 2014 as the base year.

FIGURE 12

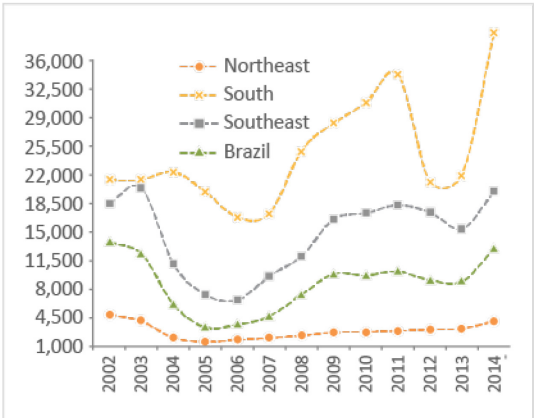
**Average funding contract amount by selected major region (1999–2014)**




Source: Prepared based on current (nominal) data provided by the Central Bank of Brazil—namely the Statistical Yearbook of Rural Credit 1999–2012 and the Rural Credit Data Matrix (MDCR) 2013-2014—subsequently deflated based on the IGP-DI index with 2014 as the base year.

FIGURE 13

**Average investment contract amount by selected major region (2002–2014)**




Source: Prepared based on current (nominal) data provided by the Central Bank of Brazil—namely the Statistical Yearbook of Rural Credit 1999–2012 and the Rural Credit Data Matrix (MDCR) 2013-2014—subsequently deflated based on the IGP-DI index with 2014 as the base year.

These graphs also illustrate the credit concentration process and the expansion of the *Pronaf* investment modality. Concentration has become evident in recent years, notably in the funding modality: the total number of contracts in 2014 is the lowest of the last 16 years, yet the volume of funding is larger, the result of steady growth in the amount of resources

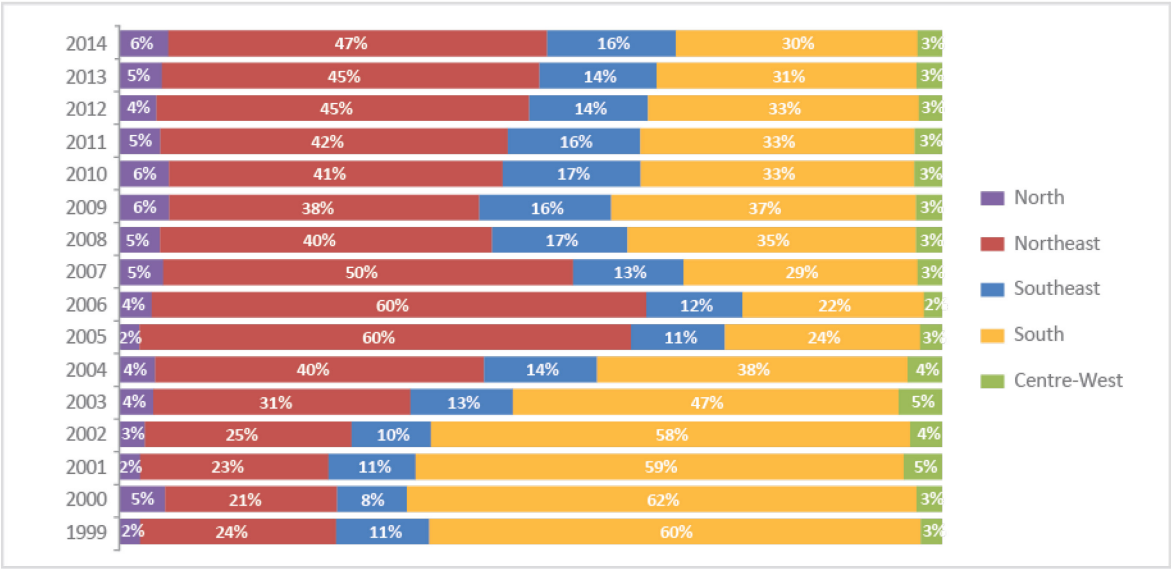
available. As for the investment modality, after the great expansion in 2005 and 2006 and the retraction seen from 2007 to 2011, the number of contracts has now stabilised at around 1.2 million, with the volume of credit having grown almost 50 per cent in the last three years. This reflects a steady increase in the average value of each funding loan and (in recent times) investment loan, especially in the most favoured region, the Northeast (see Figures 12 and 13).

The data show that the South region of the country received most of the rural credit offered since the beginning of the programme, a trend which is evidenced and ratified by 2014 data. The Northeast region, despite concentrating the bulk of the number of contracts (45 per cent), only received 16 per cent of the total amount of financing, with lower-cost operations (BRL4,196 on average) being the norm. On the other hand, in the South region, which received 30 per cent of the contracts, the average amount of each contract was BRL22,118.

As can be seen in Figure 14, after a significant increase in its share of the number of contracts signed in 2005 and 2006, the Northeast region now accounts for about 40 per cent of contracts, while the South accounts for a third of the total. This stability in the regional distribution of total contracts has lasted for seven years. There is no doubt that, in terms of distribution of contracts, the *Pronaf* of today differs greatly from what it was in the late 1990s and early 2000s. However, this move has been accompanied by a concentration of resources, initially seen only in the funding modality but now already extending to the investment modality.

FIGURE 14

**Distribution of *Pronaf* contracts by major region (1999–2014)**



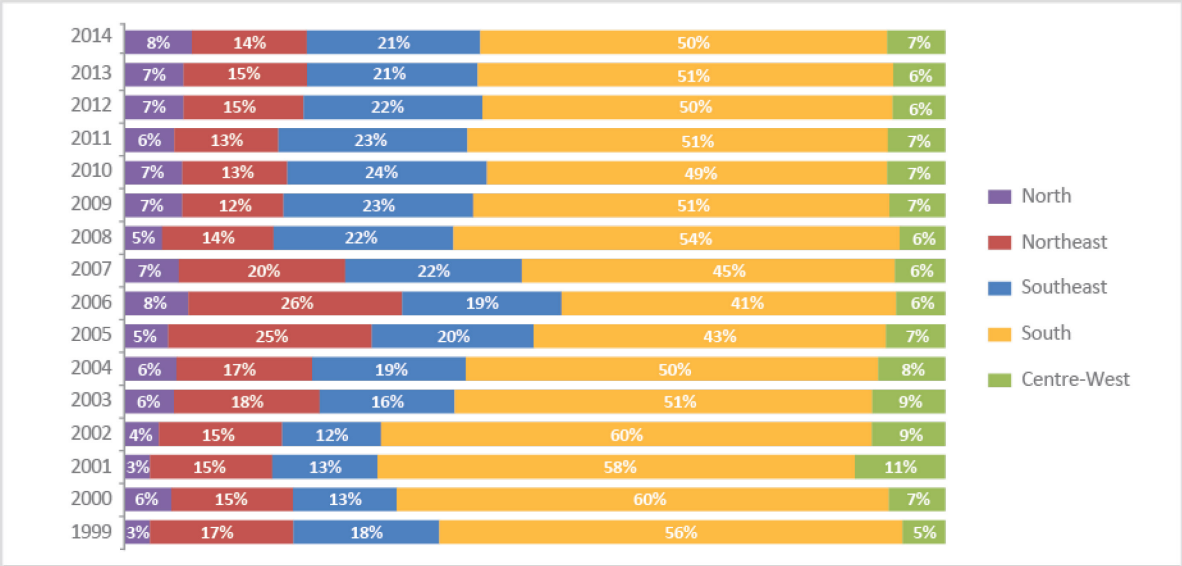

Source: Central Bank of Brazil, Statistical Yearbook of Rural Credit 1999–2012 and Rural Credit Data Matrix (MDCR).

The data also show the consistent regional distribution in the volume of resources over the last eight to nine years. As mentioned before, the current regional distribution of resources is not much different from that of 1999-2000. Since the absolute amount has grown significantly during this period, and the overall number of contracts has changed little, most of the increase is in the per-contract amount, again distributed just as before: chiefly among business-oriented family farmers and half of the Northeast's poor farmers.

The plutocratic profile of the *Pronaf* 's credit distribution is made quite apparent by how its regional distribution compares with the share of GDP generated by family agribusiness. The Northeast region, for instance, accounts for half of the country's family farmers but only for 16 per cent of family agribusiness GDP. Meanwhile, the South has a fifth of the country's family farmers but accounts for 44 per cent of family agribusiness GDP.

FIGURE 15

**Distribution of total *Pronaf* financing by major region (1999–2012)**




Source: Central Bank of Brazil, Statistical Yearbook of Rural Credit 1999–2012 and Rural Credit Data Matrix (MDCR).

As stated above, when analysing data in a disaggregated fashion (i.e. segregating analyses for investment and funding operations), it becomes clear that investment operations are Northeast-biased, while funding operations are South-biased.

In 2014, as shown in Table 7, the Northeast received 63 per cent of investment contracts and 21 per cent of the volume of resources invested in this modality. As for the funding modality, it only received 8 per cent of contracts and 5 per cent of resources. Judging by the discrepancy between the average amounts financed in the investment and funding modalities (BRL3,875 and BRL9,095, respectively), it can be inferred that the profiles of farmers who access the different modalities are different themselves, even though most of both groups are more economically fragile farmers.

The South, in the same period, received 15 per cent of the contracts and 37 per cent of resources for the investment modality. For the funding modality, the region received 63 per cent of contracts and 66 per cent of resources. In this case, the same types of farmers seem to be accessing both types of credit.

Figures 16 and 17 show the ratios of contracts per family farm (contracts/number of family farms) for each of the *Pronaf* modalities and by Brazilian micro-region. The data clearly show the regions with higher coverage. In the case of funding contracts, the regions with greater coverage are the territories in which business-oriented family farming is more likely to be found—i.e. in the South region, east Minas Gerais and Espírito Santo. As for investment contracts, the highest coverage rates are seen primarily in the Northeast, but also in small portions of the South and North regions of the country.

TABLE 7

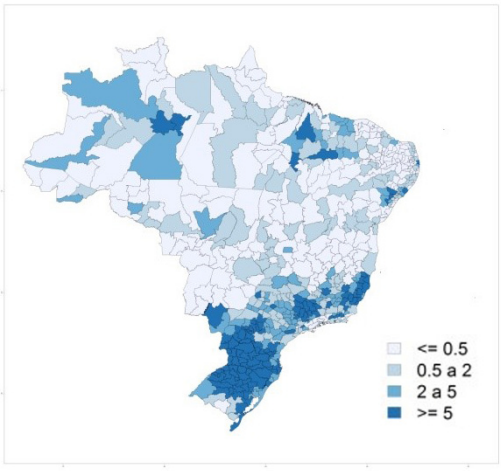
**Regional distribution of the *Pronaf Crédito* programme and mean value of contracts by modality (2014)**

| Region | Investment | | | Funding | | | Mean amount ratio (Funding/investment) |
|---|---|---|---|---|---|---|---|
| | Regional distribution | | Avg. amount (BRL) | Regional distribution | | Avg. amount (BRL) | |
| | Contracts | Amount | | Contracts | Amount | | |
| **North** | 7% | 12% | 20,347 | 3% | 3% | 16,965 | 0.8 |
| **Northeast** | 63% | 21% | 3,875 | 8% | 5% | 9,095 | 2.3 |
| **Southeast** | 15% | 23% | 18,291 | 18% | 19% | 16,947 | 0.9 |
| **South** | 12% | 37% | 35,924 | 66% | 67% | 16,955 | 0.5 |
| **Centre-West** | 3% | 7% | 34,420 | 5% | 6% | 21,208 | 0.6 |
| **Brazil** | 100% | 100% | 11,928 | 100% | 100% | 16,520 | 1.4 |

Source: Rural Credit Data Matrix (MDCR).

FIGURE 16

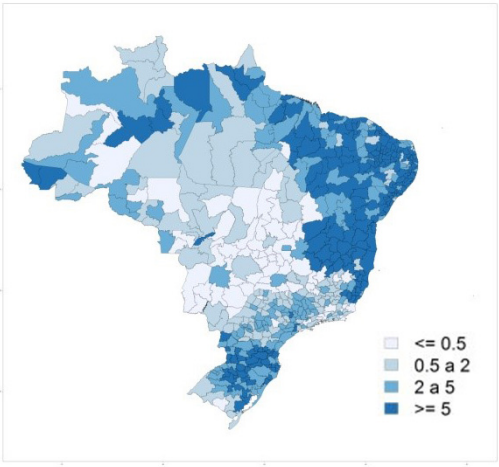
***Pronaf* funding contracts by number of establishments (x100)**




Source: Rural Credit Data Matrix (MDCR).

FIGURE 17

***Pronaf* investment contracts by number of establishments (x100)**




Source: Rural Credit Data Matrix (MDCR).

Despite the changes in the course of the *Pronaf*, credit is still centred on a particular type of farmer—i.e. those inserted into certain supply chains and with a certain standard of income, who, because they have guarantees, are more attractive to financiers. For this reason, resources have concentrated over the years in the group now known as 'family farming' (formerly the C, D and E group). MDA data analysed by Grisa and Schneider (2015) reveal a concentration of most *Pronaf* resources into the so-called 'variable group' (higher-income farmers). At each harvest plan, this group captured around 80 per cent of total resources, while groups A, B and A/C (economically weaker farmers) were left with the remaining funds. In 2011, the last year of the series analysed, the variable group received 89.3 per cent of resources, while groups A and A/C received 4.7 per cent, and group B 6 per cent of funds.

