

Structured Demand and Smallholder Farmers in Brazil: the Case of PAA and PNAE



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*The International Policy Centre for Inclusive Growth is jointly supported
by the UNDP and the Government of Brazil.*

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ACKNOWLEDGMENT

This report would not be possible without the inestimable support from FNDE staff, namely, Rafael Torino, Albaneide Peixinho, Sara Lopes, and Rosane Nascimento. We also benefit a lot from discussions with Alesha Black, da BMGF (Bill & Melinda Gates Foundation), Pedro Bavaresco (MDA), Gustavo Lund Viegas (Conab), Carla Santos (Conab), Juliane Helriguel de Melo Perini (SESAN/MDS), Rafaela de Sá Gonçalves (SESAN/MDS), Dionete de Sousa Sabate (SAGI/MDS) and Ernesto Galindo (IPEA). We would also like to thank the support from IPC, particularly, Diana Sawyer, Laetícia Souza, Michael MacLennan, Roberto Astorino, Rosa Maria Banuth, Mariana Hoffmann, Marcelo Fraga and Ryan Higgitt and WFP Centre of Excellence staff, particularly, Nadia Goodman, Flavia Lorenzon, Christiane Buani, Isadora Ferreira and Darana Souza. Any remaining mistake or misinterpretation are the authors responsibility.

FOREWORD

In the last decade, Brazil gained widespread recognition around the world for its successful initiatives in fighting hunger and extreme poverty. The country's experience is serving as inspiration for other countries to develop their own policies and programmes. Although some studies have been conducted to systematise the experiences and to determine the foundation of Brazil's success, there is still a lack of research on the concrete results the Brazilian programmes have achieved and their impacts on people's lives.

One aspect of Brazil's success can be attributed to linking the supply by smallholder farmers to the demand of institutional procurement for food-based safety net programmes. This has been coined by the Bill and Melinda Gates Foundation as 'Structured Demand'. The theory of change is that structured demand connects large, predictable sources of demand for agricultural products to small farmers, which reduces risk and encourages improved quality, leading to improved systems, increased income and reduced poverty.

As Brazil most likely has the largest structured demand programmes in the world, much can be drawn from its experiences. This study discusses the role played by two Brazilian policies, the Food Acquisition Programme (PAA) and the National School Feeding Programme (PNAE), in creating a structured demand for small farmers producing food crops. The two initiatives combined are believed to be the largest institutional procurement programme in the world that deliberately prioritises purchasing from the most vulnerable of family farmers. These programmes also function as social safety nets that improve food security and guarantee food access for school-aged children and other vulnerable groups.

This review of Brazil's experience presents the many impacts these policies have on increasing food and nutritional security, expanding agricultural production and boosting rural incomes. The PAA purchases food for stockpiling, price regulation and food assistance for vulnerable groups, while the PNAE invests exclusively in school meals, as a means to promote food security, keep children enrolled and performing in school, and to strengthen smallholder farmers' agriculture.

The PAA was designed by the Brazilian government to support smallholder farmers in one of the most difficult aspects of the productive process: gaining market access for the produce they grow. The programme allows farmers to sell their produce to local public institutions such as hospitals, community canteens, food banks, orphanages and charities, without the need for a public bidding process.

The PAA demonstrated the feasibility of creating a state-driven structured demand for small farms. In 10 years, it has purchased more than 3 million tons of food from over 200,000 family farmers. Its inaugural budget—R\$143 million in 2003—has grown over 600 per cent and is projected to reach R\$1.4 billion in 2013. Still, it represents only 0.0004 percent of Brazil's GDP.

The PNAE is the other major source of structured demand for family farmers in Brazil. The programme feeds around 45 million students each day in Brazilian public schools and has an annual budget of approximately R\$3.5 billion (US\$1.75 billion). Considering that 30 per cent of these resources must be used to purchase food from family farmers, the PNAE can significantly increase family farm incomes and expand market opportunities.

The law that establishes that 30 per cent of the food used for school meals must be bought from local producers was approved at the end of 2009. In only three years, from 2010 to 2012, the proportion of implementing agencies that are purchasing from smallholder farmers for the programme has increased from 48 per cent to 67 per cent. Considering the continental size of Brazil and the time the implementing agencies needed to adjust to the new law, these results are impressive.

The structured demand for family farmers financed by the two largest federal government programmes adds up to more than R\$2 billion (US\$1 billion) yearly. The programmes are integral parts of Brazil's food and nutritional security strategy and intersect with other social policies such as education and health as well as the broader objectives of poverty and inequality reduction.

Further assessments and impact evaluations are required to definitively prove the case of structured demand as a transformational tool for development and poverty reduction. Despite the lack of evaluation, this study indicates that both programmes can have a powerful economic impact on the lives of smallholder farmers. They also foster the collective organisation of family farmers into associations and cooperatives, and provide the necessary incentives and support to improve the quality of their products.

The PNAE creates a steady demand for produce during the whole year and at the same time assures nutritional security for school children. It is a programme that perfectly combines social and economic impacts and benefits one of the most vulnerable populations: children. Furthermore, it has great potential for increasing family farmers' participation: when full compliance with the legislation is achieved, the minimum budget for smallholder farms products will be around R\$1 billion (US\$500 million).

Daniel Balaban,
Director of the WFP's Centre of Excellence against Hunger

1 INTRODUCTION:

THE CASE FOR STRUCTURED DEMAND

The majority of the world's poor people live in rural areas where agriculture is the primary sector of economic activity (IFAD, 2010). Inclusive agricultural growth is central to reducing poverty and increasing the availability of food. However, to achieve agricultural growth that leads to increased food security and poverty reduction, smallholder farmers need the necessary conditions to be included in the development process.

Rural extension services, adequate infrastructure, equitable access to land and stable input and output markets are all necessary components to establish the conditions for inclusive rural development. A history of economic liberalisation and a bias towards urban-based industrialisation has left many rural areas and populations in the developing world out of the development process (Ellis and Biggs, 2001). Moreover, past government interventions to increase agricultural output have favoured resource-rich and capital-intensive larger producers and/or large companies. This narrow objective aimed to exploit economies of scale and reduce food prices yet, as a consequence, led to an array of social and environmental externalities — namely, incentives for the production of commodity crops, as opposed to food crops, less food diversity, land concentration and rural-to-urban migration.

This suggests that government interventions such as structured demand are needed to encourage a new demand for family-based agricultural production and/or to include smallholder farmers in the existing formal mechanisms to support agricultural production that have largely only been accessible to larger producers. In 2008, the global food crisis drove the point home to governments that boosting domestic agricultural production from smallholder farmers is not only a wise strategy for poverty reduction but also a way to mitigate volatile global food prices and boost the domestic economy. Expanded smallholder production that is rooted within local economies allows for a more diverse and resilient food system (Altieri et al., 2002; Robles and Torero, 2010; Nehring and McKay, 2013).

Market failures and chronic rural poverty have prompted government intervention in domestic food markets to connect large predictable markets to smallholder production. The idea stems from the fact that in many rural areas of the developing world there is a narrow supply chain with limited marketing options and a lack of competition to purchase from smallholder farmers. These circumstances lead to uncertainty for the farmers as to what price they should receive in the market for their produce, unfairly low purchase prices from private traders, and few outlets for new varieties of crops

or a larger surplus. This is especially prevalent with smallholder farmers producing food crops. This important subgroup tends to miss out on private investment and competition that favours more capital-intensive cash crops such as cotton or biofuels (Dorward et al., 1998; 2002). The creation of a structured demand through state intervention can provide a stable market and price benchmark for smallholder production through public procurement. This demand offers greater assurance in production planning, farmer organisation and confidence in selling a surplus to the market.

The objective of this report is to illustrate Brazil's experience with structured demand as a key component of its Food and Nutritional Security policy. The report focuses on two important programmes — namely, the Food Acquisition Programme (PAA) and the National School Feeding Programme (PNAE) — which are the programmes that demonstrate the most interesting innovations in the effort to put together a structured demand for smallholder farmers in Brazil. More broadly, these two programmes are critical tools to understand the contemporary Brazilian experience of combating hunger, reducing poverty and promoting rural development.

The design of PAA in 2003 and the recent reforms of PNAE, from the decentralisation of procurement in 1994 to the establishment of a minimum 30 per cent to be spent with smallholder farmers, are rooted in the understanding that local food procurement can facilitate community development, bolster market access for the country's smallholder farmers and expand access to food and food security for vulnerable populations. According to Brazil's former president, Luiz Inácio Lula da Silva, the Zero Hunger strategy was meant to be comprised of 'structural policies' that redistribute income, promote smallholder production, generate employment and foster agrarian reform coupled with the goal of eradicating hunger and poverty (da Silva et al., 2011; 2002: 145).

For the purposes of this report we will use the term 'family farmers' or 'smallholder farmers' to include Brazilian smallholders and all other productive units participating in the production of agriculture through Brazil's structured demand policies. Family farm agriculture in Brazil provides around 75 per cent of total rural employment and supplies 70 per cent of the country's domestic food consumption (CAISAN, 2011: 16). However, despite the prominence of Brazil's family farmers, they only receive around 25 per cent of all agricultural credit, and many (especially in Brazil's Northeastern region) do not have market access to sell their produce in a competitive market, having to sell most of their production to intermediaries (See Section 6).

This report is comprised of six sections beyond this introduction. The second section explains the logic and evolution of the PAA in detail as well as evaluations of the scheme, highlighting their primary findings and limits. The third section explains how the PNAE programme has become a major source for structured demand in Brazil. The fourth section discusses some national-level data on the performance of PNAE's executing agencies in purchasing from family farmers. The fifth section analyses

the synergies between the PAA and PNAE implementation processes. The sixth section uses the annual national household survey to discuss the main socio-economic characteristics of family farmers and how they have changed between 2001 and 2011. It also explores changes in a proxy for structured demand (cooperatives and government) over the same time period. Finally, the seventh section offers some concluding remarks.

2 THE PAA: RATIONALE AND EVOLUTION

2.1 BACKGROUND

Traditional instruments used to support agricultural production in Brazil such as subsidised credit, credit for working capital and guaranteed minimum prices have not been accessible to smallholder farmers. Most of these instruments required an initial level of capital, borrowing capacity and higher levels of collective organisation that were only feasible for medium-sized and large producers. These instruments also tended to favour producers of commodity crops (Delgado, 1989).

After the re-democratisation process, social movements linked to smallholder farmers and the landless workers' movement (MST) started demanding that agricultural policy instruments such as credit, price guarantees and market access should also be extended and adapted to the needs of smallholder farmers.

The creation of the National Programme for the Strengthening of Family Farming (PRONAF)¹ in 1995-6 responded to this demand, as this programme intentionally featured subsidised credit, credit for working capital and investment tailored to smallholder farmers. A few years later, in 1999, the establishment of the Ministry for Agrarian Development (MDA) signified a federal commitment to agrarian development with family farming at its heart (Bavaresco and Mauro, 2013; Schneider, Sheiki and Belik, 2010).

PRONAF is a credit scheme that is exclusively available to family farmers. To be considered eligible for PRONAF, farmers must be registered in the Declaration of Aptitude for PRONAF (Declaração de Aptidão ao PRONAF — DAP) and meet the following criteria:

- an establishment or area of economic activity in a rural area of less than four fiscal modules;²
- the majority of the labour used on the farm is from the family;
- the majority of the income is sourced from the property (agriculture, fishing, gathering, tourism, etc.); and
- the establishment is managed by the family.

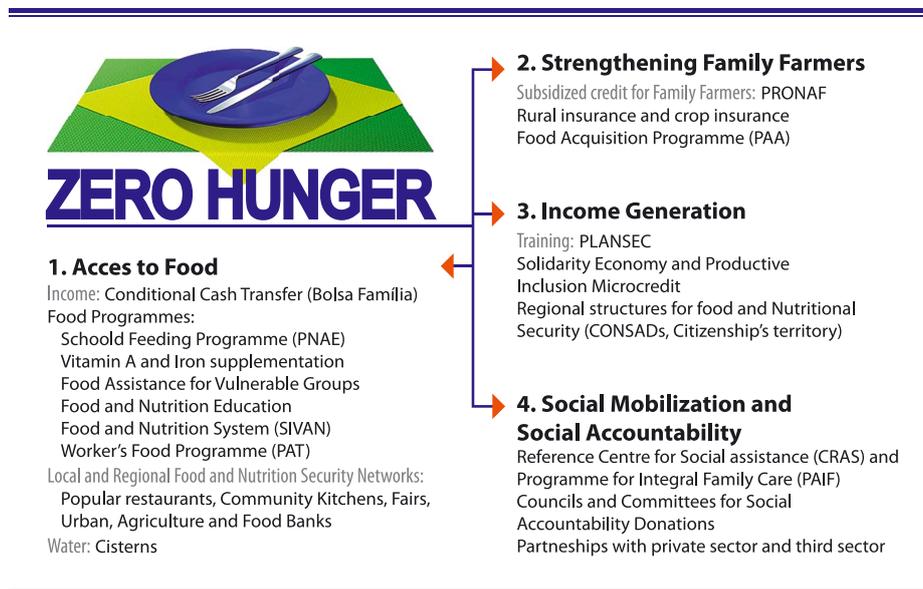
Within the DAP there are several ordered groups that help distinguish between different levels of family farmers.

For example, group A is the most vulnerable producers consisting of *Quilombolas* (slaves' descendents), reform settlers, women heads of household, and the extreme poor (per capita income of less than R\$70/US\$35³ a month). The subsequent groups (B and A/C) are determined by the level and security of the family farmers' income.⁴ These groups help determine who is eligible for particular lines of credit and which family farmers are to be prioritised for specific programmes, including the PAA and PNAE.

The issues of market access and price guarantee would only be addressed after 2003, with the creation of the PAA under the Zero Hunger strategy of Lula's government (Sambuichi et al., 2013). A central goal of Zero Hunger was to increase domestic food demand in Brazil, a country characterised by historically high levels of income inequality. In this sense, Zero Hunger combines the goal of promoting food security with broader concerns of inclusive economic and social development, integrating existing and brand new programmes and emphasising the intersectorality and complementarity of these interventions. The strategy comprised four axes, as shown in Figure 1. Access to food includes interventions such as cash transfers through the Bolsa Familia programme, so that families have enough income to afford food, and food assistance either via school meals (PNAE), direct distribution of food to some groups (the demand side of part of PAA) and access to water via the construction of cisterns in the semi-arid region of Brazil. Strengthening family farmers was a specific axis of the strategy and comprised PRONAF, discussed above, as well as the focus of this section, the PAA.

When President Lula was elected, hunger became a major focus of Brazil's federal government, and even an extraordinary ministry was set up, the Extraordinary Ministry for Food Security (MESA). To facilitate the relationship with civil society and involve it in the fight against hunger, the National Food and Nutritional Security Council (CONSEA) was re-introduced. The membership of CONSEA, which meets bi-monthly, consists of one third government officials and two thirds civil society representatives, with ongoing debates addressing the demands of civil society with regard to setting and implementing food security policies. The President of

Figure 1
Zero Hunger Strategy



Source: Aranha, 2013.

CONSEA reports directly to the President of Brazil, CONSEA not only highlighted the underlying causes of hunger but also helped establish a rights framework into Brazilian food security policies. The Right to Food legislation helped to create a legal framework at the federal level that facilitated policymaking to explicitly guarantee every Brazilian the right to eat healthy and culturally appropriate food. Through these rights and the participation of Brazilian civil society, CONSEA has been a champion in the fight for innovative programmes. It is responsible for the initial design of the PAA and numerous changes and improvements in both the PNAE and the PAA since their original implementation.

2.2 PAA'S EVOLUTION

2.2.1 OBJECTIVES

Brazil's PAA was established in 2003 as part of the 'strengthening family agriculture' component of the Zero Hunger strategy. As one of the most popular and crucial programmes, it was established by Law No. 10.696 on 2 July 2003 with the following objectives:

- incentivising family farm production by promoting their economic and social inclusion with sustainable surplus growth, the processing of food and the expansion of value-added production;
- incentivising the consumption and valorisation of family farm production;
- promoting access to food, in the quantity, quality and regularity necessary for populations in situations of food and nutritional insecurity, based on the Right to Food legislation;

- building public food stocks produced by family farmers;
- assisting in the creation of food stocks through farmer cooperatives and other family farm organisations; and
- strengthening local and regional networks for food commercialisation (Brazil, 2003).

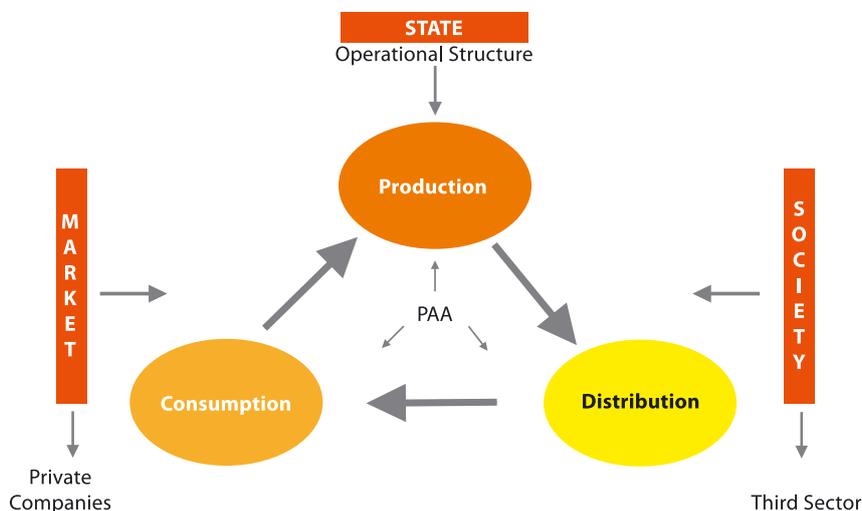
The waiving of competitive bidding is a key feature of the different modalities of the programme, since it bypasses the bidding legislation that, for many reasons, make it almost impossible for smallholder farmers to compete in fair competition with larger producers and companies in a public procurement bidding processes. Although the price paid by the PAA cannot be much higher than those observed in the regional markets, the waiving of the bidding process for public procurement has reduced the red tape and has facilitated family farmers' access to public procurement.

The PAA has multiple objectives and strategies, as explained above. It aims to support family farmers' production and their access to market through simplified public procurement procedures, and to distribute food in quantity, quality and regularity necessary for food-insecure groups. The food procured can be either distributed as food assistance or be bought as part of a market support intervention when prices are too low and/or there is excess of production. For the latter, the food purchased via the PAA is mainly used to build stocks.

2.2.2 PAA IMPLEMENTING AGENCIES

The PAA works through different modalities to try to maximise its reach and effectiveness throughout the whole country. Although it is a federally funded

Figure 2
Decentralised Systems of Food and Nutritional Security



Source: Nehring and McKay 2013.

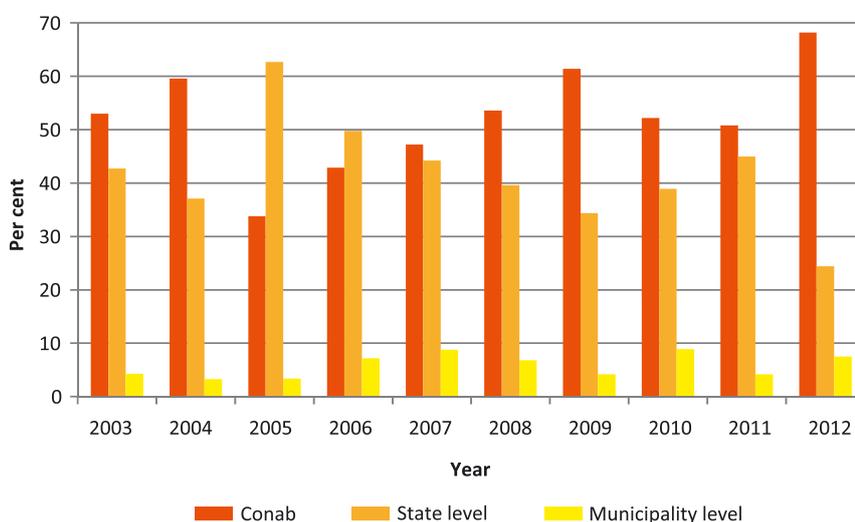
programme, the idea is to localise organisation through a decentralised model (see Figure 2).

It does this by transferring federal funds (from the MDA and the Ministry of Social Development and Fight against Hunger — MDS) through different institutions in various amounts.⁹ Brazil’s National Supply Company (Conab) is one such institution that plays a central role in organising purchases, distributing produce throughout municipal,

state and regional social protection networks, and operating food stocks (see Box 1).

However, federal funds can also go directly to the state or municipality for direct purchase. Figure 3 shows the distribution of PAA expenditures by implementing agency and shows that Conab is the main implementing agency and that the level of implementation directly by municipalities is very low. States are solely responsible

Figure 3
Level of Participation of each Implementing Agency in PAA Expenditures, 2003–2012



Source: Sambuichi et al., 2013.

BOX 1. CONAB

Brazil's national supply company (Conab) is one of the central institutions responsible for building and maintaining food stocks for the country. It was created in 1990 shortly after Brazil returned to a democracy under the administrative arm of the Ministry of Agriculture, Livestock and Supply (MAPA) and unified three older institutions: the Brazilian Food Company (Cobal), the Company of Production Finance (CFP) and the Brazilian Storage Company (Cibrazem) (Gandolfi et al., 2010). Conab's mandate is to manage agricultural policies and food supply to meet the basic needs of Brazilian society in ways that preserve and encourage market mechanisms. These objectives were primarily carried out through price guarantees for farmers and limited procurement programmes, but none with a specific focus on family farmers. It would take just over a decade until Conab began to work with a focus on family farm agriculture and social programmes in combination with the MDA and MDS (Ibid). The 2008 food crisis signalled an increased role for Conab to ensure sufficient food stocks to mitigate against global price rises and maintain sufficient demand for family farm production and household consumption. Almost every state in Brazil has a Conab office that helps to extend institutional assistance to farmers and farmers' organisations for procurement, price guarantees and, more regionally, specific food stocks. This institutional structure has been a crucial mechanism to implement and extend coverage of structured demand policies in many vulnerable and marginalised populations throughout the country.

for implementing one of the modalities of the PAA, PAA Milk — implemented only in the semi-arid region — therefore, they also receive a considerable share of the programme's budget.

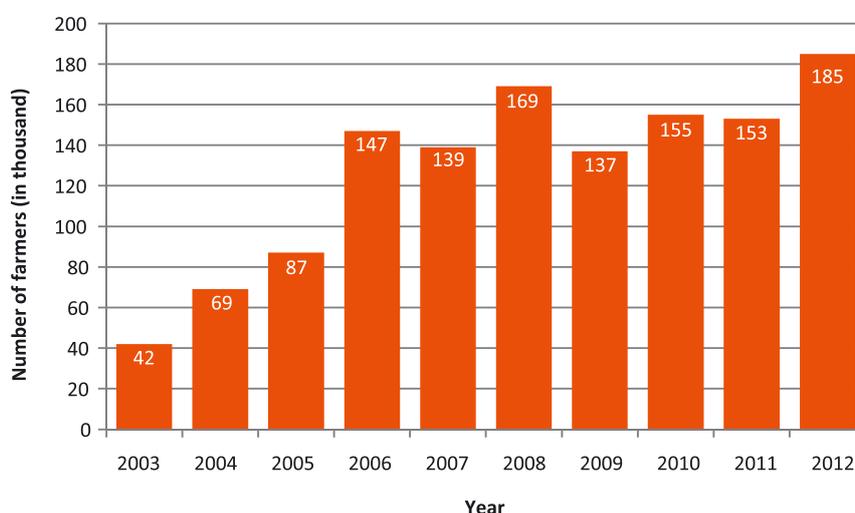
Many of the PAA modalities were adapted from the existing instruments operated by Conab to guarantee minimum prices to farmers, particularly those that involved procurement to build stocks. The most innovative modality was the one that allows purchase for immediate donation, in which the individual smallholders or cooperatives make a proposal to deliver their produce to food-insecure populations that they have identified in nurseries, public hospitals, schools, community restaurants etc. They are paid after their produce has been delivered.

2.2.3 PAA'S EXPANSION

The success of the implementation of the PAA can be measured in its rapid expansion throughout Brazil. It grew in terms of the number of beneficiaries, the amount per year that can be bought from an individual farmer and overall budget between 2003 and 2012. The number of family farmers who have benefited from the programme increased from 42,000 in 2003 to 185,000 in 2012, as shown in Figure 4.

After almost 10 years in existence, it surpassed the expenditure mark of US\$3 billion, in real terms, as shown in Table 1. Its expenditure increased from US\$125 million (using purchasing power parity — PPP World Bank converter)

Figure 4
Number of Family Farmers Participating in the PAA, 2003–2012



Source: Sambuichi et al., 2013.