This pattern of concentration of *Pronaf* financial resources is not a novelty; it has been a mainstay since its inception. For Carneiro (1997), the fact that the policy used the European experience of rural development as a reference framework led to the risk of it privileging an ideal type of farmer, one with a certain technical and social standard and who was already integrated into major production chains. At the heart of the matter are the notions of *profitability* and

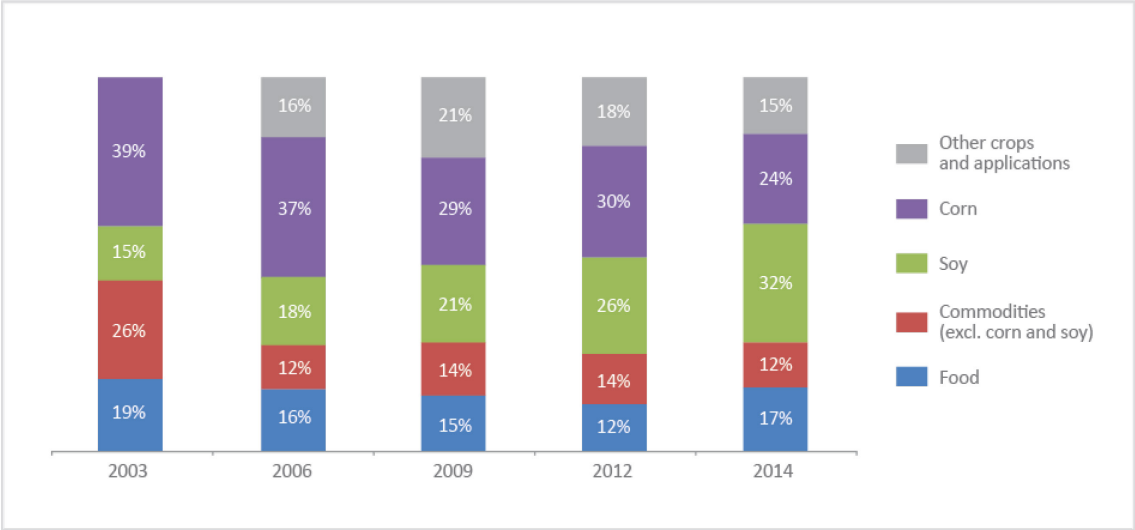
*productivity,* which, if used as mechanisms to evaluate programme effectiveness, could lead to unwanted effects such as the concentration of resources in farmers who are already consolidated and the exclusion of the poorest farmers, who, as such, require state support.

For Aquino and Schneider (2015), the normative design of the *Pronaf* was conceived under the strong influence of the more capitalised sectors of national agriculture, as evidenced by the constant increases in the income threshold required for eligibility. While in the beginning the upper income limit prevented higher-income farmers from taking credit, these farmers are currently fully incorporated in the design of the policy, especially for the 2013/2014 harvest, when the maximum annual income threshold for eligibility increased from BRL160,000 to BRL360,000.

A review of the data from the last harvest seems to reveal a consolidation of the trend to concentrate resources among the most capitalised farmers, which is related to the constant increase in the annual gross income limit for eligibility. Maximum income thresholds skyrocketed over the last five harvests, going from BRL110,000 in the 2010/2011 harvest to BRL160,000 in the 2012/2013 harvest and BRL360,000 in the 2013/2014 harvest—a 230 per cent increase over the period (Ipea 2014). Raising the ceiling promotes the expansion of the *Pronaf* into more capitalised sectors of family agriculture, while leading to the exclusion of the poorest sectors (financiers will be more interested in working with farmers who have better guarantees and offer a greater chance of acquiring additional services from the institutions).

FIGURE 18

**Distribution of funding contracts by product and application (2003, 2006, 2009, 2012 and 2014)**




Source: Central Bank of Brazil, Statistical Yearbook of Rural Credit 1999–2012 and Rural Credit Data Matrix (MDCR).

As discussed above, both the *Pronaf* funding modality and (to a lesser extent) the *Pronaf* investment modality have seen a trend of concentration emerge in the application of their resources. The annual growth rate of the mean effective amount of individual *Pronaf* loans in the funding modality ranged from 8.7 per cent to 13.0 per cent among Brazil's major regions between 2005 and 2014, with a total rate of growth of 11.7 per cent for the whole country over that period. For the investment modality, the annual growth rates for regional per-contract average amounts are lower but still very significant, ranging from 7.5 per cent to 11.7 per cent (with the exception of the North region, for which the rate was much smaller: 1.8 per cent). It should be noted that the percentage increases observed in the Northeast stood out regionally.

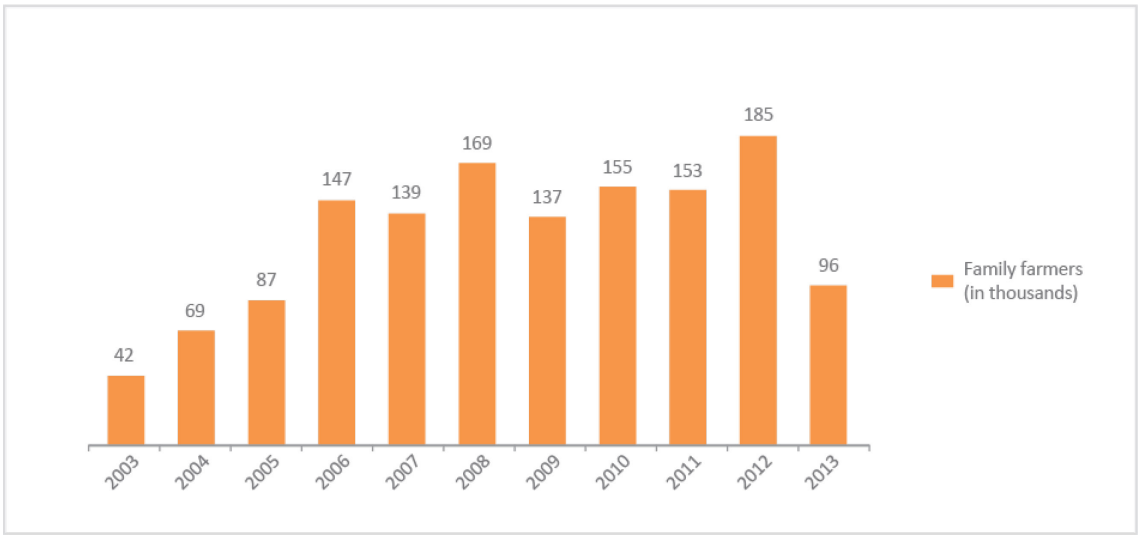
As shown in Figure 18, this process may have effects on food security in the medium and long term, given that the loans contracted by better-capitalised farmers are mostly used for the production of *commodities*—notably corn, soybeans and coffee (Ipea 2013). An analysis of the data by region reveals two types of farmers: the first, who focus production on traditional crops, prevailing in the North and Northeast; and the second, who focus on growing commodities marketable in foreign markets, predominantly seen in the South, Southeast and Centre-West of the country (ibid.).

## 2.5 FOOD ACQUISITION PROGRAMME (PAA)

One measure of 'success' of the implementation of the PAA is its rapid expansion throughout the country between 2003 and 2008, when the number of family farmers benefiting from the programme grew from 42,000 to 169,000. As shown in Figure 19, since then the programme has been serving about 160,000 farmers a year, with a significant 45 per cent drop in total spending in 2013 (especially due to the performance of the South and the simultaneous donation modality, which is operated by Conab). This low performance was aggravated by a restructure of the PAA's implementation strategy, which sought (among other things) to improve food donation procedures to strengthen transparency, quality control of the food donated, and prioritisation for those who receive it. This budget adjustment led to a proportional decrease in the number of family farmers benefiting, with the aggravating factor that the poorest, most vulnerable families were probably the ones most heavily affected.

FIGURE 19

**Number of farmers (eligibility certificates) in the PAA, Brazil (2003–2013)**




Source: SAF/MDA.

Due to its territorial capillarity and knowledge of local realities, the National Supply Company (Conab) proved to be an essential player in the work to include Agrarian Reform settlers in the programme (with support from INCRA), serving a group that depends on a structured demand policy to expand its production and sell its produce.

The decrease seen in 2013 may have compromised some of the progress made in expanding the supply capacity and adding scale and diversity to the production of the poorest farmers, and it threatens all the work done to connect local producers with the social-assistance entities that purchase their food.

In terms of money spent, the programme reached total expenditures of almost BRL1 billion in 2012, after nearly 10 years of existence. Table 8 presents the evolution of PAA disbursements over time. Between December 2003 and December 2012 the programme's resources increased by 239 per cent, while inflation measured by the IPCA and IGP-DI indexes for the same period was 62 per cent and 74 per cent, respectively, demonstrating the good performance of the programme. In any case, there is no doubt that the programme still has very low coverage: its current audience is of around 200,000 establishments, while its potential audience (family farms) currently amounts to 4 million establishments, 2.3 million of which are considered among the poorest. It is worth noting that the PAA bought more than 3.5 million tons of food between 2003 and 2011, feeding nearly 20 million people (Bavaresco and Mauro n.d.).

TABLE 8

**PAA expenditures (2003–2013)**

| Year | Current values* (BRL millions) |
|---|---|
| **2003** | **267** |
| **2004** | **294** |
| **2005** | **535** |
| **2006** | **763** |
| **2007** | **671** |
| **2008** | **666** |
| **2009** | **787** |
| **2010** | **819** |
| **2011** | **796** |
| **2012** | **900** |
| **2013** | **466** |

Source: Sambuichi et al. 2013; PAA/MDS and Conab data (2011–2013).

Note: * Values deflated based on the IGP-DI index with December 2013 as the base year.

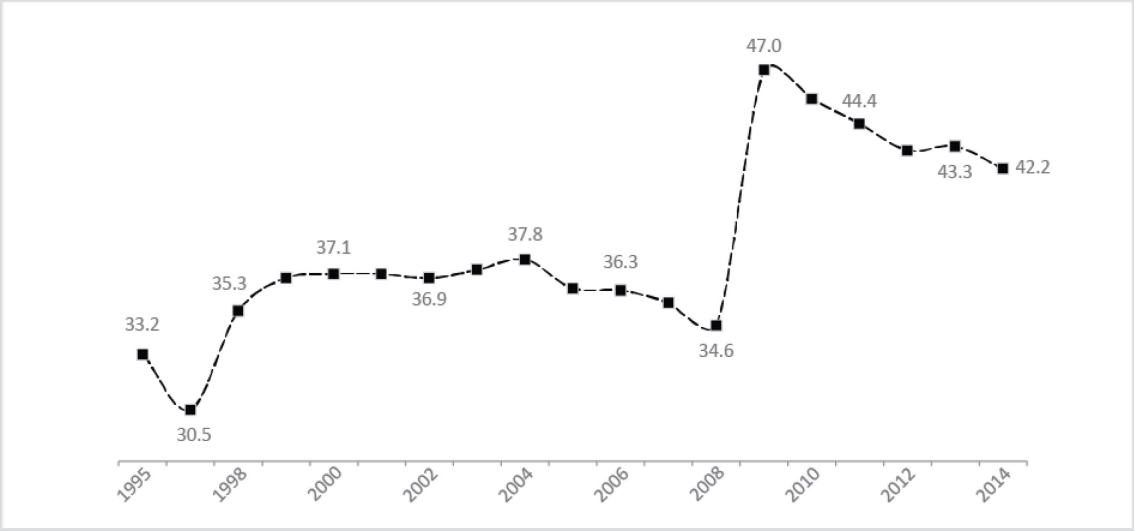
The small size of the PAA becomes clearer when its disbursements are compared to loans granted through the *Pronaf* credit programme, or even to funds spent by the Harvest Insurance programme. A total of 1.8 million contracts were signed under the *Pronaf* in 2012, while the Harvest Insurance programme benefited 770,000 farmers in the 2011/2012 harvest. Despite having increased its budget and coverage over time, the PAA today amounts to less than 0.0004 per cent of GDP, and as such only serves about 5 per cent of the country's approximately 4 million family farmers, according to data from the last agricultural census (IBGE 2006).

## 2.6 NATIONAL SCHOOL FEEDING PROGRAMME (PNAE)

The PNAE today serves about 40 million students, according to estimates based on school census data. Figure 20 shows the number of students served by the PNAE since 1995. The sharp growth in 2009 is a result of the National School Meal Policy, instituted by the federal government, which decided to offer school meals to all public school students at the basic levels of education (which includes elementary, secondary and adult education) through the mandatory acquisition of diverse, locally produced foodstuffs (preferably produced by family farmers).

FIGURE 20

**Number of students served by the PNAE (millions), Brazil (1995–2015)**




Source: National Education Development Fund of the Ministry of Education (FNDE/MEC).

An analysis of PNAE resources spent (in real terms) and the number of students served between 2003 and 2010 shows that in 2003 the programme spent about BRL1.8 billion and benefited 37 million students. In 2013, disbursements had doubled to BRL3.6 billion, benefiting 43 million students. In other words, the programme's annual cost per student rose from BRL48.65 to BRL83.72, an increase of 72 per cent. The greatest increase occurred in 2010, when disbursements increased by 41 per cent over the previous year, largely reflecting the increase in the per capita amounts the government was legally required to spend on each student—namely from BRL0.22 to BRL0.30 for preschool to secondary school students and BRL0.60 for infants, from BRL0.44 to BRL0.60 for indigenous and *quilombola* (descendants of escaped slaves who founded refuges called *quilombos*) students and from BRL0.66 to BRL0.90 for students at schools participating in the More Education programme (IPC-IG 2013).

The growth seen in 2009 was not due to an increase in the amounts transferred per student but, rather, a result of a significant increase in the size of the target audience, as the PNAE expanded coverage to secondary school students and students in special schools (such as adult education institutions). These two processes (expansion of the target audience and increased spending per student) reflect the enactment of Law 11,497, which institutionalised school meals as a state policy and established the 'obligation' that at least 30 per cent of spending under the programme should be allocated to purchases from family farmers.

As for the regional distribution of resources, Figure 21 shows that it roughly follows the size of the population of the different regions, with some overrepresentation by the Northeast due to the younger profile of its population. That distribution did not change over the more recent years of the programme. It would be interesting to determine how much more of the transfers are made to the poorest regions, by cross-referencing these distribution data with data on the school-age population.

TABLE 9

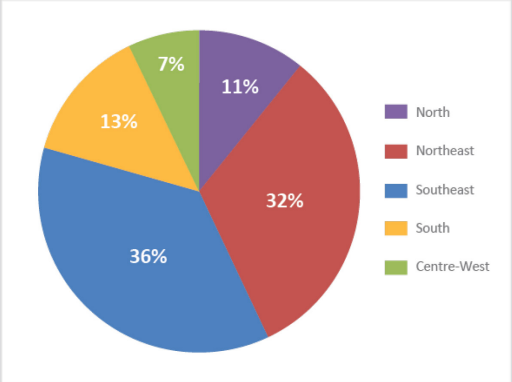
**Federal government spending on the PNAE (2003-2013)**

| Year | Amount (BRL millions, 2013) |
|---|---|
| **2003** | 1,735 |
| **2004** | 1,666 |
| **2005** | 2,029 |
| **2006** | 2,320 |
| **2007** | 2,172 |
| **2008** | 1,980 |
| **2009** | 2,650 |
| **2010** | 3,623 |
| **2011** | 3,482 |
| **2012** | 3,490 |
| **2013** | 3,539 |

Source: FNDE/MEC.

FIGURE 21

**Regional distribution of PNAE resources (2013)**




Source: FNDE/MEC.

Interestingly, the ceiling amounts established for PNAE transfers are more than double the ceiling amounts in force for the various modalities of the PAA. Unlike the PAA, whose prices are determined as an average of prices in three municipalities, in the PNAE the prices are similar to those observed in the local market (at the municipal level). This occurs even when the cost of transporting the products to schools is considered (to encourage family farmers to participate) (Saraiva et al. 2013).

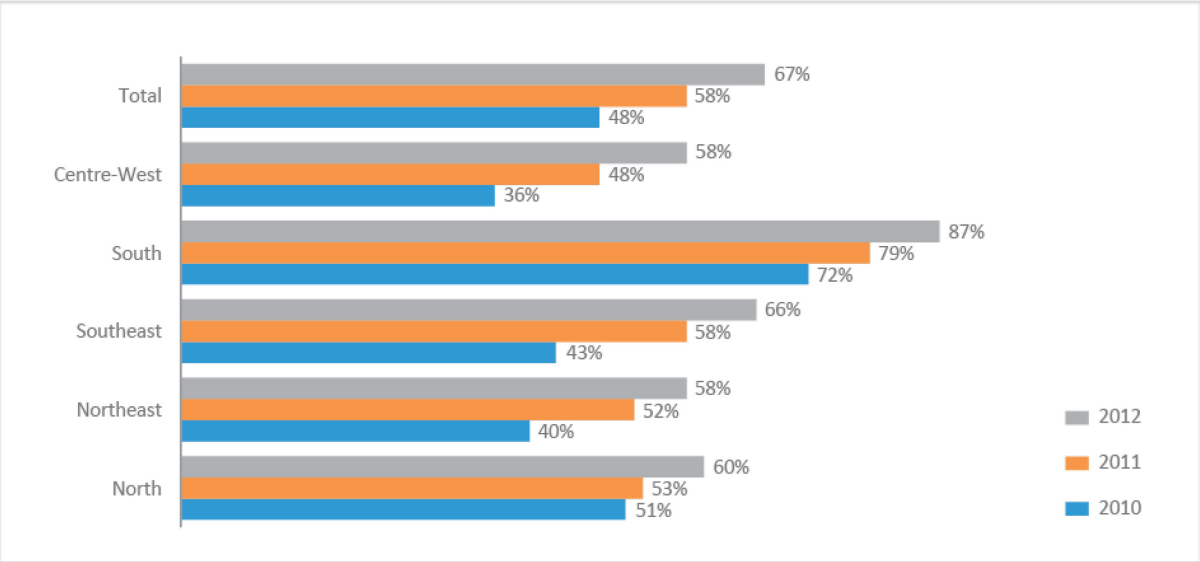
Budget execution data from 2010, 2011 and 2012—both at the national level and by region—show that most of the 'executing entities' (i.e. the institutions responsible for purchasing food for school meals) that submitted their expense reports acquire a portion of their food from family farms using PNAE resources. In 2012, approximately 67 per cent of them acquired family farm products to feed students in their respective jurisdictions. This represents almost 20 percentage points more than the same indicator for 2010 (48 per cent), a significant increase in the number of entities that buy from family farmers.

As for the regional outlook, purchasing institutions in the South spent the highest proportion of their PNAE budgets on purchases from family farmers, right from the first year of the new legislation. About 70 per cent of executing entities in the region bought from family farmers in 2010, and about 87 per cent in 2012. The proportion of executing entities that buy from family farms increased in all regions between 2010 and 2012, but the level of compliance in the South is so high that all other regions end up well below the national average (67 per cent). It is noteworthy that the North had the lowest growth rate in that indicator between 2010 and 2012, from 51 per cent to 60 per cent (IPC-IG 2013).

Although the number of executing entities that buy from farmers exceeds 30 per cent of the total in all regions (see Figure 23), this does not always mean that at least 30 per cent of total spending on food purchases was made from family farms. In terms of national, non-disaggregated data, the average percentage of resources transferred through the FNDE and effectively used to purchase food from family farms by the executing entities increased from 22 per cent (2010) to 29 per cent (2012), almost reaching, as an average, the 30 per cent minimum percentage defined in the PNAE's governing legislation (ibid.).

FIGURE 22

**Percentage of executing entities that purchased food from family farms under the PNAE, by region (2010–2012)**




Source: IPC-IG (2013), based on FNDE data.

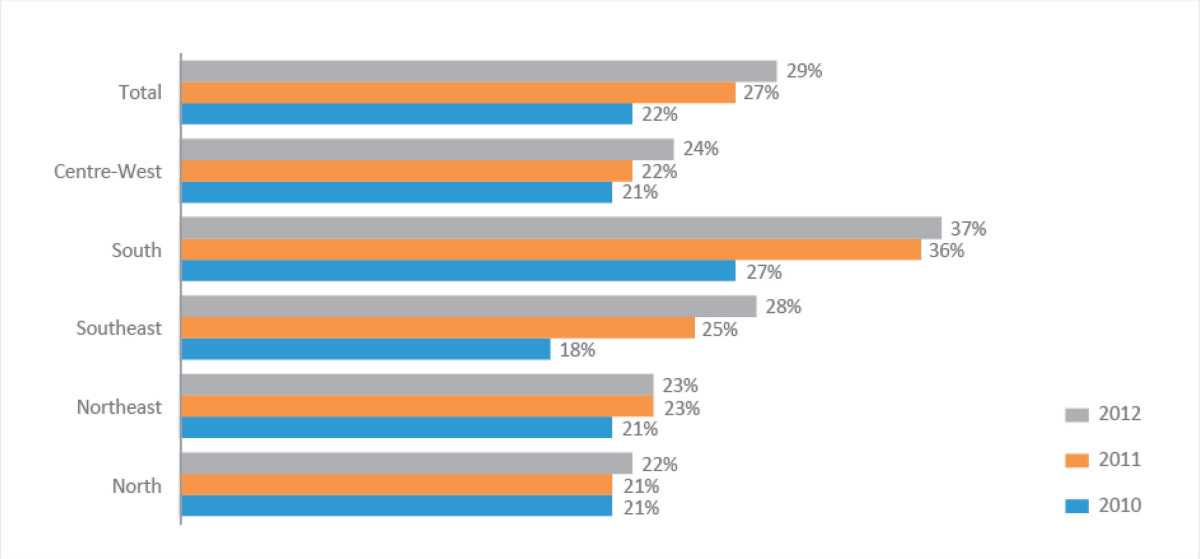
Among the major regions, the South stands out for having the best performance. In fact, this is the only region where executing entities far exceed, on average, the minimum required 30 per cent threshold (specifically 37 per cent in 2012). In the North and Northeast, numbers have remained relatively constant in the three years analysed. The Centre-West did not make much progress either, with a slight increase from 21 per cent to 24 per cent. The Southeast and South regions were basically solely responsible for lifting the overall average in Brazil, with increases of 10 percentage points in each of them between 2010 and 2012. The performance of the Southeast region was particularly impressive: it had the smallest share of purchases from family farmers in 2010 (18 per cent) but managed to increase that number to 28 per cent in just two years (ibid.).

An analysis of the executing entities that fulfil the requirement of spending at least 30 per cent of resources from the FNDE/PNAE on purchases from family farms (see Figure 24) reveals that the proportion of municipalities that meet the minimum threshold increased from 30 per cent to 45 per cent between 2010 and 2011/2012, with the South region presenting the highest level of compliance with the requirement each year. In that region, which already had the highest rate of compliance in 2010 (44 per cent of entities), the increase was equally significant: by 2012, about 69 per cent of executing entities that purchased food from family farms managed to effectively meet the 30 per cent requirement.

The Southeast region had the best performance in terms of progress achieved between 2010 and 2012, which is largely explained by the low level of compliance it had in 2010 (only 19 per cent); in other words, there was plenty of room for improvement. And, indeed, it did: the Southeast reached 45 per cent compliance in 2012. The Centre-West region showed modest progress, of about 7 percentage points—well below the performance of the South and Southeast. A note of caution, however: most of the progress in these three regions was observed between 2010 and 2011; there was very little progress between 2011 and 2012.

FIGURE 23

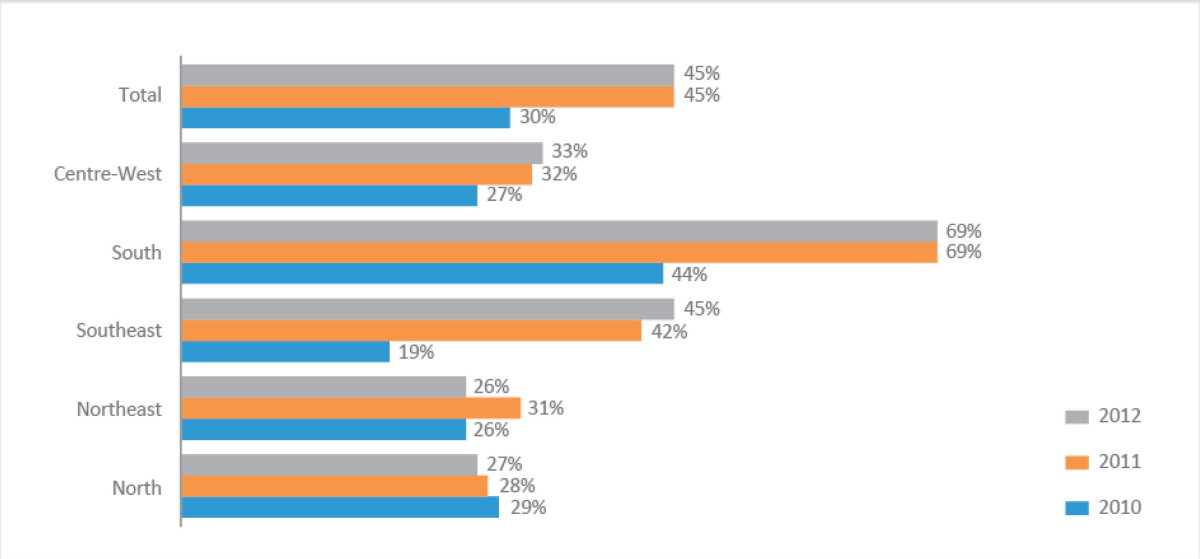
**Average percentage of PNAE/FNDE expenditures on purchases from family farmers by executing entities (2010–2012)**




Source: IPC-IG (2013), based on FNDE data.

FIGURE 24

**Percentage of executing entities that meet the minimum 30 per cent requirement for purchases from family farmers (2010–2012)**




Source: IPC-IG (2013), based on FNDE data.

In contrast to the progress observed in other regions, the numbers for the North and Northeast suggest that the executing entities of these two regions are struggling to progress towards the 30 per cent target, despite the increase in the number of entities that began buying from family farmers between 2010 and 2012.