Table 1
Distribution of Financial Resources of the PAA, 2003–2012

Year	Financial Resources (in millions)		
	Nominal R\$	Real R\$	USD PPP
2003	145	233	125
2004	180	272	146
2005	333	471	253
2006	492	667	359
2007	461	603	324
2008	509	630	339
2009	591	698	375
2010	681	765	412
2011	665	701	377
2012	838	838	451

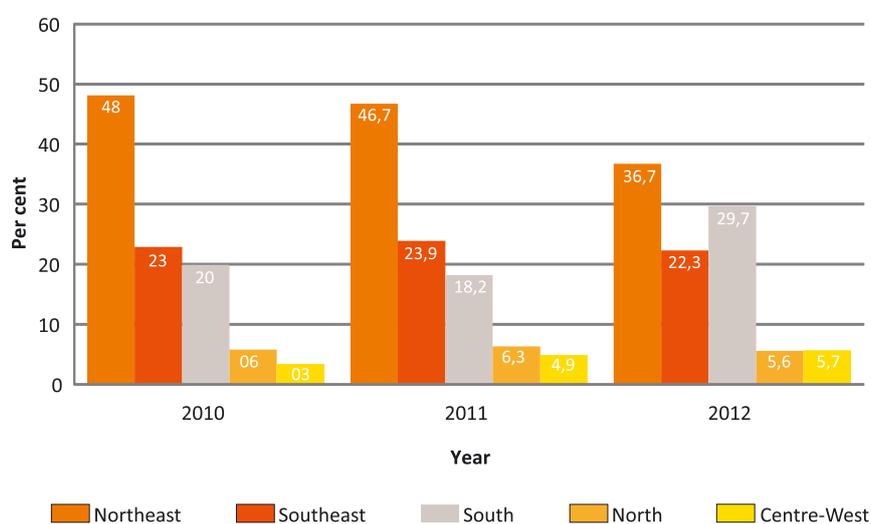
Note: Real values calculated with yearly average CPI (IPCA), base year: 2012, and exchange rate converter: 2012 US\$ PPP.

Source: Own elaboration based on data from Sambuichi et al., 2013.

to US\$450 million (PPP) in real values between 2003 and 2012. The PAA purchased more than 3.5 million tons of food from 2003 to 2011 and has gone on to now supply food for almost 20 million people (Bavaresco and Mauro, n.d.). Still, despite its growth both in budget and coverage, the PAA's budget represents less than 0.0004 per cent of Brazilian GDP and covers about 5 per cent of the estimated 4 million

family farmers, according to the latest agriculture census (IBGE, 2006). The PAA's limited coverage of the total number of family farmers means that, to improve its design and effectiveness, the poorest farmers will need to be targeted. This is one of the key objectives of the 'productive inclusion' axis of the current social development strategy 'Brazil without Poverty' (Brasil sem Miséria) from the MDS.

Figure 5
Percentage of PAA Resources by Region, 2010–2012



Source: Sambuichi et al., 2013.

With regard to regional distribution, data for the last three years show that the Northeast is the region in which the PAA's expenditures are the highest (see Figure 5). This is largely explained by the fact that PAA Milk⁶ is only implemented in the Semi-arid region, which of course is predominantly located in the Northeast. In 2012, the South region has overtaken the Southeast as the second region in Brazil with more resources from the PAA. Both the Northeast and the South are the regions with the largest number of smallholder farmers in the country.

When the PAA started in 2003, smallholders could only sell a maximum of R\$2500 (US\$1250) annually to the programme. However, in 2013 the annual cap was extended to R\$5500 (US\$2750) in the modality with the lowest cap (direct purchase with simultaneous donation), and farmers can participate in several modalities to increase their institutional sales⁷ (Decree No. 8.026; Sanches and Alceu, 2011: 201). Other modalities are capped at R\$8000, so that the maximum a family farmer can sell to the PAA per year (per DAP) is R\$24,000 (US\$12,000). There is also a measure that incentivises producers to transition to agroecological production. In 2011, Law No. 12.512 added a provision to the PAA that increases the procurement price by 30 per cent for organically certified or agroecologically produced products.

Together with the increase in the maximum amount that can be sold to the PAA per year per DAP, the federal government also introduced an important new modality in the PAA system in 2011 (Law No. 12.512). This modality

does not imply any additional financial resources from the PAA's federal budget but, rather, authorises the extension of the PAA procurement process to other levels of government. The result is the waiving of some of the legal barriers that make it almost impossible for smallholder farmers to compete with larger companies. Through this new modality, Institutional Purchase, public institutions such as hospitals, prisons and military bases are able to allocate their meal budgets to procure from smallholder farmers. Moreover, even municipalities and states that want to complement the school feeding programme with their own resources can also purchase through this modality up to a limit of R\$8000 (US\$4000) per DAP per year.

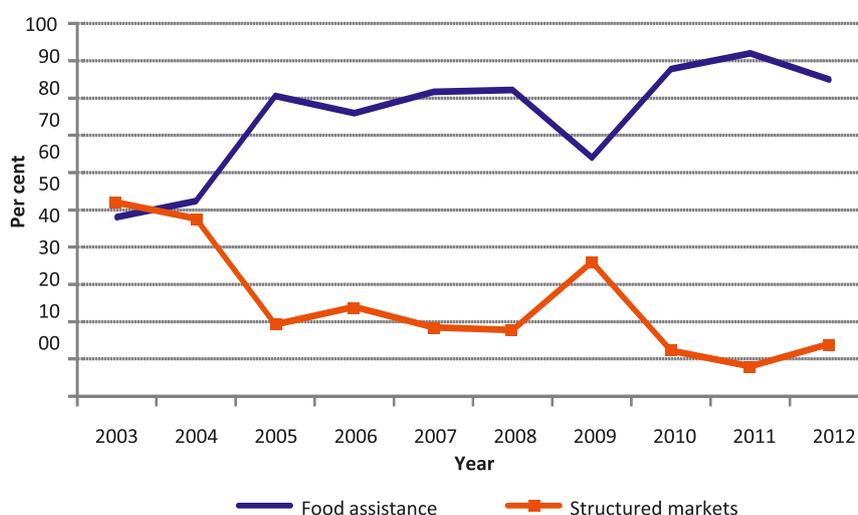
2.2.4 PAA MODALITIES: FOOD ASSISTANCE AND STRUCTURED MARKETS

As mentioned above, the PAA uses different mechanisms to purchase agricultural produce from family farmers. Some of them were initially based on the experience of Conab, the PAA's main implementing agency. Currently, there are five modalities in operation:

- Direct Purchase;
- Stockpiling;
- Direct Purchase with Simultaneous Donation;
- Incentive for Production and Consumption of Milk; and
- Institutional Purchase.

To show how these modalities can be classified according to PAA objectives, they were aggregated into two categories:⁸

Figure 6
Percentage of the PAA Resources by Categories of Produce Destination, 2003–2012



Note: PAA modalities Direct Purchase with Simultaneous Donation and Incentive for Production and Consumption of Milk were classified as Food Assistance. Market Support includes Direct Purchase, Stockpiling, and Anticipated Purchase (finished in 2005).

Source: Own elaboration based on data from Sambuichi et al., 2013.

- **Food Assistance** refers to the PAA modalities in which the produce is donated to populations suffering from food insecurity, schools or other social assistance institutions. It includes the PAA modalities of Direct Purchase with Simultaneous Donation, and Incentive for Production and Consumption of Milk; and
- **Structured Markets** refers to the PAA modalities used to regulate price and supply and support commercialisation; it procures food for inventory stocks to be marketed or distributed to food-insecure groups. It includes the PAA modalities Direct Purchase, Stockpiling, and Anticipated Purchase (finished in 2005).

The share of Food Assistance has been increasing over the years, with 85 per cent of the resources used in 2012. Conversely, the Structured Markets mechanism decreased to 14 per cent in 2012 (see Figure 6). According to Sambuichi et al. (2013), the market support components of the PAA are likely to present different dynamics over time. Whereas 'Direct Purchase' is only used when prices are too low or there is excessive surplus (which has not been the case lately), the Stockpiling component is due to increase because it has been aligned with the technical assistance provided to cooperatives by MDA. The idea is to use this modality to support smallholder farmers' cooperatives to better handle market price fluctuations and improve their overall management capacity.

2.2.5 PAA'S CHALLENGES

There have been several obstacles noted that the MDS and MDA have tried to address. The first is a timely and efficient payment mechanism that until recently had been fairly cumbersome (Chmielewska and Souza, 2010). With the introduction of the PAA debit card, the hope is to ensure bank transfers are made as soon as produce is delivered. Another problem has been the issue of adequate transportation to deliver the produce. In many of the poorest regions of Brazil, farmers do not have sufficient transport, and infrastructure is poor (Chmielewska and Souza, 2010; Nehring and McKay, 2013). Although this is a complex problem, the PAA budget now earmarks 1–5 per cent of a total project's cost for transportation. These funds go to the agency implementing the PAA — i.e. either Conab, a cooperative or the municipal Secretary of Agriculture.

PAA implementation is a unique policy experience that demonstrates the opportunity and feasibility of linking family farm production to local demand. It is crucial to understand the State's role in facilitating and coordinating this relationship, as private traders in food crop markets have high transaction costs to procure from small farmers (Dorward et al., 1998). Not only does it offer assurance in selling surplus production, it also offers a price benchmark to assist in negotiating prices with private traders. Further, the PAA incentivises producers to organise and work with local government officials on PAA projects (Nehring and

McKay, 2013). This basic level of organisation can take shape by joining existing cooperatives and associations with the collectivisation of resources for production and transportation. Such benefits are not inherently built into the design of the PAA itself but demonstrate some of the many benefits of promoting structured demand for smallholder farmers.

2.2.6 A LITERATURE REVIEW OF THE IMPACTS OF THE PAA ON SMALLHOLDER FARMERS' LIVELIHOODS

Brazil's policies for strengthening family agriculture represent a model for constructing institutional markets that expand market access for many small producers with substantial production potential (Altieri et al., 2002). Not only are family farmers often income-poor (see Section 6), but because family labour is utilised for a majority of their production, they also often exploit their own household labour to maintain social reproduction (Chayanov, 1986). There have been very few significant evaluations of Brazil's primary policies for structured demand; however, those that have been carried out suggest that the PAA has been instrumental in expanding family farmer incomes, production and organisation as well as contributing to food crop diversification. Below we review some of these studies focusing on these outcomes.

Fundamentally, the PAA directly addresses one of the central challenges in family farmer production: commercialisation (Vogt and Souza, 2009). Small farmers are particularly vulnerable to weak food markets and price volatility, as private traders and investment tend to favour cash crops over localised food crops (Dorward et al., 1998; 2002). State intervention to increase demand for smallholder food production can be a crucial tool in facilitating new markets and sustaining diverse and regional variations in food production. The PAA complements local variations in diet by procuring food from local farmers that have the capacity to produce diversified food crops on smaller plots. This may not be possible in private markets due to the increased presence of supermarkets in Brazil, a circumstance that has narrowed the supply chain and pushed out smaller producers. Supermarkets in Brazil constitute 75 per cent of all food retailers in the country, the highest percentage in Latin America (Reardon and Berdegue, 2002: 374).

However, structured demand helps to incentivise the diversification of family farm production by ensuring a stable market and price for a variety of crops. Doretto and Michellon (2007) argue that the PAA has reignited production of many crops that were no longer being produced in many regions of Brazil, and this has provided a steady flow of income throughout the year for farmers, as opposed to one or maybe two payments per year at harvest time. The authors surveyed PAA beneficiaries and non-beneficiaries to see the impact of procurement on family farm incomes in three municipalities in the state of Paraná. They were able to show a 25.2 per cent increase in

income for producers that had accessed family farm credit, and a 43 per cent increase in income for those who did not receive credit (the smallest in income and land area) (Ibid.: 128–129).

Their sample of PAA beneficiaries also showed that one third of them increased their cultivated area, and two thirds of the producers increased the level of technology in crop production (Ibid.: 126–127). The improved income, larger planted area and increased level of technology helped to create a better division of labour within the household, thus allowing family members to also work outside agricultural production and diversify their income sources. One third of the participating families in two of the sampled municipalities reported income from sources outside agricultural production.

Vogt and Souza (2009: 12–13) show that, by incentivising more diverse production, the PAA helps to expand other channels of commercialisation for farmers either through other policies or the revival of local farmers' markets. Vogt and Souza performed a qualitative case study on the Celeiro region in the state of Rio Grande do Sul, focusing on two municipalities. Their study noted the ability of the PAA to add a social character and structure to local markets and channels of commercialisation for otherwise resource-poor farmers. With its closer and assured market connections and prices, the PAA was the key factor in expanding production for families participating in the programme (Ibid.: 16).

According to Sparovek et al. (2007), purchases through PAA have created new relationships between family farmers, intermediaries, local officials and consumers that have altered the viability of local food systems. Their study is based on a sample of 250 questionnaires in six different states in Brazil's Northeast region. A majority of the farmers were relatively old (73 per cent between the ages of 31 and 60) and organised (91 per cent were active in some kind of social movement). Sparovek et al. noted that income among PAA participants tended to be three times greater than among non-participants (Ibid.). This is because not only do participants have a boost in income from sales to the PAA but also because non-participants tend to be subsistence producers and consume most of their production.