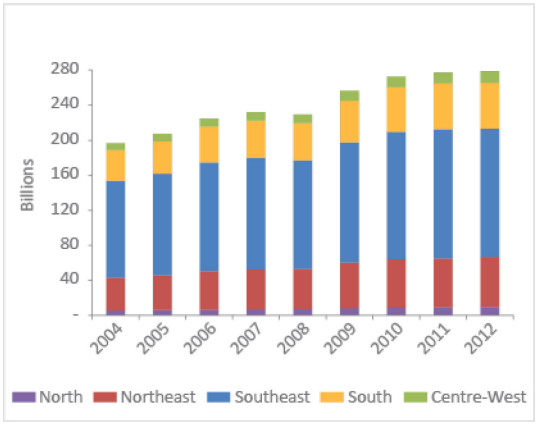
## 2.7 RURAL SOCIAL SECURITY

Rural social security, as discussed above, can be considered a precursor to the expansion of the Brazilian social protection system towards the universalisation of social rights. It was also shown to be one of the main causes of decreasing social vulnerability in large segments of agricultural and rural populations. The importance of social security resources is made evident in light of how agriculture plays out in the family economies of the Northeast, for instance. Social security has been the subject of numerous studies in that regard, and is always seen as a relevant factor in analyses of the dynamics of the Northeast's agricultural economy.

Figures 25 and 26 present numbers for the General Social Security System (*Regime Geral de Previdência Social*—RGPS), including the number of benefits paid in December 2012 (over 26 million) and amounts spent in the year (around BRL280 billion). A total 23.7 million retirement and other social security pensions were paid in December 2012, with annual expenditures of BRL254.7 billion.

FIGURE 25

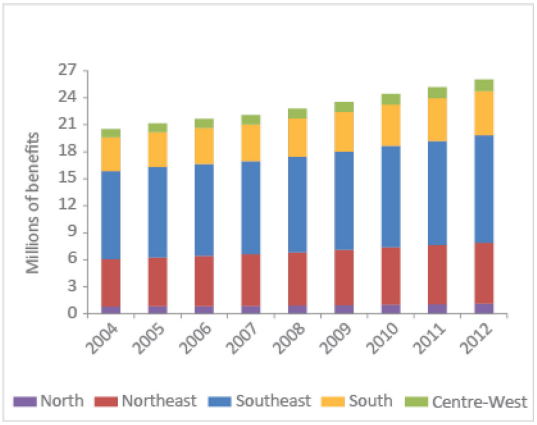
**Annual amounts paid in RGPS benefits (retirement pensions, other pensions and assistance) by major region (2004–2012). Amounts deflated by the IPC-A index**




Source: Database of Social Security Statistics.

FIGURE 26

**Number of RGPS benefits paid (retirement pensions, other pensions and assistance) by major region (2004–2012). Amounts deflatedby the IPC-A index**




Source: Database of Social Security Statistics.

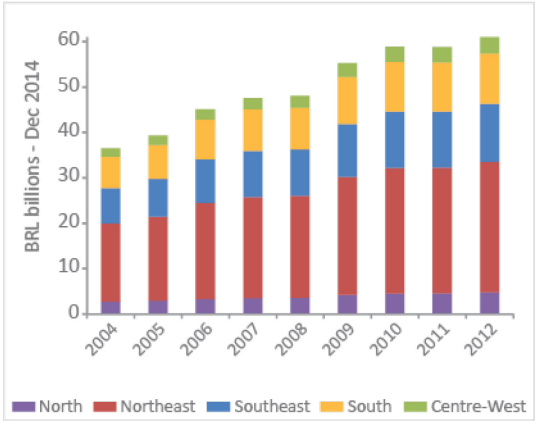
The regional distribution of RGPS social security benefits reflects, to a large extent, the profile of the labour market, and most notably its degree of formalisation. The Southeast region stands out, accounting for 46 per cent of benefits paid and 53 per cent of the annual amount paid in 2012, which is in line with the numbers seen for the previous 10 years. The Northeast had a similar share to that of the South (around 20 per cent), which indicates under-representation when considering the regions' overall elderly populations—respectively, 28 per cent and 27 per cent.

In any case, the BRL6.1 billion in social security benefits paid in the Northeast is of enormous significance for the regional economy. This impact is shown to be even more significant when it comes to benefits in rural areas (note: the social security concept is based on gainful employment, not residency) and its importance in rural society and to the agricultural economy. In December 2012, more than 4 million rural retirements and other rural pensions were paid in the Northeast, amounting to almost BRL30 billion paid out for the whole year. A clear pro-poor profile can be seen in the case of rural retirement

pensions: the North and Northeast show very distinct gaps between their proportions of pensions paid and demographic relevance. In fact, the two regions absorbed 60 per cent of the amount spent on pensions and rural benefits in 2012.

FIGURE 27

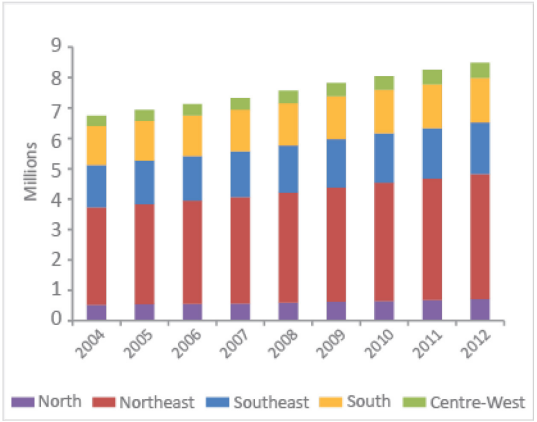
**Annual amounts paid in retirement and other rural pensions by major region (2002–2012)**




Source: Secretary of Social Security Policies.

FIGURE 28

**Number of rural retirement and other rural pensions paid by major region (2004–2012)**




Source: Secretary of Social Security Policies.

One can clearly see the importance of rural social security in the North and Northeast when its numbers are compared with demographic information. The two regions have, respectively, 475,000 and 2.45 million agricultural establishments (of which 413,000 and 2.19 million, respectively, are family farms) and 963,000 and 3.72 million rural households. Meanwhile, the number of benefits paid for the two regions in December 2012 stood at 719,000 and 4.16 million, respectively.

It is worth noting that the average annual growth rate of coverage over the last eight years was 2.9 per cent. It is a significant rate, but lower than what was observed during the 1990s, notably in the second half of the decade (which saw the expansion and 'universalisation' of social security). In terms of amounts spent, the increase between 2004 and 2012 was much greater, with annual growth rates of 6.6 per cent caused by the appreciation policy in place for the minimum wage (increases in the minimum wage extend to retirement and other rural pensions linked to its value).

## 2.8 BOLSA FAMÍLIA

In June 2015 the government paid 13.7 million *Bolsa Família* benefits. The average benefit amount was BRL167.45. The number of beneficiary families was 25 per cent higher than in December 2006 and 7 per cent higher than in December 2010. The average amount of benefits also increased (in real terms) by 67 per cent and 40 per cent, respectively, between those dates and June 2015.

The growth seen in the number of beneficiaries and average per-benefit amounts are a reflection of the government's work to reach the target of 11 million beneficiaries set at its inception and the expansion conducted in 2010. The growth of the average per-benefit amount is related to the constant revision of amounts paid and to the creation of the Benefit Overcoming Extreme Poverty (*Benefício para Superação da Extrema Pobreza*—BSP),[19]

targeting extremely poor families. Average benefit amounts increased from BRL92.6 in 2010 to BRL169.2 at the end of 2014, an increase of 83 per cent.

FIGURE 29

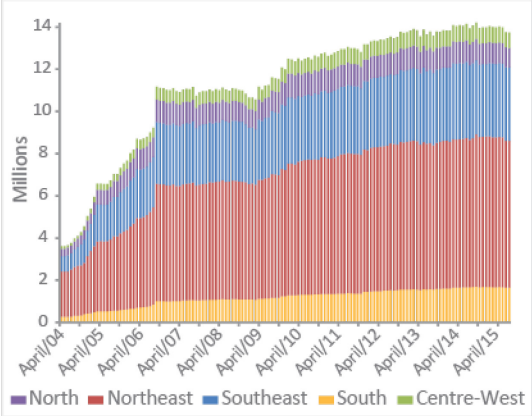
**Number of *Bolsa Família* beneficiary families and total annual amount transferred by major region (2004–2014)**


Source: SAGI/MDS.

Note: Values refer to the month of December of each year.

FIGURE 30

**Number of *Bolsa Família* beneficiary families by major region (January 2014 – June 2015)**




*Source*: SAGI/MDS.

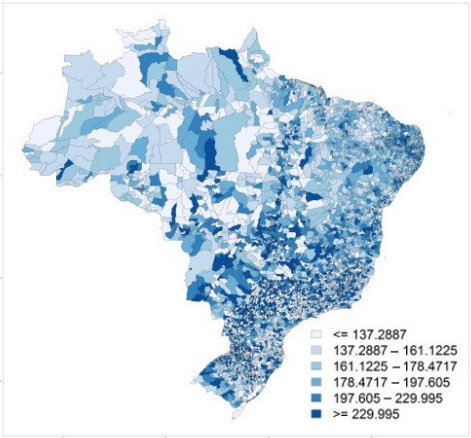
*Bolsa Família* covers 21 per cent of Brazilian households. Its average benefit amount is BRL170, and it is different from typical conditional cash transfers due to its focused nature. In fact, the Brazilian government's strategy was to expand the programme as a way to reach all poor people, and especially those who are extremely poor, seeking to mitigate the effects of inclusion errors through periodic monitoring of administrative records. The definition of a target population larger than the estimates of poverty made through annual surveys—i.e. what poverty looks like at one point of time—is a result of the assumption that families move in and out of poverty, and as such this analysis must be made as part of a time horizon, of two years in this case.

Figures 31 and 32 show the ratio between the number of beneficiary families and the number of households whose income (subtracting any *Bolsa Família* benefits received) did not surpass the extreme poverty threshold in 2013. Both maps were produced by cross-referencing coverage estimates obtained from the *Bolsa Família*'s administrative records with estimated extreme poverty incidence rates obtained based on the PNAD. Figure 31 shows non-disaggregated data, while Figure 32 shows data only for beneficiaries and 'extremely poor' rural populations.

As can be seen, the coverage proxy indicator does not present well-defined regional profiles, with the best rates seen in the rural and/or agricultural Northeast and the worst in the North and Centre-West. It is also noteworthy that rates higher than 100 per cent predominate in all regions, given that the 'extremely poor' population (excluding *Bolsa Família* transfers) at a given time is smaller than the population that is experiencing situations of 'extreme poverty' (excluding *Bolsa Família* transfers) in a two-year period.

FIGURE 31

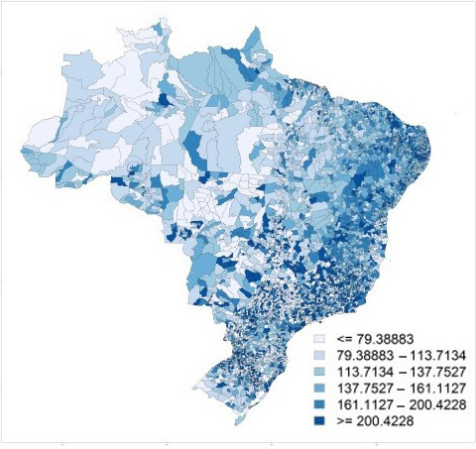
**Ratio of *Bolsa Família* beneficiary families to households living in extreme poverty**




Source: DECAU/SENARC/MDS and PNAD 2013.

FIGURE 32

**Ratio of *Bolsa Família* beneficiary families to rural households living in extreme poverty**




Source: DECAU/SENARC/MDS and PNAD 2013.

*Bolsa Família* beneficiaries are concentrated in the Northeast and Southeast, which together account for two thirds of beneficiaries. As noted in Table 10, the regional distribution of benefits as of 2015 had the following profile: the Northeast received 50.4 per cent of benefits, the Southeast 25.5 per cent, the North 12.0 per cent, the South 6.9 per cent, and the Centre-West 5.3 per cent. The data show that income inequality in the country is associated with regional inequalities: while 57 per cent of households in Maranhão (Northeast region) receive *Bolsa Família* benefits, in Santa Catarina (South) the figure is only 7.3 per cent (Camargo et al. 2013).

Regional data on benefit recipients that reside in rural areas reveal that two thirds of beneficiaries live in the Northeast, proof of how poverty is significantly more prevalent in that region. The North is also over-represented in the beneficiary population in comparison with its population or economic weight; the region contains 14 per cent of the country's beneficiaries that reside in rural areas (a total of 522,000 families), which shows the importance of *Bolsa Família* in the North's rural areas.

TABLE 10

***Bolsa Família* beneficiaries (rural vs. all beneficiaries) and poor and extremely poor households (rural/agricultural vs. total households) by major region (July 2015 and 2013)**

| Region | Benefits paid | | Extremely poor households | | Poor households | |
|---|---|---|---|---|---|---|
| | Rural | Total | Rural/ agricultural | Total | Rural/ agricultural | Total |
| **North** | 521,746 | 1,646,466 | 107,170 | 246,132 | 292,233 | 552,877 |
| **Northeast** | 2,455,377 | 6,915,426 | 585,160 | 1,156,290 | 1,335,377 | 2,411,408 |
| **Southeast** | 464,068 | 3,491,838 | 73,197 | 706,937 | 177,584 | 1,067,182 |
| **South** | 195,650 | 941,891 | 40,798 | 187,568 | 79,354 | 290,510 |
| **Centre-West** | 107,199 | 721,040 | 24,896 | 127,189 | 39,668 | 190,153 |
| **Total** | 3,744,040 | 13,716,661 | 831,221 | 2,424,116 | 1,924,216 | 4,512,130 |

Source: DECAU/SENARC/MDS and PNAD 2013.