Because of its effect of eliminating intermediaries in the supply chain, the PAA also helps set a price reference for farmers that otherwise do not have a competitive private purchasing market that would offer a 'fair price'. Agapto et al. (2013) showed from a local survey they employed in Campina do Monte Alegre, a municipality of São Paulo, that prices offered through the PAA were 45.9 per cent higher than the average price offered by intermediaries.⁹ They demonstrated that this reference price also had the effect of incentivising producers to transition to higher-value production of vegetables and other food crops, also resulting in increased incomes (Ibid.: 18). Lucena and Luiz (2009) evaluated the importance of the PAA in

raising farm gate prices in a reform settlement located in the state of Rio Grande do Norte, where the PAA had the effect of doubling the price farmers had been receiving from a sole intermediary. Based on a sample of seven PAA participants, Lucena and Luiz showed an average increase in income of 43 per cent — with a range from 3.9 per cent to 184.5 per cent (Ibid.: 15). This reference price is crucial to small farmers when trying to negotiate other prices in the private market or with intermediaries. Rocha et al. (2007) conducted interviews in three municipalities in Bahia state, wherein they found that every single PAA participant was completely at the mercy of a sole intermediary until any given participant sold through the PAA.

Other studies were also able to show an increase in total family farm production specifically to sell through the PAA because of its direct and guaranteed payment (Momborg de Camargo et al., 2013; Agapto et al., 2013; Doretto and Michellon, 2007; Cordeiro, 2007; Müller et al., 2007).

The PAA has also been shown to incentivise farmers' organisation and integration with local officials and consumers. Due to the PAA's reliance on purchasing from farmers' organisations or organising farmers to sell through some of its modalities, the programme either strengthens existing organisations' ability to respond to the PAA's structural demand or their ability to organise to sell through the programme (Vogt and Souza, 2009).

Finally, a recent survey of PAA assessments and evaluations reported in Sambuichi et al. (2013) showed that out of 29 such studies the programme demonstrated 35 positive effects, identified either through quantitative data collection using small sample sizes (such as those discussed above) or through qualitative interviews with beneficiaries, non-beneficiaries and policymakers. The most common impact was diversification of production, which was reported in 72 per cent of the studies. This was followed by improvements in the quality of products, the strengthening of collective organisations and increased income, all three of which were reported in 52 per cent of studies. These dimensions are very important for the sustainability and long-term effects of the programme, because they not only offer welfare gains for the family farmers in the short-term, through higher incomes, but also stimulate family farmers to improve the quality of their produce and cooperativism — two factors that are key to expanding a farmer's market access beyond structured/institutional demand.

There have been no major national evaluations of the PAA, but there are plans to implement a monitoring system of some of its national modalities via Conab.¹⁰ Data for all modalities of the programme can be accessed at the MDS website.¹¹ To date, evaluations have mainly utilised case studies and small surveys of one to five municipalities. While most of the evaluations show a transformative impact in the way local food systems are articulated and managed with the PAA intervention, it is difficult to analyse the national-level implications.

Further, boosts in smallholder productivity, organisation and incomes are all common impacts demonstrated by almost all of the studies, which is, therefore, further evidence that the PAA is certainly an effective policy in terms of demand. A national-level impact evaluation

would be able to more systematically understand the regional, scale and instrumental effects of the PAA on family farmers and their communities.

3 PNAE: THE NATIONAL SCHOOL FEEDING PROGRAMME

3.1 INTRODUCTION

PNAE, Brazil's school feeding programme, is the other major source of structured demand for family farmers in Brazil. School meals in Brazilian public schools feed around 45 million students every school day and, as such, potentially offer a sizeable institutional market for food producers. With an annual budget of around R\$3.5 billion (US\$1.75 billion), PNAE has the resources to significantly increase family farm incomes and expand market opportunities (FNDE, 2013). Given the current budget, just the compliance with the legal minimum of 30 per cent of PNAE's resources being used to purchase from family farmers would practically match the PAA budget allocated for 2013 — R\$1.3 billion (US\$650 million) — thus doubling the funds available for institutional markets financed by the federal government. In such a context, structured demand for family farmers financed by the two largest federal government programmes would add up to more than R\$2 billion (US\$1 billion) yearly.

Through its local procurement mandate, PNAE has shifted procurement objectives away from relying solely on the price of food towards being more concerned with the quality of food, its cultural acceptability, its availability and the seasonality of its production at the local level. As we will discuss later, the role of the school dietitian is crucial to ensure that the school menu takes into account its cultural and nutritional adequacy. The menu prepared by this profession informs the list of food items to be purchased from family farmers through local public calls.¹² Such a process acknowledges the diversity of Brazil's cultural and eating habits as opposed to imposing standardised patterns on all regions of the country.

At the same time the mandatory purchase from family farmers also aims at promoting local development and complements the income of family farmers (Otsuki, 2010).

However, this has not always been the case. School feeding programmes in Brazil have a long history, dating back to the 1940s. Since then, a number of major policy reforms were implemented until the national school feeding programme, PNAE, reached the current coverage of public schools, which includes infant education (from six months to five years old) up to secondary education (17–18 years old), as well as young and mature adult students who

attend special classes (EJA — Education for youngsters and adults) covering all basic education components.

Similar to the PAA, PNAE's 30 per cent rule combines the objective of improving the food and nutritional security of the consumers, in this case students at public schools, with the objective of offering a structured demand for family farmers. The latter is characterised by its predictability and quality standards, which have the potential to reduce uncertainties and risks, especially price volatility, allowing family farmers to better plan their investments, diversify their food crops and improve the quality of their produce to match the health and hygiene standards required by PNAE.

In terms of PNAE's demand aspect, besides addressing the food and nutritional security of public school students, the school feeding programme also acts as a comprehensive social protection intervention that stimulates school enrolment and attendance and improves children's health status. PNAE states that its official objects are to:

- tend to the nutritional needs of children through one meal per day;
- stimulate healthy nutritional habits and provide nutrition education;
- improve learning capacity; and
- prevent school drop-out and grade repetition.

And, indeed, few existing social protection programmes have the potential to provide so many multisectoral benefits.

3.2 PNAE: A BRIEF OVERVIEW OF ITS EVOLUTION FROM 1945 TO THE PRESENT DAY

The first government programmes related to school feeding in Brazil date back to 1945. Hunger and malnourishment were acknowledged as critical public health problems in the country. The National Commission for Food (*Comissão Nacional de Alimentação* — CNA) was created that year, and almost 10 years later the National Company for School Feeding (CNAE) was established with food donations from the international community (Peixinho, 2013).

It is between 1955 and 1970 that we see the emergence of a national programme for school feeding, under the responsibility of the federal government, with national scope. During this period, however, school feeding interventions implemented in Brazil were driven by partnerships with international organisations whose primary concern was food and nutrition, particularly as it pertained to the health of children. Two principal phases can be discerned. The first phase took place in the 1950s, when resources from the United Nations Children's Fund (UNICEF) were prevalent. During the second, in the 1960s, almost all food consumed in Brazilian schools covered by school feeding projects was actually supplied by Food for Peace, a programme of the United States Agency for International Development (USAID). For Food for Peace, USAID financed the acquisition of food produced in the USA or by the World Food Programme (Peixinho et al., 2010; Vasconcelos, 2005).

Further, the coverage, intended to be national, in reality was not very effective, and the frequency of the supply of food to schools was very irregular. Likewise, no attention was paid to the need to observe the cultural adequacy of the food provided or, for that matter, whether or not the people accepted it (Peixinho, 2013).

The 1970s marks a switch towards national firms supplying the food purchased by the school feeding programme, replacing imported and donated food. Processed food produced by large food companies started making its way into the food supplied to the schools in Brazil (Peixinho, 2013).

In 1976, the CNAE was integrated into the Second Food and Nutrition National Programme (II PRONAN). The company's objective was to give food supplementation to children enrolled in public school — except for students in secondary education — as well as pre-school-aged children identified as being in need. This supplementation was meant to cover 15 per cent of a child's recommended daily diet during the academic year. In 1979, the programme was renamed the National School Feeding Programme (PNAE); thus from 1976 to 1984 PNAE was one of the key interventions of the II PRONAN and was managed by Brazil's National Institute for Food and Nutrition under the Ministry of Health (MS).

The II PRONAN encompassed a broader set of interventions, including food supplementation not only for school-age children but also for workers, mothers and young children, especially for those living in the poorest areas of the country. In addition, the programme introduced a set of policy innovations such as interministerial coordination; incentives for the production of basic food goods; regulation of the food supply chain; food purchases from local farmers; and mechanisms to ensure more competitive (lower) prices (MS/INAN, 1976). Some evaluations of the II PRONAN suggest that the lack of political and budget support, its clientelistic use and frequent delays in the

implementation of these interventions were key factors in the programme's shortcomings on some particular fronts, especially on its intention to support local producers (Schmitz et al., 1997).

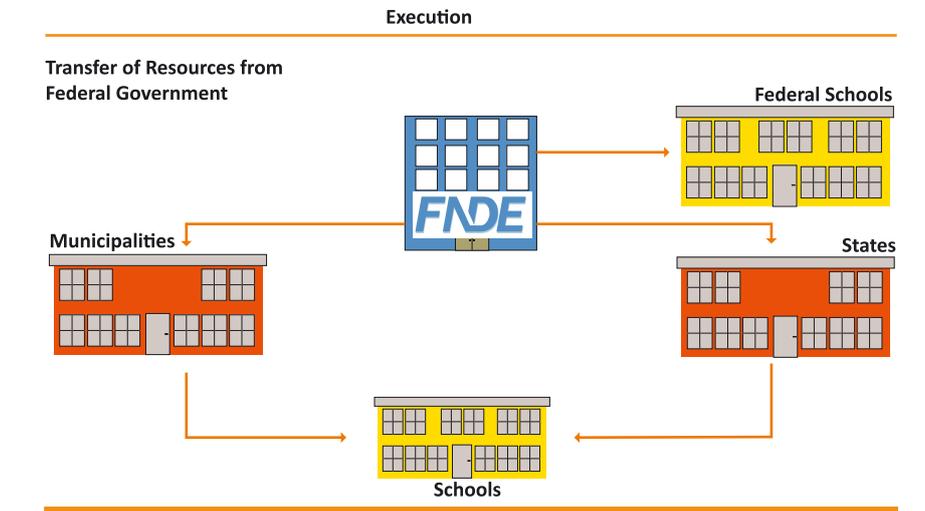
Part of the failure to achieve these broader objectives can be explained by the centralised procurement process. The federal government used to set the same menu for all regions of the country, disregarding regional cultural habits, eating practices and preferences. This centralised process led to a series of problems including logistical hurdles to transport the food within Brazil and to store it, which usually entailed some loss of the food procured as a result of delays in the delivery process (Bavaresco and Mauro, 2013). Moreover, the centralised procurement process benefited larger companies specialising in processed food¹³ that could be stored more easily, rather than the local producers that could supply fresh food but on a small local scale.

The enactment of the 1988 Brazilian Constitution represented a turning point for school feeding in Brazil. In its article 208, the Constitution enshrines the right to universal school feeding for students attending basic education in public (state) schools. This same article also says that it is the State's responsibility to ensure the fulfilment of this right. Thus the State — understood as the federal, state and municipal levels of government — must guarantee that all students in basic education in Brazil have access to school meals (Brazil, 1988). The Constitution was characterised by a high level of decentralisation in the provision of social services in general, and of education in particular. However, major reforms that would allow for the decentralisation of the PNAE's procurement process would only be implemented from the mid-1990s onwards.

In July 1994, the Law No. 8.913 mandated the decentralisation of the financial resources devoted to school feeding. Education departments of municipalities, states and the Federal District became responsible for spending the federal government resources earmarked to school meals — i.e. the implementing agencies of PNAE. In 1998, the National Fund for the Development of Education (FNDE) became the federal government body responsible for the management of the programme (Provisional Decree No. 1784 of 14 December 1998). One of its duties is to regulate, monitor and oversee the expenditures of PNAE's resources by implementing agencies (municipalities and states). These agencies have to submit their expense reports to the FNDE annually. Another important policy change that was introduced by this Provisional Decree was the reduction in the number of processed and/or easy-to-prepare/cook food items on the list of products that could be purchased with federal resources for the programme (FNDE, 2009).

On 28 June 2001 another Provisional Decree mandated that 70 per cent of the FNDE's resources for school feeding should be used to purchase basic food items,

Figure 7
Flow of FNDE Resources

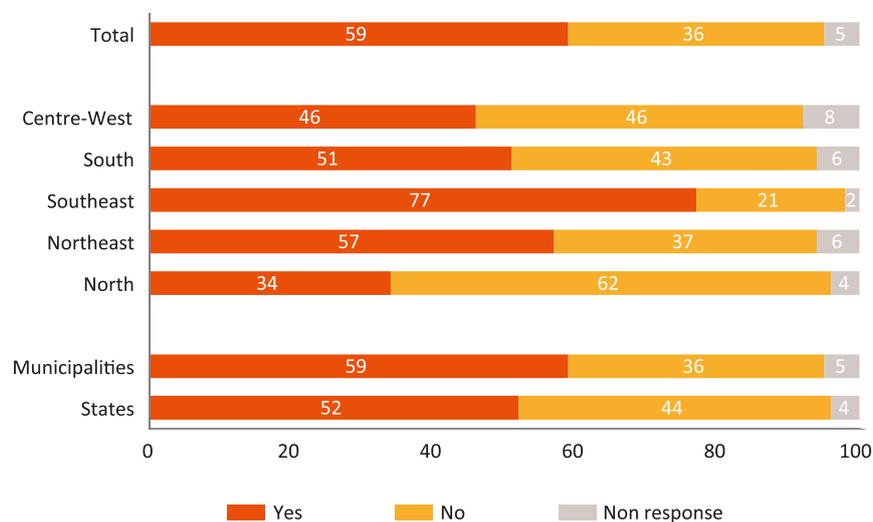


Source: FNDE.

taking into account both the regional/local eating habits and availability of local crops, with a view to fostering local development reinforcing the need to buy local food products for the school meals. Furthermore, FNDE’s Resolution No. 15 (16 June 2003) established criteria and modalities for FNDE resources to be transferred to the implementing agencies — namely, the departments for education from municipalities and states (see Figure 7).