Also noteworthy are the data in Table 11, which show the average amounts paid by region and type of household. The average amounts paid for rural populations are higher than the general average in the North and Northeast regions. This reflects the 'profile' of poverty, which is not only more prevalent but also deeper and more acute in rural regions, something that the programme seeks to mitigate through the BSP.

TABLE 11

***Bolsa Família* beneficiaries and total/average amount of benefits paid by household type and major region (July 2015)**

| Region | Beneficiary families | | | | Amount (BRL) | | | |
|---|---|---|---|---|---|---|---|---|
| | Rural ('000s) | Percentage | Total ('000s) | Percentage | Total rural (millions) | Avg. rural | Total (millions) | Avg. total |
| **North** | 522 | 13.9 | 1,646 | 12.0 | 114 | 217.94 | 313 | 190.36 |
| **Northeast** | 2,455 | 65.6 | 6,915 | 50.4 | 466 | 189.90 | 1,196 | 172.98 |
| **Southeast** | 464 | 12.4 | 3,492 | 25.5 | 75 | 160.59 | 536 | 153.63 |
| **South** | 196 | 5.2 | 942 | 6.9 | 29 | 147.21 | 141 | 149.22 |
| **Centre-West** | 107 | 2.9 | 721 | 5.3 | 19 | 172.84 | 110 | 152.87 |
| **Brazil** | 3,744 | 100.0 | 13,717 | 100.0 | 702 | 187.45 | 2,297 | 167.45 |

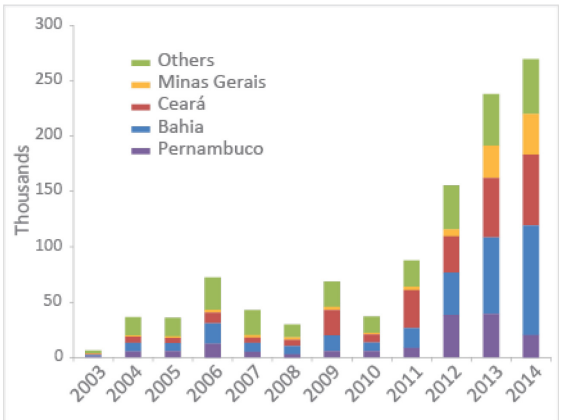
Source: DECAU/SENARC/MDS.

## 2.9 MILLION CISTERNS PROGRAMME (P1MC)

In 2014, the P1MC built just over 360,000 cisterns, 300,000 of which for human consumption and 60,000 for production. This represents an 87 per cent growth in the number of cisterns for human consumption built compared to the period 2011–2013, demonstrating the momentum the programme had in 2014. In fact, the number of cisterns built in the last three years (2012–2014), namely around 800,000, is equivalent to two thirds of all cisterns built since the programme began in 2003. The performance for cisterns for production was even stronger: the number built in 2014 alone was more than half of the entire stock built since 2003. Partial numbers for 2015 (not included in Figures 33 and 34) show that the numbers of cisterns for production continue to gain momentum, but the pace of growth for cisterns for consumption is slowing; cisterns are now being built in schools.

FIGURE 33

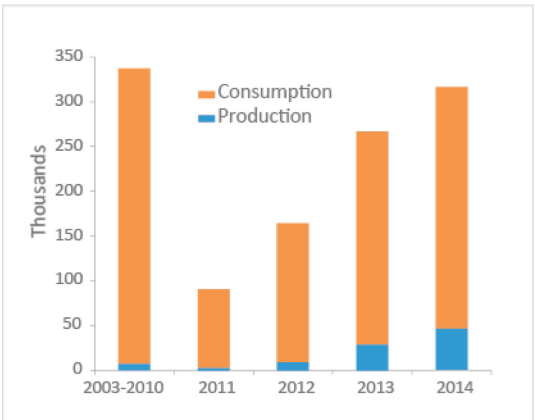
**Number of cisterns for human consumption built under the P1MC by state (2003–2014)**




Source: SECEX/MDS.

FIGURES 34

**Number of cisterns built under the P1MC by type (2003–2014)**




Source: SECEX/MDS.

The programme's coverage since its inception is virtually universal for cisterns for human consumption for poor households located in rural areas and/or whose members are engaged in agriculture. This means little over 50 per cent of all poor households in the Northeast.

As for the programme's impacts, studies show that rural households with cisterns have both better access to water and better-quality water, which is reflected in lower chances of diarrhoeal episodes. Additional indirect effects include an increased likelihood that children and young people will attend school, largely due to less time spent fetching water (Filho and Pazello 2008).

Finally, it should be emphasised that due to operational and management issues (typical of policies with the degree of shared management of the P1MC), performance in the construction of cisterns was erratic until 2010/11. Since then, the construction of cisterns has advanced swiftly, reaching the goal of 1 million cisterns built in mid-2014.

## 2.10 HARVEST INSURANCE

Statistics show that the Northeast is both one of the poorest regions in Brazil and the one with the largest share of rural population (about one third of its entire population lives in rural areas). It is also the region with the largest number of farms, almost 2 million, according to data from the last agricultural census. "Of these, about 1.5 million are part of the so-called Group B of the National Family Farming Strengthening Program (PRONAF), or 73.6 per cent of this group at the national level" (Ipea 2007).

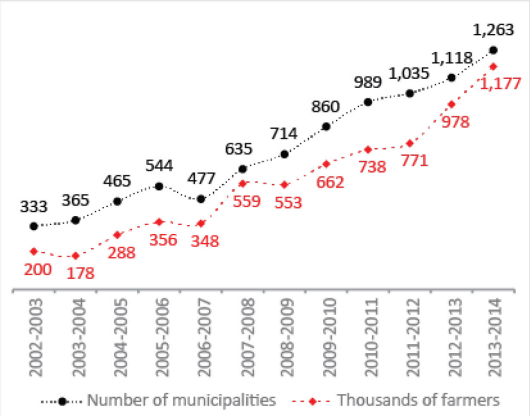
These are little-capitalised family farms, consisting of squatters, sharecroppers and tenants who work with land ranges not exceeding 10 hectares. The inequality-reproducing land ownership structure is a strong factor for the persistence of poverty for this entire population. The programme, even with its limitations (to be discussed later), seeks to mitigate the effects of drought.

When it began operating for the 2002-2003 harvest, the Harvest Insurance programme covered over 200,000 farmers in 333 municipalities and six states. The state of Ceará contained most of them: 108,950 farmers (ibid.). At that harvest nearly 80,000 registered farmers in 139 municipalities affected by drought received the benefit—i.e. about 40 per cent of the municipalities and farmers. This percentage was repeated at the next harvest, with a similar number of beneficiaries. As illustrated in Figures 35 to 37, the 2004-2005 harvest saw an increase in the number of beneficiaries, mainly due to the higher proportion of farmers affected among those registered with the programme (called 'affiliates'). The number of municipalities that agreed to join the programme also grew constantly, from approximately 500 affiliated municipalities in 2004/5–2006/7 to over 1,200 for the 2013/14 harvest, with the number of farmers rising from 300,000 to nearly 1.2 million in the same period.

With regard to the number of beneficiary farmers (i.e. who received insurance pay-outs), some harvests had lower rates of claims—namely the 2005/6, 2007/8 and 2010/11 harvests—due to the less severe weather in those years. On the other hand, there was a significant growth of the programme for the 2006/7, 2009/10 and 2013/14 harvests, with the number of beneficiaries increasing from 316,000 to 639,000 and 909,000, respectively.

FIGURE 35

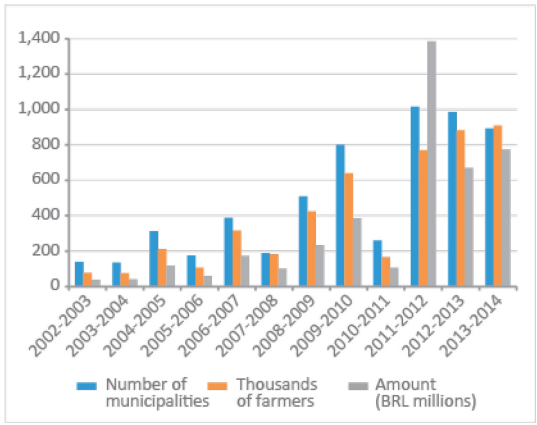
**Number of municipalities and farmers registered with the Harvest Insurance programme (2002/3–2013/2014)**




Source: SAF/MDA.

FIGURE 36

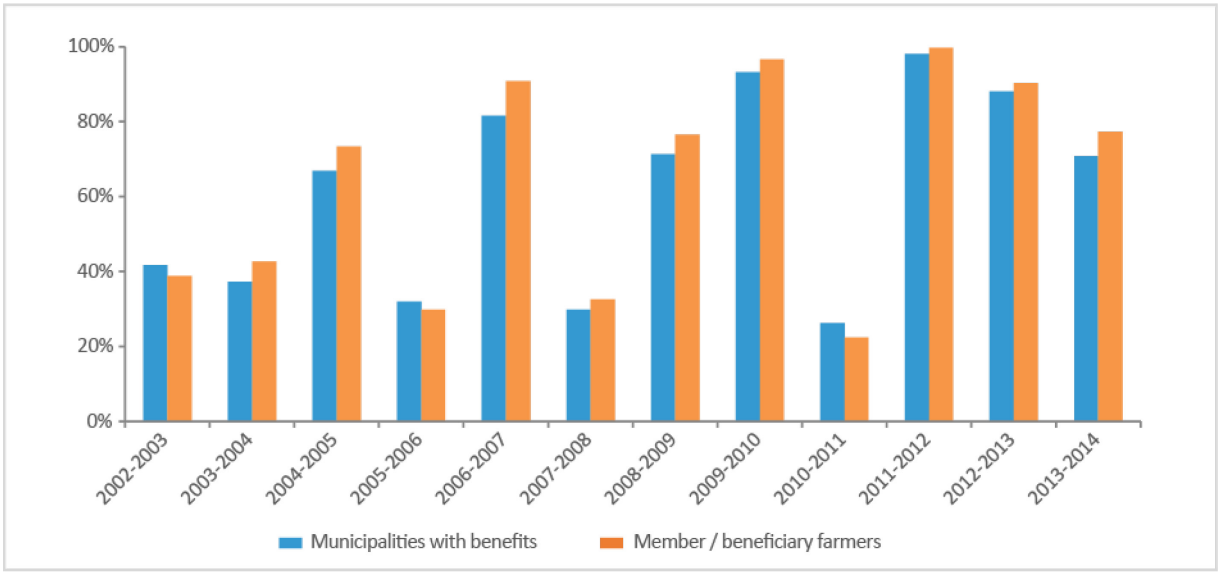
**Number of municipalities, number of farmers who received payments and amounts paid under the Harvest Insurance programme (2002/3–2013/2014)**




Source: SAF/MDA.

FIGURE 37

**Proportion of municipalities and farmers that received pay-outs vs. total number of farmers registered with the Harvest Insurance (2002/3 to 2013/14)**




Source: SAF/MDA.

As for regional distribution, Ceará has always had a historically larger proportion of beneficiaries, followed by Paraíba, Pernambuco and Piauí (see Figure 38). In recent harvests (2010/11 to 2013/14) the proportion of farmers from Bahia who registered rose sharply, with the state recently becoming the one with the most beneficiary farmers under the programme.

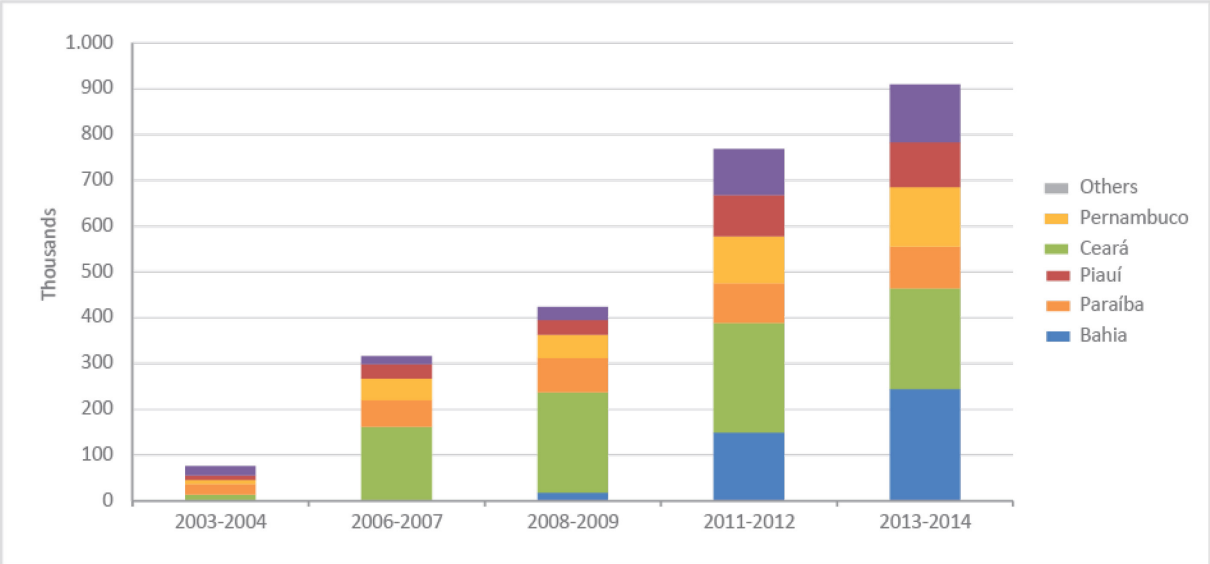
It seems, therefore, that the programme (despite its clear expansion) has a history of concentration of demand in certain states. That may be related to various processes that occur in the municipal sphere, which is where the policy is in fact implemented. This is related to the

programme's low prioritisation, low operational and organisational capacity and the lack of social institutions that can press municipalities into joining the programme and help 'democratise' the expansion of farmer membership, among other factors.

We must, however, consider this membership structure of states in the programme through the lens of the universe of municipalities targeted by it, the number of poor farmers who reside in them and the areas where climate issues actually occurred and led to a loss of harvest. Only once those factors have been taken into account can it be claimed that the programme is over-concentrated in municipalities with better management capacity.

FIGURE 38

**Number of farmers receiving Harvest Insurance payments by state (2003/4, 2006/7, 2008/9, 2011/12 and 2013/14 harvests)**




Source: SAF/MDA.

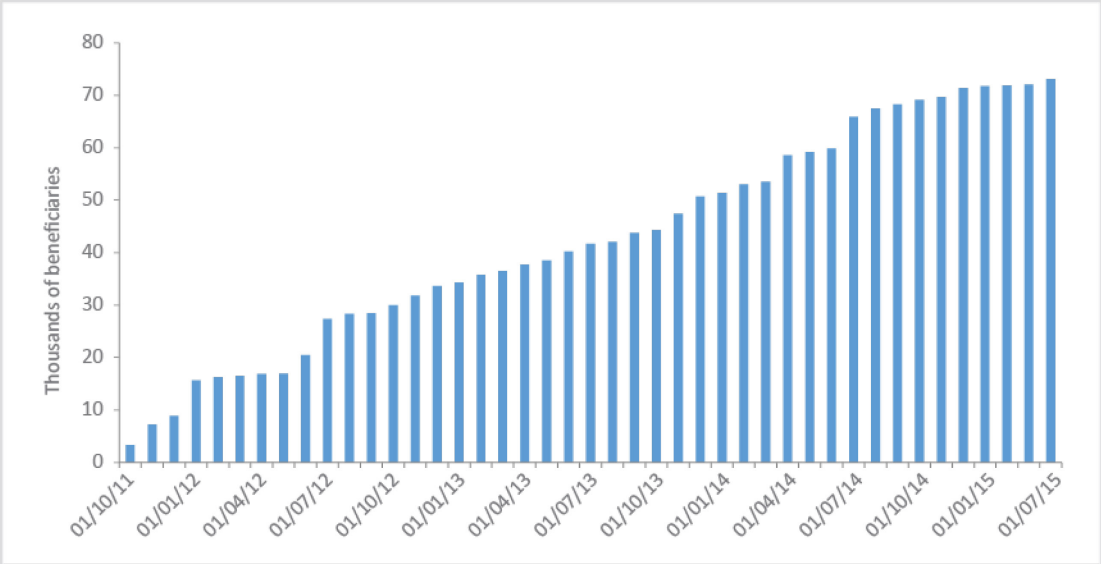
## 2.11 *BOLSA VERDE* (GREEN GRANT)

A total 36,665 *Bolsa Verde* benefits totalling BRL11 million were paid in July 2015. The programme currently has 73,083 beneficiaries. As can be seen from Figure 39, the programme has experienced significant growth between 2012 and 2014, from 40,000 to 75,000 beneficiaries.

Table 12 reveals the importance of the programme to the North: 78.5 per cent of all enrolled beneficiaries since the programme began are from the region. Disbursements were BRL9 million in July 2014, which may suggest small amounts, but one should take into account that these benefits are intended for extremely poor farmers—settlers, occupants, riparian families—located in areas of environmental importance that have scant resources. Thus, the benefit amount of BRL300 (or about 40 per cent of the minimum wage) paid every three months is a very significant income supplement for beneficiaries. The programme serves 68 per cent of the 83,000 extremely poor agricultural and pluriactive households in the North region; if we consider the entire universes of *Pronaf B* family households (154,000) or settled families (429,000), the same percentage falls to 37 per cent and 13 per cent, respectively. In any case, it is clear that the programme seems to have very significant coverage among Northern farmers.

FIGURE 39

**Number of *Bolsa Verde* beneficiaries, Brazil (January 2011 to July 2015)**




Source: Ministry of the Environment (MMA) Transparency Portal.

TABLE 12

**Number of benefits paid and amount spent by the *Bolsa Verde* (July 2015 and 2011–2015)**

| Region | July 2015 | | 2011–2015 | |
|---|---|---|---|---|
| | Amount (BRL '000s) | Beneficiaries | Beneficiaries | Share of total (percentage) |
| **North** | 8,702 | 29,007 | 57,374 | 78.5 |
| **Northeast** | 1,628 | 5,426 | 11,906 | 16.3 |
| **Southeast** | 443 | 1,475 | 2,291 | 3.1 |
| **South** | 109 | 364 | 542 | 0.7 |
| **Centre-West** | 118 | 393 | 970 | 1.3 |
| **Total** | 11,000 | 36,665 | 73,083 | 100.0 |

Source: Ministry of the Environment (MMA) Transparency Portal.

As such, the programme, although modest in size at both national and regional levels, is a tightly concentrated one, given the profile of its beneficiaries. As shown in Table 13, most of the families benefiting from the programme for the period in question originate from settlements (59 per cent), followed by households in areas protected for sustainable use (32.8 per cent) and, finally, riparian families (8.2 per cent). More specifically, agro-extractive projects (PAEs), extractive reserves (Resex) and traditional settlement projects (PAs) are the priority areas that have sent the largest number of families to the programme.

*Bolsa Verde* is concentrated in the North region because that region holds the most federally protected areas and the largest eligible target audience (MMA 2012). The municipalities with the highest number of beneficiary families (and which received the bulk of payments) are in this region, particularly in the state of Pará. This high concentration in one region and state also means that the programme focuses strongly on the Amazon biome, which received more than BRL55.1 million (79.9 per cent) of the total amount paid in benefits in the programme's first two years. The next most important biomes for the programme are

the *Cerrado* (BRL5.1 million, or 7.4 per cent), the Atlantic Forest (BRL3.6 million, or 5.3 per cent) and the *Caatinga* (BRL1.8 million, or 2.5 per cent). This scenario has not changed since then, as the programme's regional distribution profile remains the same. Locations in biome transition regions have also benefited, although the Pantanal and Pampa biomes have not yet benefited.

TABLE 13

**Location of families benefiting from the *Bolsa Verde* (October 2011 – July 2015)**

| Type/category | Beneficiaries | Share of total (%) |
|---|---|---|
| **Protected areas (ICMBIO)** | | |
| Flona (National Forest) | 1,254 | 1.7 |
| Sustainable Development Reserves (RDS) | 202 | 0.3 |
| Resex | 22,514 | 30.8 |
| **Settlements (INCRA)** | | |
| PAs | 11,154 | 15.3 |
| PAEs | 30,648 | 41.9 |
| PDS | 1,218 | 1.7 |
| Agroforestry projects (PAF) | 95 | 0.1 |
| **SPU** | | |
| Riparian populations | 5,998 | 8.2 |

Source: MMA.

The number of states and municipalities served increased over the period considered: the only state in the country without any beneficiaries is Rio Grande do Sul. It should be noted, however, that *Bolsa Verde*'s presence is still quite limited in several Brazilian states. For example, in July 2015 there were seven different states in which fewer than 30 families received the benefit: Roraima, Rio Grande do Norte, Santa Catarina, São Paulo, Mato Grosso, Mato Grosso do Sul and the Federal District.

## 3 IMPACT ASSESSMENT OF PROGRAMMES

This final part of the paper seeks to assess the results and effects of these programmes on their target audiences and, more broadly, on society. Ideally, such a study would be based on impact assessments that could allow us to focus specifically on the rural populations of the North and Northeast regions, which are the focus of this report. Unfortunately, however, only three of the 11 programmes have been subject to systematic, already-published impact assessments whose results could support our own analysis: the PAA, *Bolsa Família* and the social security system. And even for those, there are few studies that allow us to disaggregate national data as we would have liked to have done for all of them. Therefore, in the case of *Bolsa Família* and social security, for which we have had access to administrative data and household surveys that collect meaningful information, we conducted an impact assessment that, while approximate in nature, allowed us to use data as current as 2013, generate rural and/or regional data subsets and filter data by type of household.

For the other programmes, we sought to mitigate the lack of impact assessments with an analysis of administrative data, qualitative studies and literature reviews. These methods were intended to highlight correlations and propose causality hypotheses, even though we know we do not have the means to produce quantitative evidence. Another aim for these studies was to highlight some of their current logistical and operational issues and discuss shared proposals of possible reforms which these programmes should or could undergo. In brief summary, we highlight below some of the key findings for each programme reviewed.

Regarding the Agrarian Reform, it is observed that the land concentration scenario found in Brazil today stems from a colonial land management model, and that, despite advances driven by social activism that led to more than 1 million families settled in about 10.000 projects throughout the history of Brazil, the expropriations of land made for that end have yet to cause further structural effects. This is for four main reasons, which we present in the following paragraphs. Regarding land concentration, no major changes have been seen in the Gini index for land ownership in recent times; also, what has been seen recently in demographic terms is a continuation of the process of reducing the proportion of the population engaged in agricultural activities and, to a lesser extent, of populations living in rural areas as a whole. In effect, the Gini index for land ownership did not change between the 1985 and 2006 censuses, with the index hovering around 0.855.[20]

The first of the four reasons mentioned above is that Brazil's Agrarian Reform programme, now effected at an increasingly slower pace, follows a settlement strategy with little reliance on the distribution of private (albeit unproductive) land stocks, being largely dependent on the stock of public land. There is widespread use of regulatory policies meant for government land, most often in the Northeast and North regions (particularly in the latter), a process that is out of step with the geographical origin of the demands for land (Ipea 2012).

Second, there are still weaknesses regarding the productive and social structure of settlements, which are far from ideal and sustainable. Without proper support, unsustainable settlements can end up serving as an instrument for the transfer of public land to large landowners, who end up acquiring these lands from settlers (Ipea 2015a; 2014a).

Third, land concentration remains virtually unchanged, as the constitutional concept of the social role of the land has been losing ground in practice under the current Agrarian Reform policy. We highlight here the need to update the criteria for determining 'efficient use of land' (GUT and GEE), which date back to 1975, in addition to the need to legislate a ceiling size for landholdings. The immediate demand for land is estimated at 4 million households and about 113.5 million hectares. This demand could be met without difficulty by expropriating the following stocks: approximately 176 million ha in unproductive land, 50 million ha in land measuring over 35 tax modules, and 1,266 million ha in land with environmental embargoes (the latter totalling approximately 227 million ha of available area). As previously stated, however, one must point out that there is a territorial gap, of the order of 74 per cent, between the location of the claimants and the location of the supply of land eligible for dispossession (Ipea 2010a).

The fourth and final reason is that the agrarian reform agenda and the distributional conflicts related thereto are still neglected by the State, which allows the escalation of violence in the field, on the one hand, and leads to the marginalisation of social movements, on the other. In fact, land conflicts accounted for 78 per cent of all rural conflicts in 2012, involving

71 per cent of all affected people, mostly located in the states of Maranhão and Pará. Additionally, it can be predicted that the major infrastructure projects currently under way in the North and Northeast will affect a significant number of settlements, indigenous populations, and *quilombola* and traditional communities (Ipea 2014; 2013).

Regarding the National Land Credit Programme (PNCF), we highlight the criticism by social movements that understand the initiative to be a strategy to counteract an agrarian reform policy based on dispossession and settlements (Gomes et al. 2015). However, some of these movements have also recognised a potential positive effect of the programme, insofar as it is capable of reversing the fragmentation of properties due to family succession.

We note that the PNCF is characterised by its small number of beneficiaries and coverage when compared with the Agrarian Reform, and that without further investment to offer training, technical support, access to credit for investment, crop assurance and market access, land credit tends to lead to excessive debt and unsustainability for the credit-contracting farmers (ibid).

With respect to the Pronera, there is very little information available, but in any case it is worth highlighting that the educational model that guides the programme is aligned with the values of social movements fighting for agrarian reform, thus guided by the objective needs of the settled communities. The programme also reveals some success in raising institutional support from the leading educational institutions of the country. There is, however, much progress to be made towards expanding coverage, which is still low (Ipea 2015b), and reducing the extremely high drop-out rates.

As for the Pronaf, we note that while the programme does not do enough to completely halt the emptying of the countryside (i.e. the rural exodus and downsizing of the rural labour market), it has had a few potentially mitigating effects on the phenomenon. On the one hand, initial studies evaluating the programme emphasised its potential effects on preserving or creating jobs in rural areas (Mattei 2010 citing Ibase 1999) and in making productive units more dynamic (increasing technology and productivity) (Mattei 2010). On the other hand, recent data showing significant drops in agricultural engagement, with a particular decrease in the number of self-employed agricultural households, represent a problem, at least in terms of the country as a whole. For some specific regions, however, the evolution of agricultural employment demonstrates some different, more positive indicators than those of the national trend, which may be related to the Pronaf.