As mentioned in the Introduction to this report, in 2003, the first year of President Lula’s first term, Zero Hunger was adopted with a view to fighting hunger and poverty in a number of ways framed around four axes. At this time, important steps were taken to strengthen PNAE. The government’s Food Security and Nutrition System introduced the concepts of ‘food culture’ and ‘local solutions’ to respond to food insecurity — leading PNAE

Figure 8
Are some of the Federal Resources for School Feeding Used for Purchases from Local Producers?



Source: ASBRAN, 2007.

to subsequently reinforce the need to procure from local producers. Social participation and accountability through the School Feeding Councils (CAE) at the municipal level (which had to oversee and monitor the food purchases) and the work of the dietitian as the person responsible for the school menu (with a mission to take into account the local products and eating habits) were decisive steps in strengthening the demand for local products.

In 2007 the FNDE commissioned a survey to assess the implementation of the PNAE. Among several other indicators, this survey looked at whether or not implementing agencies (education departments from municipalities and states) were purchasing locally from small producers. Figure 8 shows that about 59 per cent of the implementing agencies were buying from small local producers. The Southeast region was the best performing region in terms of local purchases, with 77 per cent of implementing agencies buying from small local producers. This was followed by the Northeast, with 57 per cent, and then the South, with 51 per cent. The Centre-West and the North had the lowest proportion of purchases from local, small producers, with 46 and 34 per cent, respectively.

This result showed that implementing agencies were actually purchasing locally, which was one of the key objectives of the reforms that started in 1994. Local purchases did not necessarily translate into purchases from smallholder farmers as per the concept used in the design and implementation of the PAA, however. The regional distribution of the incidence of local purchases was somewhat in contrast with what was known from other data sources, which suggested that the largest numbers of smallholder farmers were actually from the Northeast and South regions.

At the same time, discussion was taking place inside the federal government (with significant involvement from civil society organisations, channelled through CONSEA) to expand the legal framework developed by the PAA for procurement from smallholder farmers, to strengthen the structured demand for their produce. The MDS and MDA were key stakeholders in this process, since both had experience of implementing the PAA, which had served as proof that it was feasible to procure food products from smallholder farmers as long as the procurement laws were revised. PAA experience also showed that structured demand helped to incentivise family farmers' collective organisation (cooperatives and associations) to boost their capacity to regularly supply high-quality food to comply with the PNAE's quality standards.

After this long process of decentralisation, during which priority was given to local suppliers, in June 2009, a new PNAE legislation — namely, Law No. 11.947 — introduced the legal requirement that at least 30 per cent of the products purchased for school meals should be bought from smallholder farmers and/or their organisations.

This legal framework also mandated that priority be given to family farmers from the 'agrarian reform settlements', traditional communities such as *quilombolas* (slaves' descendents) and indigenous peoples. Organic food and food produced via agroecological practices should also be prioritised in school menus, in line with similar priority criteria developed by the PAA.

With its new legal framework, encompassing as it does both Law No. 11,947 and FNDE's Resolutions Nos. 38/2009 and 26/2013, PNAE has become an important tool to strengthen the structured demand for food produced by local smallholder farmers.

3.3 PNAE'S RULES AND PROCEDURES FOR PURCHASING FROM SMALLHOLDER FARMERS

The greatest innovation brought about by this new set of legislation, just as it was in the case of the PAA, was the abolition of the competitive procurement process, which usually focused only on prices. The traditional procurement process would make it practically impossible for smallholder farmers to compete with larger firms in the bidding process. When the law was enacted, the maximum amount of purchases from an individual farmer was established in a similar way as for the PAA. The cap was initially set at R\$9000 (US\$4500) per year (per DAP). Since July 2012 it has been R\$20,000 (US\$10,000). This cap helps prevent the concentration of purchases among a small number of producers and, instead, spreads the purchases among a larger number of family farmers (potentially clustered in cooperatives or associations). It is interesting to observe that the ceiling established by PNAE is more than double those that operate in the different PAA modalities. This reflects the trade-off between diversifying suppliers, on the one hand, and, on the other, the need to have a minimum scale to supply schools' demand for food on a regular basis, particularly in medium-sized and large cities.

Unlike the PAA, whose prices are an average of prices from three municipalities, for PNAE the prices are similar to those observed in the local market (at the municipal level). This is the case even when the cost of transportation to deliver the products to the schools (as a means of boosting family farmers' interest in taking part) is considered (Saraiva et al., 2013). Box 2, adapted from Saraiva et al. (2013), describes all the steps implementing agencies must follow to effectively use PNAE's procurement process for family farmers.

BOX 2. PNAE'S PROCUREMENT PROCESS FOR FAMILY FARMERS

Step 1: Budget

- ◇ To identify the amount transferred by the federal government based on the school census of the previous year.
- ◇ To estimate the proportion of purchases from family farmers to be implemented that year.

Step 2: Menu

- ◇ The dietitian responsible for the school menu must (a) map the products produced by smallholder farmers; (b) prepare a menu with these products, taking into account the nutritional requirements; and (c) inform the municipality of the amount of each product to be purchased.

Step 3: Price Listing

- ◇ The municipality should survey the prices of the various products in the local market, including the transportation costs to have them delivered to the schools.

Step 4: Public Open Call

- ◇ An open call details the products, prices and quantities required by the implementing agency to proceed with the purchase.

Step 5: Sale Proposal

- ◇ Family farmers respond to this call with a sale proposal in which they state how much they are able to supply with regard to the requirements detailed in the open call, respecting the limit of R\$20,000 per year and per DAP.

Step 6: Receiving Proposals

- ◇ The required documents specified in FNDE's resolution 23/2012 must be attached to the proposal for it to be considered valid:
 - Informal groups: individual DAP, CPF of each family farmers and sale proposal.
 - Formal groups: cooperative DAP (DAP jurídica), CNPJ, all fiscal and labour documents proving (a) that the cooperative is operating legally; and (b) the sale proposal.

Step 7: Samples for Quality Control

- ◇ Food items should comply with the norms and regulations of the following agencies:
 - Brazilian Health Surveillance Agency (Anvisa/Ministry of Health).
 - Agricultural and Livestock Health Care System (Suasa/Ministry of Agriculture and Livestock).

Step 8: Project Selection and Evaluation

- ◇ The municipality will choose the projects according to the following priorities: projects from family farmers from the (i) municipality; (ii) region; (iii) rural area; (iv) state; and (v) country.¹⁴ Within these groups land reform settlers, indigenous communities and quilombolas should also be prioritised, according to the different DAP categories as discussed in the PAA section.

Step 9: Signing Contract/Project

- ◇ The municipality and the smallholder farmers or cooperative will sign the sale proposal, which must also detail the schedule for delivery to the schools and the payment dates.

Step 10: Product Delivery

- ◇ The family farmer or the cooperative will deliver the products according to the schedule stated in the sale proposal.

4 PURCHASES FROM THE PNAE/FNDE

Table 2 shows the evolution of financial resources spent on the PNAE (in current and real values in R\$ and in US\$ using PPP World Bank converter) and the number of students that have benefited from this programme from 1995 to 2010. In 1995, the programme spent about US\$973.2 million (PPP) to benefit 33.2 million students. By 2010, total resources were up to almost US\$2 billion (PPP) to cover 45.6 million students (Albaneide, 2013). Most of the increase took place after 2008, particularly in 2010. This was due to two changes: (a) the expansion of the coverage of PNAE to secondary school students and students in special classes such as young adult and mature adult education in 2009; and (b) the increase in the per capita (per student) value of the transfer from R\$0.22 to R\$0.30 for students in the pre-school to high school range, and to R\$0.60 for nursery children, from R\$0.44 to R\$0.60 for indigenous and quilombola students, and from R\$0.66 to R\$0.90 to students in schools who take part in the Mais Educação (More Education) programme.¹⁵

As described in the previous section, starting from 2010 at least 30 per cent of these resources should have been applied to purchases from family farmers, which yields a budget of almost US\$500 million (PPP), a sum that was larger than the PAA's total budget in 2010. To assess how rapidly implementing agencies have been complying with this legislation, two databases were merged to show the evolution of purchases from smallholder farmers using PNAE/FNDE resources. Indicators for 2010, the first year of the effective implementation of the 2009 Law No. 11.947, are based on information from the Annual Financial Statement Report (Demonstrativo Sintetico anual — DSA) that implementing agencies had to submit to FNDE. In this report there is a field where the agencies (municipalities and state-level departments for education) must state how much of the federal funds for school feeding have been spent on purchases from smallholder farmers. This dataset was put together by CECANE/UnB and analysed by Saraiva et al. (2013).

Table 2
Distribution of Financial Resources and Students' Coverage (PNAE, 1995–2010)

Year	Financial Resources (in millions)			Students' Coverage
	Nominal R\$	Real R\$	US\$ PPP	(in millions)
1995	590.1	1810	973.2	33.2
1996	454.1	1203	695.6	30.5
1997	672.8	1667	963.9	35.1
1998	785.3	1886	1090	35.3
1999	871.7	1997	1154	36.9
2000	901.7	1929	1115	37.1
2001	920.2	1843	1065	37.1
2002	848.6	1567	905.8	36.9
2003	954.2	1536	887.9	37.3
2004	1025	1548	894.7	37.8
2005	1266	1789	1034	36.4
2006	1500	2034	1176	36.3
2007	1520	1989	1150	35.7
2008	1490	1845	1067	34.6
2009	2013	2377	1374	47.0
2010	3034	3410	1971	45.6

Note: Brazilian Real values calculated with yearly average CPI (IPCA), base year: 2012, and exchange rate converter: 2012 US\$ PPP.

Source: Own elaboration based on data from FNDE.

Likewise, to generate comparable indicators for the following years, 2011 and 2012, a database was generated with information from the new online system that has been developed by the FNDE through which implementing agencies must upload their annual expenditure report for the purpose of monitoring and evaluation. It also includes information on how much has been spent on purchases from family farmers, to show whether or not implementing agencies are complying with their legal requirement of spending 30 per cent of their budgets on purchases from smallholder farmers. The indicator for this database is the proportion of aggregate DAP expenses over FNDE resources transferred to implementing agencies (municipalities and states).

None of the existing databases contain information pertaining to all of Brazil's 5565 municipalities, 26 states and the Federal District. The 2010 database has information on 5255 implementing agencies (states and municipalities), whereas the 2011 and 2012 database has information on 5157 and 5081, respectively. It is important to bear in mind that the 2011 and 2012 database has not been finalised yet, as implementing agencies can still, as of the time of this publication, report their expenses. A consolidated database is expected to be completed by November 2013.

Figure 9, listing 2010, 2011 and 2012 data for the entirety of Brazil and also by region, shows that the majority of implementing agencies which have submitted their expenditure reports are purchasing some amount of food from smallholder farmers with PNAE's resources. In 2012, about 67 per cent of them were buying from family farmers to feed students under their jurisdiction. This figure represented an increase of almost 20 percentage

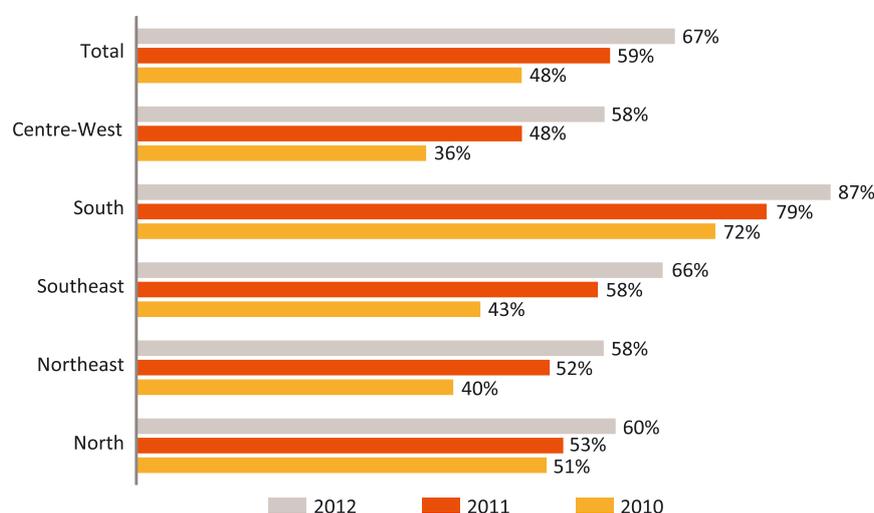
points over the 2010 indicator (48 per cent), which reveals a substantial increase in the number of agencies buying from smallholder farmers.