Some more positive effects on agricultural occupation can also be noticed in the case of certain specific activities. As shown in Table 14, we are witnessing an increase in the number of self-employed agricultural workers in the Southeast and a less significant reduction in the South, which may be seen as the *Pronaf* helping to stave off decreases in agricultural occupation. The same can be said in relation to the significant growth in the number of those engaged in activities for self-consumption and the much less significant reduction in the number of household members occupied without monetary compensation, including non-wage-earning family members and those working for self-consumption.

In addition, a positive effect of access to *Pronaf* credit was identified in the economic dynamics of mostly-agricultural municipalities. Mattei (2006 and 2010), when reviewing the 100 municipalities that have received the most credit from the *Pronaf* between 2001 and 2004, found in them a dynamic improvement of municipal revenues and increased agricultural sector (and total) GDP.

TABLE 14

**Absolute and percentage change of the proportion of the population engaged in various roles by major region, Brazil (2004/2013)**

| Brazil and selected regions | Total | Employed | Self-employed | Self-consumption | Unpaid family members | Self-consumption + unpaid |
|---|---|---|---|---|---|---|
| | | | Absolute variation (x1000 people) | | | |
| **Brazil** | -3,564 | -991 | -515 | 991 | -2,758 | -1,767 |
| **Northeast** | -1,725 | -444 | -444 | 988 | -1,599 | -611 |
| **South** | -932 | -101 | -91 | -76 | -598 | -674 |
| **Southeast** | -497 | -432 | 139 | -29 | -131 | -160 |
| | | | Relative variation (%) | | | |
| **Brazil** | -20 | -20 | -11 | 29 | -63 | -23 |
| **Northeast** | -21 | -24 | -24 | 67 | -70 | -16 |
| **South** | -29 | -18 | -10 | -12 | -61 | -41 |
| **Southeast** | -14 | -25 | 25 | -4 | -34 | -14 |

Source: PNADs 2004 and 2013.

We also highlight the importance of the *Pronaf* in its political aspect, as evidenced by its popular participation mechanisms built over the years. They made it possible to bring federal, state and municipal levels closer to the people, in addition to promoting governance processes by opening new channels for civil society participation. Examples include the creation of the municipal rural development councils and their state and national versions; these were the foundations that allowed social organisations to act in the Territorial Development Councils, formed from 2003, to influence the framework of the Sustainable Rural Territory Development Programme (PRONAT).

Despite significant advances in the socio-economic and political spheres, the *Pronaf* was unable to make the substantive changes to the conventional pattern of agricultural development envisaged in its original scope. Aquino and Schneider (2010) come to this conclusion based on an analysis of works that studied the application of the *Pronaf* in the Northeast and South regions of the country, which contain most of Brazil's family farmers.

The study reveals that, in general (and particularly in the case of the Northeast), the programme has had no effect on changing the production model (cropping options and techniques), which continues to focus on the traditional areas of agribusiness, including by reproducing techniques that are vulnerable to drought and little adapted to the region. This stems largely from the quantitative expansion of contracts without corresponding qualitative improvements; the programme has followed a sectoral and productivist bias, focusing on offering credit to farmers with higher incomes and levels of expertise and, to a large extent, disregarding the importance of non-agricultural activities (Aquino and Schneider 2010; Carneiro 1997).

According to Aquino and Schneider (2010, 13) "the program maintains and encourages among family farmers the industry-driven, productivist bias of the conventional model; in other words, it is 'doing more of the same'". They conclude that, in the way it is currently presented, the programme has contributed very little to promote socio-technical changes that can reduce the vulnerabilities of the poorest farmers.

The 'do more of the same' mentality referred to by the authors relates to four main factors:

1. A strategy that favours quantity over quality of contracts: it is not a central concern of the programme whether Pronaf resources are being used to promote socio-technical changes or simply to reproduce a pattern of agriculture that is giving clear signs of exhaustion.
2. As stated by Carneiro (1997), the programme followed an industry-driven and productivist bias, focusing on offering credit to farmers with higher incomes and levels of expertise (as seen by the concentration of resources in the so-called 'variable' group).
3. The association between the well-being of rural families and the development of agricultural activities remains rooted in the thinking of managers and even of those who operate rural credit, disregarding the importance of non-agricultural activities in the composition of household income and the occupation of hand labour.
4. The Pronaf needs to be better integrated with other rural development policies, as credit in itself is not sufficient to build a new rural development model in the country.

Making the *Pronaf* an effective instrument for the development of rural areas in the country requires an effort to rethink the programme, both in its operational logic and regarding the role played by the various agents responsible for its implementation at different levels of government. As experience has shown, it is not enough to just raise the volume of resources; the supply of credit is but one of many elements that should shape a broader development strategy to be designed and implemented by government and social movements.

As for the PAA, we highlight its significant impact in increasing income, production and organisation of family farmers, as well as its contribution to diversifying food crops, providing access to institutional markets, ensuring fair prices in markets and restructuring and promoting local markets (Agapto et al. 2013; Doretto and Michellon 2007; IPC-IG 2013; Lucena and Luiz 2009; Vogt and Souza 2009; Sambuichi et al. 2013; Sparovek, Ludwig, and Maule 2007). The main challenges of the initiative seem to be logistical, related mainly to the complexity of the mechanisms for paying farmers (being gradually resolved by issuing debit cards for receipt of benefits), and production, transport and stock issues (which have been mitigated by the Conab, the use of cooperatives and the Municipal Agriculture Departments) (Chmielewska and Souza 2010; Nehring and Mckay 2013; IPC-IG 2013).

The PNAE, in turn, shows that the changes in its design aimed not just to ensure food security and child education but also to offer access to institutional markets for family and vulnerable farmers, from whom affiliated institutions must now purchase at least 30 per cent of the food they acquire. In 2012, about 70 per cent of municipalities acquired products from family and vulnerable farmers, which indicates some success of the strategy. In addition, the programme has a virtuous-cycle effect on the performance and restructuring of the National Council on Food and Nutrition Security (CONSEA), which is an important body for popular participation.

There remain, however, a number of difficulties for farmers to access this market and stay in it. Operational issues and structural policies that lead to such difficulties include: organisation of farmers; logistical difficulties; prices paid for the products; lack of training of the agents involved; lack of documentation by farmers; farmers' distrust of public authorities; the informality of agribusinesses; inadequate infrastructure in schools;

lack of coordination between managers and farmers, and political infighting; and health, tax and environmental regulations that exceed the capabilities of producers to comply (Baccarin et al. 2011; Cora and Belik 2012; Ipea 2014a; Triches 2015; Triches and Schneider 2012).

Regarding social security, we have assessed it in relation to its two emblematic historical moments: 1) its expansion to focus on covering rural workers in the 1990s; and 2) the inclusion of family farmers as 'special beneficiaries' (i.e. with lower direct contribution requirements) in the 2000s.

As indicated in a seminal study by the Ipea (2000), the most notable effects of the first shift are seen in a comparison between the north and the south of the country. Examples include:

- 1.8 benefits are paid per household in the South region; 1.7 in the Northeast;
- the gap between the income of beneficiaries and those of the 'control groups' was not as large in the Northeast as in the South, although in the Northeast social security was a more important element of distinction than in the South among people living below and above the poverty line; and
- the benefit represents a higher share of total income in the Northeast (71.2 per cent) than in the South (41 per cent), and, in both cases, it is often responsible for ensuring basic household consumption (especially in the Northeast, where 95 per cent of the benefit was intended for that purpose).

As pointed out by Delgado (2015), the most notable effects of the second shift include:

- a wide expansion of coverage for family farmers; and
- a reversal of the modal income profile for beneficiaries. While in the 1990s more than two thirds of beneficiaries lived for pure subsistence, in the 2010s about two thirds of them earn more than one minimum wage (and the minimum wage went through substantive real value increases over this period).

In this regard, it is noteworthy that the number of rural social security benefits leaped from 4.1 million in the first year to 8.9 million in 2013, showcasing the important role played by the policy in generating public social spending that adds dynamism to municipalities and local economies (Ibid).

To analyse the direct effects of social security on the reduction of poverty and extreme poverty, we prepared a cross-sectional analysis for this study that identifies the beneficiaries of social security pensions among the interviewees for the PNAD and, based on their declared income, attempts to identify those individuals living in poverty and extreme poverty and those who were only able to overcome those thresholds due to the social security benefits they receive (even if their total income is the result of combining that and other incomes). The ratio of people who overcame poverty and extreme poverty because of their social security benefits over the number of people that would be considered poor and extremely poor if their pension income were discounted are what we will call 'poverty graduation rates' and 'extreme poverty graduation rates'.

Although it is not the most appropriate way to assess the contribution of rural social security to reducing poverty and extreme poverty, comparing the prevalence of poverty if pension income were discounted allows for some conclusions. Without pension income, the

incidence of poverty among rural households (both agricultural and non-agricultural) would increase from 8 per cent to 20 per cent, while for agricultural households the increase would be from 22 per cent to 34 per cent. The prevalence of extreme poverty would increase from 4 per cent to 13 per cent (for all households, agricultural and non-agricultural) and from 5 per cent to 12 per cent for agricultural households. The data show how the income from social security pensions keeps extreme poverty (and, to a lesser extent, poverty) at bay for a significant segment of the population. On the other hand, the decreases in the incidence of poverty and extreme poverty have been less significant among farmers, which indicates how the labour income of poor farmers has been devalued.

The best indicator to determine the role of rural social security in lifting farmers from poverty is the one that determines the proportion of individuals living in households with elderly people who do not rely on social security for household income. For all residents in households with elderly people, 59 per cent do not rely on social security pensions for household income. Among poor and extremely poor households, those that include elderly individuals and do not rely on social security income are almost non-existent. In fact, no extremely poor households (and only 3 per cent of poor households) have elderly people who receive social security benefits. That is to be expected, given that the amount paid in social security pensions itself tends to be enough to surpass the extreme poverty and poverty thresholds, except for those households with many members whose pension income is the only or main source of income. These three percentages are quite similar for the Northeast region: 60 per cent, 0 per cent and 4 per cent, respectively.

The lower rates of poverty and extreme poverty are reflected in the differences between the 'rate of dependency' of elderly individuals (i.e. number of economically active individuals for every elderly person) in the total population and among poor and extremely poor households. For the whole of the Brazilian population, there are 7.7 economically active people for every elderly person. The same rates for poor and extremely poor households are 24 and 35 individuals, respectively, showing that poverty and extreme poverty are rarer among elderly people. In the population engaged in agriculture, the elderly dependency ratio is similar, but among poor and extremely poor households it is even lower—around 100 economically active individuals per elderly person.

A significant growth in family income was observed between 2004 and 2013, with per capita household income increasing by 52 per cent. This growth was even more significant in the population living in agricultural households: an increase of 87 per cent. On the other hand, if growth in agricultural household income was higher, this was primarily due to income not originating from work, which led to a drop in the proportion of labour income as a source of total income (from 73.5 per cent to 70.1 per cent).

Despite the positive impacts that the policy represents, there are still a host of rural workers—both family farmers and wage-earning employees—who find enormous difficulty in having their social security rights recognised. This occurs mainly for two reasons: 1) weak evidence proving rural activity in terms of the documents required for such proof by the National Institute of Social Security (Instituto Nacional do Seguro Social—INSS), a particularly challenging issue in the case of family farmers; and 2) widespread informality in labour relations, which makes the processing of wage-earning employees without a formal agreement more difficult.

The *Bolsa Família*, one of the tools of the Fome Zero programme, can be considered to have had a probable effect on reducing food insecurity. Between 2004 and 2009, there was a 15.5 per cent increase in the size of the population living in households with food security. In the broader period between 2004 and 2013, this increase was of 35 per cent. The size of the population under some form of food insecurity fell by 9.4 per cent between 2004 and 2009, and by 29 per cent between 2004 and 2013. In the specific case of rural areas, however, there is some reason for concern: despite an average growth of 20 per cent in the number of people living in food security between 2004 and 2013, the last four years of the series were marked by a certain stagnation. Worryingly, the number of people living in food security has grown much more slowly in the North and Northeast (at around 60 per cent) than in the other regions (where it is around 80 per cent)—a trend that also holds true for rural areas (IBGE 2010; Silva 2014).

Applying the same analysis as for social security, the data show that if *Bolsa Família* income were to be excluded from calculations, the incidence of extreme poverty would increase by almost one third, from 3.8 per cent to 5.6 per cent. The proportion of poor people would grow from 8.4 per cent to 10.7 per cent of the population, indicating that the *Bolsa Família* has had less of an impact on lifting the population out of poverty than social security. Among residents in agricultural households, the incidence of extreme poverty and poverty would increase considerably in the absence of income from *Bolsa Família*. The incidence of poverty would increase from 22.3 per cent to 29.6 per cent, while extreme poverty would leap sharply from 4.9 per cent to 12.8 per cent.

Moreover, extreme poverty and poverty would have impacted the North and Northeast regions more acutely without the income from social programmes. Indeed, the Northeast's share of the agricultural population living in extreme poverty would have increased from 8.2 per cent to 22.4 per cent.

The importance of the *Bolsa Família* in reducing extreme poverty in the rural Northeast is evidenced by the fact that 60 per cent of its population living in rural areas is a beneficiary of the programme, which, through its cash transfers alone, prevents 80 per cent of this population from having income below the extreme poverty threshold.

Furthermore, a literature review highlights positive impacts of the programme in a variety of areas, but the works make no regional analyses of information or focus specifically on rural areas. Among the areas on which the programme shows positive effects, the following stand out: household income; national GDP; inequality measured by the Gini index; vaccinations; perinatal and infant medical care; child health and nutrition indicators; breastfeeding; expansion of public health services; combating child labour; and improved school attendance and progression (Camargo et al. 2013; Hoffman 2013; Paiva, Falcão, and Bartholo 2013; Neri, Vaz, and Souza 2013; Soares et al. 2013; Junior and Jaime 2013; Fachini et al. 2013; Januzzi and Pinto 2013; Rasella et al. 2013; Santos et al. 2013; Craveiro and Ximenes 2013).

The impacts of the 1 Million Cisterns Programme (P1MC) on increasing access to water are also compounded by virtuous-cycle effects on decreasing the frequency of diarrhoeal episodes. Moreover, the programme represents a shift in how the population interacts with the semi-arid biome, with techniques tailored to the *sertão* (the northeastern backlands) being used in projects with broad popular participation, relative autonomy of beneficiaries and less space for clientelistic practices traditionally associated with access to water in semi-arid regions (Duque 2015; Gomes et al. 2014; Luna 2011).

In his study, Luna (2009, 80) concludes that "cisterns are a protective factor for diarrhoea, since they decrease the risk of episodes by 73%", and noted that "the average number of [diarrhoeal] episodes within a 60-day period was significantly higher among residents of homes without cisterns".

Filho and Pazello (2008) conducted an impact assessment of the programme (through direct research) to estimate its effects on the quality of and access to water, the incidence of diseases, social participation and school attendance of children and youth, as well as the economic return of the programme. They conclude that the existence of cisterns reduces the incidence of diseases, increases school attendance (by 7.5 per cent for children), increases popular mobilisation and has an internal rate of return of 4.5 per cent—the latter assessed on school attendance improvements alone, not taking into account the returns obtained from better health conditions.

It can be considered that, because the Harvest Insurance programme deals with a cyclical problem, it is unable to go beyond damage mitigation, since doing so would require measures to bring farmers back into producing and incorporating new technologies. To some extent, it ends up functioning more as a development programme than as insurance per se.

Despite its significant expansion, it is still very bureaucratic: negotiation between different levels of government may take from four months to a year before insurance is provided to farmers, and a default by either party (farmers or municipal, state or federal government agencies) can prevent access to resources. Worryingly, reports have been made that sometimes the Council for Sustainable Rural Development becomes a tool for dominance by local powers, rather than a forum for social participation.

Finally, the *Bolsa Verde* reveals a strong bias towards the North that is perceivable as a kind of incentive for expansion of agricultural policy towards the region, which in itself brings a potential environmental threat. On the other hand, the programme has had few beneficiaries excluded due to voluntary cancellation or non-compliance with the environmental consideration involved, which may suggest some success of the strategy in encouraging environmental preservation by its beneficiaries (Ipea 2008; 2012).

## 4 FINAL CONSIDERATIONS: CONSIDERATIONS ON A RESEARCH AGENDA

This effort sought to present the 'state of the art' with regard to public policies for rural areas, which was done by presenting and reviewing recent data from existing programmes and discussing previous works that have already assessed these policies. Our literature review allows us to infer that social security policies, as well as (and especially) welfare policies, tend to be subject to assessments based on their impacts on key variables such as labour supply, school attendance, young people's involvement in study and/or work, level of consumption, poverty and inequality.

In the case of agricultural and rural development policies, however, there is a worrying scarcity of impact assessment studies similar to those existing for welfare and social security policies. In general, research on agrarian and social security policies tends to focus on the institutional design of the programmes and their changes and on the 'big numbers' of the policies (e.g. volume and distribution of resources and beneficiaries by modality and region), which are then used to build associations between policies and certain stylised facts about the rural socio-productive and/or agricultural framework based on household surveys and censuses.

Another grave deficiency seen in the literature reviewed (regardless of the nature of the programmes assessed) was the fact that the social policy impact assessments conducted rarely focused on rural populations. Studies that address the effects of state policies, programmes and actions aimed at rural and/or agricultural populations are few and far between.

This limitation is due, to some extent, to the lack of publicly available administrative records of rural development policies, with the exception of those characterised by individual money transfers, such as the Harvest Insurance, the Closed-Season Guarantee, the *Bolsa Verde* etc. When it comes to agrarian policy records, however—namely, data from the Rural Property Registry and from the Agrarian Reform Project Information System (SIPRA)—information is even scarcer. In the case of the Rural Property Registry, registration statistics can be obtained at the municipality level, with the most recent data going back to 1998. There is no system that allows access to data in a tabulated manner. As for the SIPRA, the data available are restricted to basic information on settlement projects and the list of beneficiaries. No further disaggregated information is provided, and as such it is impossible to know the potentialities of the beneficiary base regarding the variables studied and the flow of beneficiaries.

There is no doubt that the availability of individualised data—provided that it can be anonymised—would make it possible to better identify, for example, the characteristics of the beneficiaries, locate the areas/projects with the highest abandonment rates, evaluate the spatial mismatch between the potential supply and demand of land, and help estimate the growth of land supply should productivity rates increase.

In the specific case of the *Pronaf*, the data available are limited to the spatial distribution of loans and according to modalities and types. Access to the database of credit contractors is not allowed, which is largely justified by banking secrecy requirements. It is imperative, however, to examine the possibility of working with sample data from credit databases based on contracted amounts.

In the case of the PAA, individual records are available, with the contract as the primary record and including information on the Eligibility Certificates (DAPs) associated with them. Considering that the DAP includes a number of pieces of information about the family farmers, the data can help researchers understand the audience that is currently accessing this policy and, based on that information, identify obstacles to the expansion of the programme. The DAP database, together with other administrative records, constitutes a fertile field of research, which will certainly be improved as studies based on these sources become more common.

It would not be wrong to consider that, in addition to the difficulties in accessing administrative records for rural development policies, there is a lack of expertise in the use of such sources of information by a considerable number of researchers in the area.

Another path for a better understanding of the agricultural reality lies in the potential of the rolling PNAD, which will become a longitudinal survey. That will make it possible to better understand the dynamics of the agricultural labour market, since the 'traditional' PNAD only collected a snapshot of a particular moment in time, which impairs knowledge of this markedly seasonal market. It must be recognised that there are not many studies on the dynamics of the agricultural labour market, which has undergone profound changes (as pointed out at various points in this study). With the rolling PNAD it will be possible to assess the extent to which smallholder farmers and their families participate in the rural/agricultural and urban wage-earning labour markets.

By way of conclusion, it is important to note that obtaining better knowledge of the effects of public policies in rural areas necessarily requires increased use of the administrative records of said policies in association with data from household and/or economic surveys that cover rural areas and the agricultural sector, seeking to estimate the impact of these policies through different models and approaches. It is also possible to use samples prepared with these records to conceive of direct research approaches aimed at identifying the effects of the policies. Such studies should be encouraged and funded.

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## NOTES

6. According to Hoffmann (2011), "in the 2005-2009 period, it appears that agricultural income distribution inequality indicators show systematically decreasing numbers, with the Gini index for the agricultural sector decreasing in parallel levels to that of the Gini index for the distribution of labor income for all engaged people".

7. It should be highlighted that changes in urban boundaries between censuses also affect this figure, reducing growth due to the 'transformation' of rural households into urban ones between the 2004/2009 and 2011/2013 PNADs.

8. Valadares and Souza (2016) point to a "sharp increase in household income arising from retirement pensions, other pensions and social benefits, the latter included under the 'other income' heading. Per capita household income from retirement and other pensions—whose floor is linked to the minimum wage—registered an increase of 102.6%."

9. The significant decrease in the number of unpaid household members (2.8 million) and its association with the growth of those engaged in activities for self-consumption (700,000) demand further study. Hypotheses may be suggested, however, taking into account the behaviour of the agricultural labour market as a whole. Following the categorisation of the agricultural and/or rural population and the types of agricultural and pluriactive households defined in Soares et al. (2016), it can be shown that the reduction in agricultural labour is more intense in self-employed worker households than among wage-earning employees, reflecting the advances seen in labour productivity in these households. The increase in the number of workers engaged in work for self-consumption in pluriactive households points to a significant number of households that resist leaving the activity. Indeed, among those engaged in agriculture, 2 million receive no income from the activity, living in households in which all members engaged in agriculture are in such a situation. Workers engaged in work for self-consumption and unpaid household members amount to 40 per cent of agricultural occupation, with half of them living in households with no agricultural income.

10. In effect, the Gini index for land ownership has not changed between the 1985 and 2006 censuses: 30-year variations were not observed, with the index constantly hovering around 0.855. When discussing the factors that determine the behaviour of inequality in the agricultural sector, Hoffmann (2011) dismisses the effects of the distribution of land ownership (given that this distribution has remained roughly unchanged) as well as that of the minimum wage (since it is in relatively high percentiles compared to the income of wage-earners). The same work illustrates this trend for stagnation through several other inequality indicators (including the Gini index, Atkinson index and Theil T index), calculated comparatively based on different surveys (agricultural censuses, PNADs) and stratifying per capita household income from the weighted average of concentration ratios for each parcel of land. The study shows, for example, that between 1995 and 2009, while the Gini index fell from 0.585 to 0.518 for income earned by all occupations among engaged persons (when measured without distinction between rural/agricultural and urban populations), in the case of the agricultural sector that decline was only from 0.565 to 0.533. It also demonstrates an increase in inequality in the agricultural sector from 1999 to 2003, and that agriculture was the sector with the highest Gini index between 2002 and 2009.

11. The PAA, another flagship programme, has coverage issues of a different nature. Here the concern is not so much with selection biases but, rather, with the relatively small scale of benefits provided to its potential beneficiary audience (i.e. family farmers). This limited coverage should be questioned.

12. Guanziroli et al. (2012) conclude that "what happened... was exactly the opposite of what was expected when the Pronaf was launched. The program worked with the expectation of lifting peripheral groups from extreme poverty and preventing transition groups from having their situation worsened. However, in the end the transition groups were the ones who swelled the ranks of the peripheral groups."

13. Guanziroli et al. (2012) conclude that "due to the Pronaf's lack of focus in production chains and the almost complete absence of technical assistance and investment credit, income distribution among family farming groups became worse: Income grew in terms of production and total income for the consolidated (A) group and decreased for the transition (B and C) and peripheral (D) groups."

14. Authors such as Alves and Rocha (2010) argue that "society has invested billions of reais in family farming and agrarian reform. This is not about being against such investments [...], but rather verifying whether it is possible to oppose the forces favoring rural exodus". The authors do not seem to believe that there are policies with a productive focus that can oppose such forces, stating at a previous point that "the agricultural solution for the poverty problem has very little chance of success". By this logic, it is implicitly understood that this group of smallholder farmers should be left exclusively to the care of welfare policies and precarious insertion in the rural and urban wage-earning labour markets.

15. In support of their argument, Guanziroli et al. (2012) mention proxy indicators for labour productivity (GVA/persons engaged) and physical land productivity (GVA/area of establishments), which have grown by 45.2 per cent and 27.5 per cent, respectively.

16. According to Valadares and Souza (2015), the proportion of per capita income in rural households from wage-earning and self-employed labour has increased, respectively, by 67.4 per cent and 42.3 per cent.

17. See Ipea (2014). Guanziroli et al. (2012) argue similarly, stating that for poor smallholder farmers, "it is not funding credit policies... that will solve the problem of their poverty. A solution would come rather from implementing specific policies targeted to that group, such as better access to water, land, education."

18. The criteria for categorising settlements according to their stages of implementation correspond to those described in Administrative Rule No. 80 of 24/ABR/2002 issued by the Ministry of Agrarian Development (MDA), repealed by MDA

Administrative Rule 101 of 14 October 2003 and published in the Official Gazette of the Federal Government (DOU) of 15 October 2003. The repealed administrative rule provides:

Settlement in creation: A settlement whose clientèle has already been selected through land access programmes, pending preparation of the beneficiary register (RB), ready to be settled on a property already duly identified and about to be dispossessed, collected or acquired, whose entries are available in the identification databases of the INCRA (SIPRA); BT (SIBT) and PCPR (SICPR);

Settlement created: Property already under control or possession of the INCRA in conditions that permit the entry of the families selected for them and for their legitimation through the signing of the respective settlement agreements;

Settlement being installed: Settlement project that has been created and whose beneficiaries are being installed in the property; this stage includes the preparation of the Settlement Development Plan (PDA), necessarily participatory in nature, with the granting of installation support grants;

Settlement being structured: Settlement is undergoing deployment of basic infrastructure: water supply; rural electrification; local road; and building of houses;

Settlement in consolidation: A settlement whose beneficiaries are already installed, with basic infrastructure available, access to the Pronaf A and undergoing the final formalities for the granting of title, and whose families already have the socio-economic conditions to migrate to other lines of funding from the Pronaf;

Consolidated settlement: A settlement in which more than half of the families have benefited from definitive granting of property, with the remaining areas or properties in the process of transferring to the municipality or state (urban areas etc.).

19. In December 2014, Bolsa Família had 5,289,052 beneficiary families, with total transfers for that month amounting to BRL471,959,146.

20. In 1985 the rate was 0.858, moving to only 0.857 and 0.856 in the 1995/1996 and 2006 censuses.





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