With regard to the regional picture, Figure 9 shows that in the South region, where smallholders have higher levels of both physical and social capital, including higher levels of cooperative membership than other regions, implementing agencies demonstrated an excellent performance as of the very first year of the implementation of the new legislation. About 72 per cent of implementing agencies were purchasing from smallholder farmers in 2010, a figure that increased to 87 per cent in 2012. The proportion of implementing agencies purchasing from family farmers increased in all regions between 2010 and 2012, but the level of compliance in the South is so high that all other regions are actually below the national average (67 per cent). It is worth mentioning that the North region showed the lowest growth rate between 2010 and 2012, increasing from 51 per cent to 60 per cent.

Figure 10 shows the average of the percentage of the total resources transferred by FNDE that is actually spent on purchases from smallholder farmers by the implementing agencies. The figure for the whole country increased from 22 per cent in 2010 to 29 per cent in 2012, almost reaching, on average, the 30 per cent minimum as mandated by PNAE's legislation.

Again, the South region stands out as the best performer. Indeed, it is the only region whose implementing agencies, on average, spend much more than the 30 per cent minimum requirement — i.e. 37 per cent in 2012. In the North and Northeast regions, implementing agencies are

Figure 9
Percentage of Implementing Agencies that are Purchasing from Smallholder Farmers for the PNAE by Region, 2010–2012



Source: Own elaboration based on data from FNDE.

struggling to increase this percentage, as the figures have remained fairly constant over the three years analysed here. The Centre-West did not make much progress either, with a slight increase from 21 to 24 per cent. Basically, the Southeast and the South regions were the ones driving up the overall figure for Brazil, with an increase of 10 percentage point each from 2010 to 2012. The Southeast region performed impressively, as it had the lowest proportion of purchases from family farmers in 2010 (18 per cent) but increased it to 28 per cent in two years.

Figure 11 depicts the proportion of implementing agencies that are complying with the requirement of spending a minimum of 30 per cent of resources received from FNDE/PNAE on purchases from smallholder farmers. It shows that the proportion of municipalities that reach the minimum level increased from 30 per cent in 2010 to 45 per cent in 2011/12. Consistent with the data shown in Figures 9 and 10, the South region enjoyed the highest level of compliance. In 2012, about 69 per cent of the South region's implementing agencies that purchase from smallholder farmers did comply with the 30 per cent rule. Despite already having the highest proportion of implementing agencies meeting the requirement in 2010 (i.e. 44 per cent), the South only came second to the Southeast in terms of progress in compliance between 2010 and 2012.

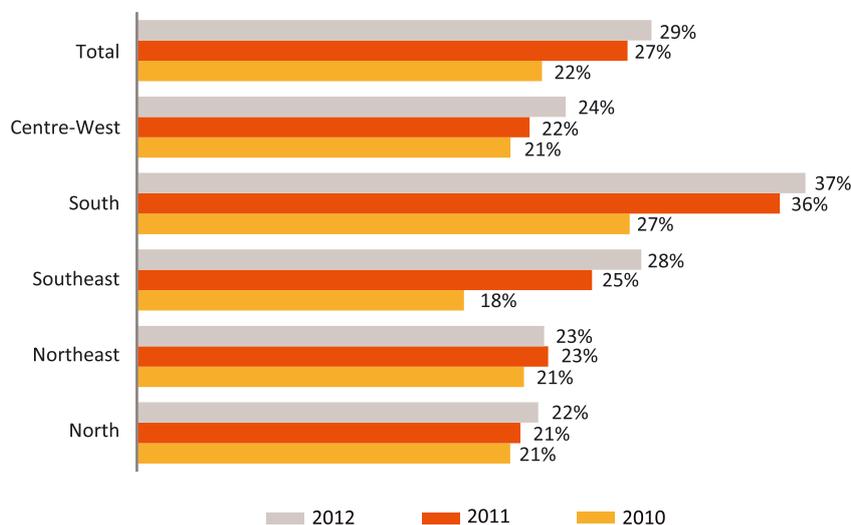
The best performance in terms of progress between 2010 and 2012 is observed in the Southeast region, and it is largely explained by its initial low level of compliance in 2010 (i.e. only 18 per cent), such that it had much room to improve. And, indeed, the region reached 45 per cent by 2012. The Centre-West region has shown some progress, about 7 percentage points, but its performance was much

more modest than that in the Southeast and the South. A note of caution here is that most of the progress in these three regions was observed from 2010 to 2011, with very little progress between 2011 and 2012.

In contrast with the progress observed in the other regions, the figures for the North and Northeast region suggest that the implementing agencies in these two regions are struggling to make enough progress to reach the minimum 30 per cent rule for buying from family farmers, despite the progress observed in the number of agencies that started buying from family farmers between 2010 and 2012.

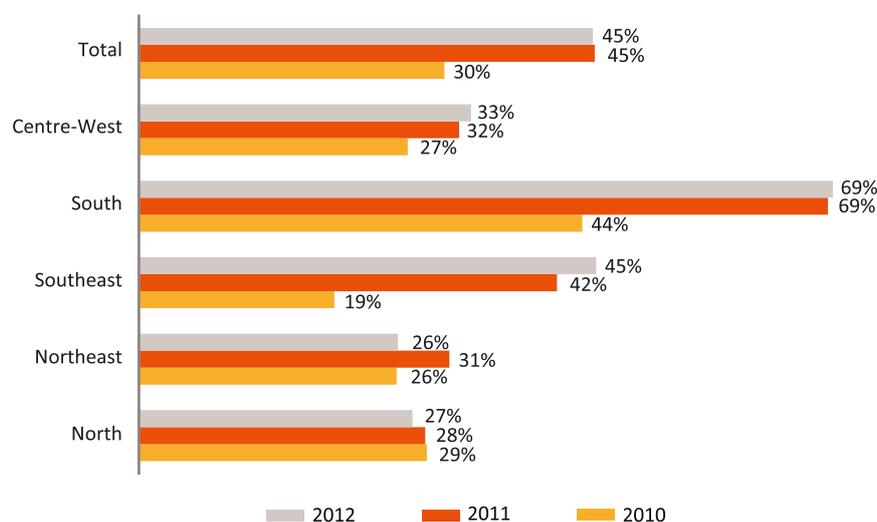
Saraiva et al. (2013) analyse the justifications provided by the School Feeding Council (CAE) for the failure to achieve the 30 per cent minimum requirement in 2010. It is striking that for the North and Northeast region the most commonly cited reason, with a quarter of the responses and well above the figure for other regions, was the impossibility of ensuring a regular supply of produce from smallholder farmers to meet the needs of the school. According to the authors, to overcome the difficulty in ensuring a regular supply of produce, each of the demand (implementing agencies) and supply (smallholder farmers) sides need to engage in a dialogue that could identify the bottlenecks that are hindering progress. In particular, schools should plan their menus according to the food varieties produced in their region, taking into account seasonality and possible climatic events that could delay some crops. Similarly, smallholder farmers should better plan their crops and investments based on the requirements of this institutional demand.

Figure 10
Average of the Percentage of PNAE/FNDE Resources Spent on Purchases from Family Farmers by Implementing Agencies, 2010–2012



Source: Own elaboration based on data from FNDE.

Figure 11
Percentage of Implementing Agencies that Comply with the Minimum
30 per cent of Purchases from Smallholder Farmers, 2010–2012



Source: Own elaboration based on data from FNDE.

5 SYNERGIES BETWEEN PNAE AND PAA

Even though local purchases with a view to fostering local development do not necessarily prioritise family farmers (as discussed in the previous section), it is important to recognise that, even before the legal requirement was introduced to spend a minimum of 30 per cent of the PNAE budget on purchases from family farmers, a few municipalities were using the PAA as a contributing source for their school feeding programme, complementing the purchases made with PNAE's resources. The acknowledgment of this process led to the publication of Decree No. 6.447 of 7 May 2008, which details Law No. 10.696 that created the PAA in 2003, allowing the PAA modalities 'Direct Purchase with Simultaneous Donation' — PAA/CDS — and 'Stockpiling' to include schools among the recipients of the food procured under the PAA. This Decree was substituted by Decree No. 7.775 of 4 July 2012, which still allows the use of the PAA to supply food to schools but emphasises its 'complementary' character.

Actually, there is some evidence that this process may have started as far back as 2005, and that in some cases they were even using their own resources to do so, and not only PAA resources. Turpin (2009) analyses the dataset from the 2006 Efficient Manager of School Feeding Award, organised by the NGO Ação Fome Zero, and finds that a few municipalities were purchasing from small local producers to supply school meals prior to the 2008 PAA Decree mentioned above and likewise prior to the 2009 PNAE law.

The author's analysis is from 2005, just a year and a half after the PAA started operating, but it shows that around 35 out of 346 municipalities with innovative experiences to improve local small producers' livelihoods through school feeding purchases were already using PAA resources for school feeding programmes. Moreover, about 209 municipalities out of those 346 were actually buying directly from small local producers and/or cooperatives/associations¹⁶ with their own resources. Of course, this is a somewhat biased sample, since these municipalities were the ones that were taking part in a national competition for managerial innovation in the fight against hunger. But, in any case, it does signal that, at least in some municipalities, there was awareness of the importance of incorporating family farmers in the supply chain for school meals with the double objective of improving the quality of the food provided to local students while helping family farmers with a more predictable source of demand. The author actually reports that some municipalities were using the PAA to buy and then donate food to their schools while also following the instructions to offer a menu that reflects local habits and local culture. The author also points out that such purchases have enabled schools to access fresher fruits and vegetables than those which could otherwise be purchased from outside areas — a process which also helped to increase (and smooth) the income flow to smallholder farmers.

Table 3
Number of Municipalities Where Schools Have Received Food from the PAA/CDS

Year	No.
2009	597
2010	973
2011	961
2012	815

Source: Own elaboration based on data from CONAB.

In this same paper, Turpin also highlights the barriers to increasing the participation of the smallholder farmers with respect to supplying food for school meals — namely, compliance with the amount to be purchased as initially agreed by the school and the smallholder farmer, and compliance with health and sanitation requirements as well as the necessary official certificates and approvals for their produce. These same obstacles were experienced by municipalities seeking to achieve the 30 per cent minimum purchase from family farmers in the first year of its implementation in 2010, as reported by Saraiva et al. (2013). Nevertheless, Turpin observes that these requirements have also offered family farmers an incentive to become better organised by joining or establishing associations and/or cooperatives to profit from economies of scale and overcome, at least partially, some of the hurdles mentioned above.

To provide a broader picture of just how widespread use of the PAA was to provide food for school feeding programmes, Table 3 displays the number of municipalities that have in the past actually used PAA resources to provide school meals. It is based on Conab data from 2009 to 2012 that list schools, nurseries and infant schools that have received donations from the PAA/CDS modality by municipality. In 2009, 597 of the 5565 municipalities in Brazil had at least one school that had received some food donation via PAA/CDS.

This figure increased to 973 in 2010, the first year of the implementation of PNAE's 30 per cent minimum rule, and remained relatively stable in 2011 (961 municipalities). However, this figure did fall in 2012 to 815 municipalities. It is not possible to know the importance of these donations to schools in terms of their amount, frequency and alignment with their planned menus, but the fall observed from 2010 and 2012 is probably signalling the complementary nature that this type of donation is likely to assume from now on.

In this section, we would like to investigate the hypothesis that previous experience with the implementation of the PAA at the local level, either directly by the municipality or through Conab, may have made it easier for municipalities to immediately start purchasing from family farmers after the introduction of PNAE's 30 per cent minimum purchase law. Such an effect could be triggered through a direct channel and/or an indirect one. The direct channel would be the experience of the municipality in purchasing directly from family farmers or their cooperatives and associations using PAA resources and tools. This know-how in implementing the PAA had the potential to facilitate a quick implementation of PNAE purchases from family farmers at the municipal level. The indirect effect, possibly piggy-backing on Conab's implementation of the programme, would be observed through the PAA's effect on incentivising family farmers to establish or join

Table 4
Distribution of Municipalities According to PAA in 2009 and PNAE Purchases from Family Farmers in 2010

	PAA Purchases in 2009?		Total
	No	Yes	
PNAE resources used to buy from SHF in 2010?			
NO	58.08	45.49 ¹⁷	54.9
YES	41.92	54.51	45.1
Total	100	100	100

Source: Own elaboration based on data from FNDE and MIS/SAGI/MDS.

collective organisations (cooperatives and associations) so that they could increase their scale and have better access to information about the institutional markets. Moreover, family farmers or cooperatives which had previously sold their produce through the PAA could be better prepared to accommodate the frequency and quality requirements typical of the school feeding procurement process. A larger scale and improvement in the quality of their produce would have been key factors in speeding up the implementation of PNAE purchases from family farmers at the municipal level, and both of them could be associated with previous experience with the PAA.

Using data from the Social Information Matrix of the MDS at the municipality level, we can assess whether the 1407 municipalities in which the PAA was implemented in 2009 were more likely to have purchased from smallholder farmers using PNAE resources in 2010, the first year after the introduction of the 30 per cent minimum purchase from smallholder farmers.

Table 4 shows that municipalities where the PAA was being implemented in 2009 were 12 percentage points more likely to have used PNAE resources to buy from smallholder farmers in 2010. About 54.5 per cent of municipalities that had the PAA in 2009 were able to purchase from smallholder farmers, whereas the figure for those who did not have the PAA in 2009 was 42 per cent. A Chi-square test of the association between the two distributions rejects the null hypothesis that there is no association. Thus, the fact that a municipality had benefited from the PAA in 2009 is associated with the municipality's capacity to buy food for the PNAE from smallholder farmers in 2010 (Chi-square(1)=67.35, p-value=0.0000). We repeated this exercise using PNAE data for 2011 and 2012 and still found this positive association, although the difference decreases from almost 13 percentage points to 10 percentage points.

6 WHAT DO AGGREGATE NATIONAL DATA SAY ABOUT SMALLHOLDER FARMERS AND THEIR ACCESS TO STRUCTURED DEMAND?

6.1 INTRODUCTION

The objective of this section is to use data from the Brazilian annual household survey (Pnad) from 2001 to 2011 to describe the main characteristics of family farmers in Brazil as well as the recent evolution of these same farmers' sources of demand. For both objectives it will be necessary to use proxies for family farmers and for structured demand.

The Pnad socio-economic survey is not intended to focus on the production aspects of businesses in general. Nor does it focus on family farmers in particular. Thus, it does not capture structured demand interventions such as those identified with the two programmes, the PAA and PNAE, analysed in this report. To that effect it would be necessary to include questions in the survey specifically designed to determine whether or not smallholder farmers had supplied food produce to these programmes, regardless of the amounts sold.

Nevertheless, Pnad is the most important available source of information for estimating the income of Brazilian households, including those in the rural areas of the country (Del Grossi and Graziano da Silva, 2002). The occupational category 'self-employed in agriculture, in animal husbandry or forestry extractive activity' (henceforth referred to only as 'self-employed in agriculture') used by Pnad was chosen to act as a proxy

for smallholder farmers precisely because the use of mostly (unpaid) family workers — and not paid employees — in an economic activity is a fundamental component of Brazil's official definition of the 'family farmer'. Unfortunately, as municipalities are not identifiable within Pnad's datasets, it is impossible to further refine the sample so as to assess only those people self-employed in agriculture who cultivate (or economically explore) a plot of land of a maximum of four fiscal modules in size. This is so because fiscal modules actually vary in size (measured in hectares) depending on municipality. Thus, knowing the municipality is crucial information to determine whether a person self-employed in agriculture qualifies as a family farmer or not. Furthermore, we may unavoidably overlook in our sample those family farmers who might hire casual labour and as such self-identify as 'employers' rather than 'self-employed' in the survey. Similarly, as a result of misclassification, we may also fail to consider some family farmers who may have been classified as 'workers on their own subsistence farms', because these farmers have not generated surplus income/production in Pnad's particular reference month.

Our start date, 2001, precedes the implementation of both the PAA and the 2009 law that established the PNAE's minimum 30 per cent purchase from smallholder farmers, and thus it can be considered a reasonable baseline to document longitudinal changes in the socio-demographic

characteristics of family farmers as well as changes with respect to the buyers of the farmers' production.

The Pnad provides information for two variables that may allow us to investigate through proxies the recent evolution of structured demand in Brazil as well as its effect on the livelihood of family farmers. These variables are: (1) the monthly work income of the individual; and (2) the identity of the main buyer of the family farmer's produce (whether the buyer purchases all or most of that farmer's produce). PNAD seeks to determine the gross income from the main economic activity of each of the individuals who fill out the survey. Thus for the category of 'self-employed in agriculture', the income associated with a given individual can be either 'in-cash' or the value of the 'in-kind production' of his/her agricultural yield.

The 'main buyer', as mentioned above, is the source of demand that purchased most or all of a given family farmer's agricultural production. This 'main buyer' variable has seven categories: (1) enterprise (private firm); (2) cooperative; (3) government; (4) landowner (sharecropping); (5) middleman; (6) direct consumer; and (7) other.

To analyse the structured demand, it is necessary to look at family farmers (people self-employed in agriculture) whose main buyer was either a cooperative or the government (in most cases, the municipality closest to the farmer). The reason for including cooperatives in the analysis, in addition to their direct supply to the government, is that cooperatives, of course, increase access to market for many smallholder farmers. They are organised with the explicit objective of supporting smallholder production, capturing economies of scale and scope and increasing their constituents' bargaining power. Some cooperatives in Brazil also use hedging mechanisms and long-term contracts that help to reduce uncertainty, thus providing a stable source of demand. Further still, there are many cooperatives which have the so-called 'enterprise DAP' — when at least 60 per cent of the members of the cooperative have a DAP and are eligible for PAA and PNAE special procurement processes. Thus, the government's demand can also be reflected in cooperatives' demand for a family farmer's production.

6.2 MAIN CHARACTERISTICS OF FAMILY FARMERS IN BRAZIL

In the Introduction to this report we discussed food and nutritional security. Structured demand in Brazil is seen as a constructive way to contribute to the nation's poverty reduction and food security strategy. This is accomplished not only through the increase in access to food (food assistance) for vulnerable populations but also by guaranteeing a regular source of income for impoverished smallholder farmers (and farmers vulnerable to poverty) and conditions which better allow farmers to access markets — for example, by reducing their dependency on intermediaries (middlemen), which, of course, offers

access to fairer prices. Table 5 shows the evolution of the proportion of poor and extremely poor households among those self-employed in agriculture as compared to the whole population of the country. We used the Bolsa Familia eligibility lines to define extreme poverty (R\$70/US\$35) and the poverty line (R\$140/US\$70).

It is striking that both poverty and extreme poverty have been drastically reduced during this period. However, people who are self-employed in agriculture are still over-represented as being either poor or extreme poor. Whereas extreme poverty was 6.5 per cent for the whole population, it reached 8.4 per cent for those self-employed in agriculture in 2011. Similarly, the poverty rate for the general population was 13.2 per cent, and for those self-employed in agriculture it reached 21.8 per cent. Thus, a policy that focuses on people self-employed in agriculture is likely to be a pro-poor policy as long as it has the ability to reach the lowest quintile of this specific set of Brazil's population.

Table 5 also shows that whereas decreases in the poverty rate were effectively the same in proportional terms for both the general population and those self-employed in agriculture (i.e. about 48–49 per cent), the fall in extreme poverty was much more pronounced among the self-employed — specifically, 60 per cent for the self-employed versus 39 per cent for the general population. Therefore, it seems that the extremely poor people among those self-employed in agriculture were, indeed, able to take advantage of the public policies (and the general improvement in the economy as a whole) to increase their household income and escape extreme poverty. It is likely that the interaction between social assistance policies such as Bolsa Familia and structured demand for family farmers may have played a key role here, as this segment of the population is unlikely to benefit from the minimum wage policy directly, as they are not wage earners, although its indirect effect through the income of other members of any given household, including social pension beneficiaries, may have also contributed to the increase in their incomes.

In line with the fall in extreme poverty for people self-employed in agriculture, a reduction was also observed in the ratio between the average income of all economically active populations and the average income of those self-employed in agriculture. Figure 12 shows that this ratio was 4.6 in 2001/2002 and just 3.7 in 2009/2011, which reveals that the average income of people self-employed in agriculture has grown faster than the income of all working populations, although the total average income is still 3.7 higher than the average income of that category of workers.

Given the accelerated fall in extreme poverty for people self-employed in agriculture, it would be interesting to investigate whether there have been major changes in the demographic characteristic of this group (a composition change). A key factor to bear in mind is that although

Table 5
Extreme Poverty and Poverty Incidence, 2001–2011

	Total Population		Self-employed in Agriculture	
	Household per capita income below R\$70 (%)	Household per capita income below R\$140 (%)	Household per capita income below R\$70 (%)	Household per capita income below R\$140 (%)
2001	10.6	25.4	21.0	42.6
2002	8.6	23.9	18.5	40.4
2003	9.7	25.4	18.4	40.1
2004	8.4	23.0	16.5	37.3
2005	7.5	21.4	16.0	36.5
2006	6.4	17.6	13.9	31.1
2007	6.5	16.8	11.5	28.7
2008	5.5	14.7	9.4	24.8
2009	5.6	14.2	9.8	23.5
2011	6.5	13.2	8.4	21.8

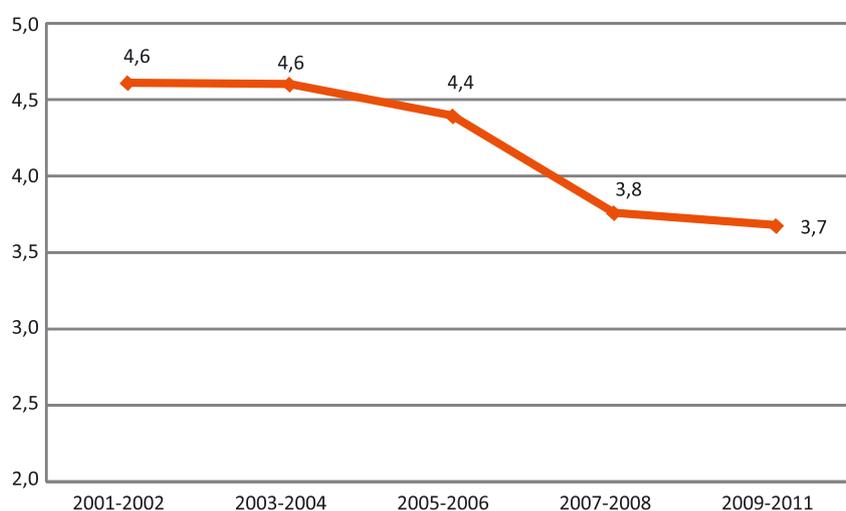
Notes: (1) Real values of September 2011 were used to inflate income information from the other years; (2) There are no data for 2010, as Pnad does not go into the field when there is a Population Census.

Source: Own elaboration based on data from Pnad.

the category 'self-employed in agriculture' has slightly increased in absolute numbers from the period 2001/2002 to 2009/2011, their proportion relative to the total working population of Brazil has fallen from 4.6 per cent to 3.7 per cent in this same period.

Table 6 documents the evolution from 2001 to 2011 of four demographic characteristics of people self-employed in agriculture. This category has become slightly older (48.8 years) over time, and their average years of schooling has improved by 1.3 years. However, it seems that mature

Figure 12
Ratio of Total Average Income to Average Income of People Self-employed in Agriculture, 2011–2011



Source: Own elaboration based on data from Pnad.

adults and persons with a very low level of schooling are still markedly over-represented in this group. Likewise, small-scale farming is apparently a male occupation for the most part, which also translates into a higher proportion of 'heads of households'. But the latter two features have somewhat changed in unexpected ways. The proportion of women that report to be 'self-employed in agriculture' has increased from 2005/2006 onwards from 10 per cent to 14 per cent. Parallel to this, the proportion of heads of households among self-employed people has decreased by 3 percentage points in the same period. The increase in the number of women that have been identified as 'self-employed in agriculture' is remarkable. This may be at least partially due to gender-sensitive policies linked to the PAA and other policies such as non-discriminatory land titling in the land reform settlements. According to Conab,¹⁸

despite there being only a small number of women among the total number of PAA suppliers, the number of female family farmers — identified by their DAPs — increased from 11,500 in 2009 to 39,300 in 2010. Furthermore, a series of actions have been taken with the aim of guaranteeing that women's participation in different PAA modalities continues to increase.

A note of concern must be voiced with respect to the very low levels of schooling of these agricultural workers. Their low level of formal education can be a major obstacle in their attempt to access structured demand interventions such as the PAA and PNAE. This is especially the case for the latter, whose requirements include writing up a project to be submitted as a response to the public calls from the implementing agencies.

Table 6
Personal Characteristics of Self-employed People in Agriculture, 2001–2011

Year	Age	Male	Head of Household	Years of Education
2001	47.3	89.9	86.6	2.4
2002	47.4	90.2	86.6	2.5
2003	47.3	90.5	86.2	2.6
2004	47.2	90.0	86.4	2.8
2005	47.4	90.0	86.2	2.8
2006	47.4	89.9	85.2	3.1
2007	48.1	89.1	84.4	3.2
2008	48.3	88.7	83.4	3.4
2009	48.6	88.3	83.5	3.5
2011	48.8	85.5	78.2	3.7

Source: Own elaboration based on data from Pnad.

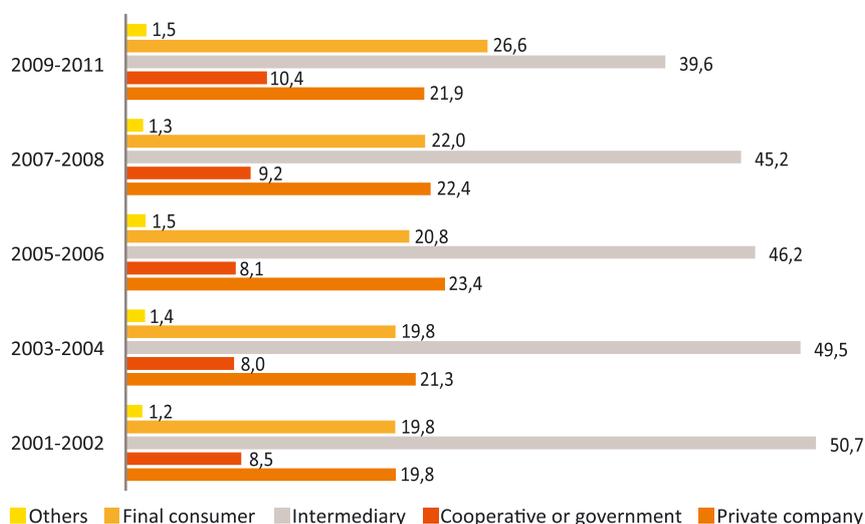
6.3 DEMAND FOR THE PRODUCE OF THOSE SELF-EMPLOYED IN AGRICULTURE

With regard to the demand for the produce of those self-employed in agriculture, the Pnad survey, as it is, only enquires about the main buyer of the farm's produce. By any measure, structured demand via PAA and PNAE is unlikely to become the main source for the majority of smallholder farmers, particularly since both programmes have limits on the amount that can be purchased and do not have high coverage, as discussed in earlier sections of this report.

However, Pnad data do show an increase in government and cooperatives as the main source of demand available to these producers between 2001 and 2011.

Government represents a very tiny proportion of the main buyers of the production of these farmers. As the sample is too small and the coefficient of variation too large, it is better not to report the indicator for this category alone, thus in Figure 13 it is only presented as an aggregate indicator for 'cooperative or government'. Moreover, to avoid volatility in the indicator due to low frequency for some categories, we present it here in sets of two years. Doing so makes it easier to visualise any possible trends. Cooperatives or government groups turn out to represent some 8 per cent of the customer base of those self-employed in agriculture in the period between 2001 and 2006. However, from 2005/2006 onwards this proportion has increased for each group of years to reach 10.4 per cent in 2009/2011. Thus, it seems that there is a positive trend in the participation of cooperatives or

Figure 13
Distribution of Buyers of Most of Self-employed People's Production (Percentage), 2001–2011



Source: Own elaboration based on data from Pnad.

government (our proxy for structured demand) as main buyers from people self-employed in agriculture.

Intermediaries (middlemen) are still the most common response to the question 'who buys most of your production?'. However, this group's status as main buyer fell from 51 per cent to 40 per cent from 2001/2002 to 2009/2011. This fall was slightly compensated for by the increase in the 'cooperative or government' group, the increase in private companies, and to a larger extent to the increase in final consumers, which rose from about 20 per cent to almost 27 per cent.

Looking at the average income of those self-employed in agriculture grouped according to the main buyers of their produce, Table 7 shows that family farmers whose main buyers are cooperatives and the government have the highest average income. This signifies that such

individuals are not necessarily the 'typical' family farmers who sell to the PAA and the PNAE. It also suggests that the objective of organising family farmers into cooperatives and offering them a more structured demand is likely to be a way to generate higher incomes for self-employed individuals working in agriculture. One notes that those with the lower average income are those whose main buyers are direct consumers or intermediaries.

Self-employed agricultural producers who sell directly to private companies also have a much higher average income than those selling to other 'markets', suggesting that private companies can also provide such a structured demand. In contrast, intermediaries and final consumers suggest a more precarious market, yielding an average income that is below that of the minimum wage.

Table 7
Average Income of Self-employed People in Agriculture by Main Buyer of their Produce, 2001–2011

Main Buyer	2001–2002	2003–2004	2005–2006	2007–2008	2009–2011
Private Company	782	946	924	1073	1312
Cooperative or Government	1080	1038	1012	1146	1361
Intermediary	415	388	394	493	493
Final Consumer	336	355	338	429	444
Others	406	574	487	707	619

Source: Pnad.

7 CONCLUDING REMARKS

This report has surveyed the two most important forms of government-based structured demand in Brazil, the PAA and PNAE. They are integral parts of Brazil's food and nutritional security strategy, which is based on the human right to adequate food. These programmes also intersect with other social policies such as education and health, as well as the broader objectives of reducing poverty and inequality. Structured demand incorporates the demand for food from population groups in a situation of food insecurity (PAA). Through the PNAE, this structured demand also works as an instrument to address nutrition education, improve school attendance and indirectly to support students' academic performance. Structured demand simultaneously provides an alternative market option for smallholder farmers' goods. The structured demand of these programmes can also foster the collective organisation of family farmers into associations and cooperatives through incentives and a series of complementary activities to support and motivate producers to improve the quality of their produce, so that they can comply with health and production requirements needed to access more structured markets in the private sector.

The progress made in the past three years in implementing the legal requirement of purchasing at least 30 per cent of the products purchased for school meals from smallholder farmers and/or their organisations showed the feasibility of this process. It also revealed that regional differences need to be addressed to make it succeed all over the country. In just over three years since the law was passed, more than two thirds of the implementing agencies in the South region were complying with the minimum requirement. In contrast, less than half of the implementing agencies from other regions have met this target. There are some clues as to why this is the case. Recent changes put forward by the FNDE have been trying to tackle some of these difficulties, for instance, by increasing the annual cap on purchases from individual family farmers. It is important to overcome these hurdles to ensure that the potential budget available for purchases from family farmers is fully implemented.

In this context, it is clear from our literature review that there is a lack of impact evaluations of the PAA and PNAE with robust quantitative methodologies. This gap must be addressed to better inform programme managers, national stakeholders and the international community about the degree of multisectoral success and contributions to a plethora of positive outcomes highlighted by innumerable case studies and qualitative evaluations of such programmes. Of the two, the PAA has been far more extensively studied with regard to its impacts on the livelihoods of family farmers. That is also because the most notable policy change to

support family farmers through the PNAE's procurement process is much more recent, having been progressively implemented only in 2010.

More solid evidence could strengthen the case for increasing the budgetary resources available for such programmes, and provide some insight into the fundamental questions of how to best distribute the funds made available to such programmes, such as: Should the programmes allow higher yearly limits per DAP for purchases from an individual family farmer, risking limiting its coverage? Or should they increase coverage first at the expense of the amount sold by family farmers through this special procurement process? Should a two-tier system be set up in which the PAA, particularly the PAA/CDS, would focus on the poorest among the family farmers, whereas the PNAE would focus on those who are well-off and most likely already linked to cooperatives? Are family farmers who remain suppliers of the PAA/PNAE for long periods of time eventually able to successfully access other markets? Are they getting more organised? Is the quality of their produce improving? What are the channels through which these processes work? Such are the important questions that are explored in part by the available evaluations of the two programmes analysed in this report undertaken so far.

It is also important to recognise the constant improvement of both programmes, largely determined by the demands and based on the contributions of civil society organisations, through CONSEA, to the design of the programmes. The capacity to respond relatively quickly to the challenges observed in the field is a feature of the two programmes that is not commonly seen in other public policies.

The Pnad data analysed in this report show that family farmers are likely to be one of the groups most vulnerable to poverty in Brazilian society. It is a group that is not directly affected by wage policies but, rather, is only affected by the demand it may generate at the local level and, therefore, needs to be supported to improve productive capacity and access to markets. It was also shown that the low levels of formal schooling may be an obstacle to accessing the policies designed to support such a group. This suggests that higher levels of collective organisation are necessary to reduce the cost of participation in the procurement process.

It is striking that the region with the lowest average income of people self-employed in agriculture, the Northeast, is also found to be the region with the lowest proportion of cooperatives or government as the main buyer of family farmers' production. These facts suggest that the regional distribution of PAA resources which prioritises the Northeast is correctly distributed from the

perspective of its poverty reduction objectives. Moreover, about 43 per cent of PAA/CDS suppliers, which is the predominant modality of the PAA with almost 85 per cent of the resources, are registered in the single registry (CadÚnico), and most of those registered are beneficiaries of Bolsa Família. Not surprisingly, the PAA became the most important component of the 'rural productive inclusion' pillar of the Brasil sem Miséria plan, the current flagship intervention of the Brazilian government, under Dilma Rousseff's administration.

The recent institutional and budgetary evolution of both programmes, the PAA and PNAE, clearly demonstrate the commitment of the stakeholders involved in their design and implementation to ensuring that the programmes fit the needs of both family farmers (supply side) and the final consumers of their produce (demand side).

Budgetary allocation has increased to accommodate the expansion of the programme both in terms of the number of family farmers as well as in terms of the amount of money that each one can access. Whereas the PAA allows smallholder farmers to sell their production surplus, mainly locally, in small amounts with irregular supply, the PNAE can boost the gains from the PAA, as it offers a larger and steady demand — however, with more challenges for the producers. It requires smallholder farmers to improve their capacity to meet the standards for supplying school meals. The combination of both is a promising way to improve not only the livelihoods of the smallholder farmers but also to sustain food and nutritional security in the whole country.

NOTES

1. The National Programme for Strengthening Family Farming (PRONAF) is a credit scheme created in the mid-1990s that is exclusively available for family farmers. PRONAF offers several lines of credit that have interest rates according to the DAP group. So, for example, group A has a lower interest rate than group E. There are also lines of credit that are developed specifically for different investments, such as for youth or women heads of household. Additionally, farmers' organisations are able to collectively take out a loan through PRONAF. One such line of credit, PRONAF More Food (Mais Alimentos) allows for organisations to borrow up to R\$500,000–750,000 (US\$250,000–375,000) for the purchase of farm implements. Since 2003, there have been over 10 million PRONAF contracts offering around R\$52 billion (US\$26 billion) to family farmers (Del Grossi, 2011: 310).

2. A fiscal module is determined by each municipality and varies greatly between regions.

3. For illustration purposes, values were converted to US dollars using an exchange rate from May 2013 (US\$1.00 to R\$2.00).

4. For a full list of PRONAF groups see: <<http://www.bcb.gov.br/?PRONAFQAQ>>.

5. For an example of how one modality works, please see Nehring and McKay, 2013.

6. More details on the different PAA modalities are provided in the next sub-section.

7. Regarding purchases made from organisations (through cooperatives or associations), the individual limit is increased to R\$8000 (US\$4000) when at least 50 per cent of the family farmers in the organisation are registered in the federal government's Single Registry for Social Programmes (CadÚnico) or when the produce is organic or from agroecological production. For all other acquisitions the limit is also increased to R\$6500 (Decree No. 8.026 of 6 June 2013).

8. It does not include the modality 'Institutional Purchases', as data from this modality will not be available until after 2013.

9. The survey used included six different crops, and the only lower price offered through the PAA was cherry tomatoes at 5.2 per cent lower than the market price (Agapto et al., 2012: 18).

10. See: <<http://www.conab.gov.br/imprensa-noticia.php?id=29464>>.

11. See PAA data: <http://aplicacoes.mds.gov.br/sagi/paa/visi_paa_geral/pg_principal.php?url=abertura> or Matriz de Informações Sociais <http://aplicacoes.mds.gov.br/sagi/mi2007/tabelas/mi_social.php>.

12. See Box 2 for more details on this process.

13. Fialho (2009) states that in 1993 only two companies were responsible for 48 per cent of the supply of food items to the PNAE.

14. Therefore, priority is given to the municipality, then neighbouring areas, before the food can be purchased outside this 'catchment area'. Larger metropolitan areas are likely to have to purchase from other areas of the state, or the country more broadly, due to their greater demand and the relative scarcity of agricultural production.

15. This is a programme that gives extra resources to schools to allow them to move from part-time to full-time operation for their pupils. Most schools in Brazil work in two or three shifts (morning, afternoon and sometimes evening). Schools that were beneficiaries of the Bolsa Família conditional cash transfer programme are the majority and are given priority to join this programme, which does not have universal coverage.

16. It is important to notice the difference between purchasing from local small producers and purchasing from family farmers, although it is possible that some overlap occurs between the two categories. It is that family farmers have a precise (and legal) definition in the context of the food and nutritional security policies in Brazil. In 2005, the school meal programme had not yet incorporated this definition in its norms and procedures, where the concept of local purchases for local development was much more prevalent.

17. Notice that the proportion of municipalities buying from smallholder farmers in 2010 using PNAE resources reported in Table 5 (45 per cent) is slightly lower than the one reported in Table 2 (48 per cent). This is due to differences in the denominator. In Table 5 the denominator is the number of municipalities that had submitted their expenditure report, and in Table 3 it is the total number of municipalities in the country (5565).

18. See: <<http://www.conab.gov.br/imprensa-noticia.php?id=29303>>.

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