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COOPERATIVE AND SMALL-SCALE FARMING THROUGH BRAZIL'S NATIONAL PROCUREMENT STANDARDS

José Arimatea Barros Bezerra and Ludmir dos Santos Gomes

Born to an agricultural family, Ana was raised farming in the Brazilian state of Ceará. However, she struggled in this challenging ecological region to produce enough to feed and financially support her family. João grew up in an urban environment. Despite this, he learned about rural life from visiting relatives in rural areas as a child and from his brother who introduced him to educational opportunities offered by the Landless Workers' Movement (MST).¹ These combined experiences led him to acquire land and to attempt to live from agricultural production. After taking very different paths to becoming farmers, Ana and João have found themselves in an unexpected alliance thanks to Brazil's National School Feeding Program (*Programa Nacional de Alimentação Escolar*; PNAE). In the Ceará state of northeast Brazil, Ana and João work together to grow food for local school meals.

Their stories are not so unusual. A 2009 federal law—which required 30 percent of the food served in the PNAE to be purchased from local producers—has increased family farmers' and small cooperatives' involvement in school lunch programs across Brazil. This turn toward smallholder farmer engagement and quality (i.e., fresh, local, culturally sustainable, and relevant) school foods has grown out of the sixty-six-year evolution of the PNAE, which began as an international “development” project

reliant on foreign donations. In its present iteration, the PNAE represents the possibility of local sustainable development for communities, healthy and equitable food, reliable distribution to children, and broader social inclusion for farmers like Ana and João.

BRIEF HISTORY OF BRAZIL'S SCHOOL FEEDING: FROM WELFARISM TO SUSTAINABLE DEVELOPMENT (1955–2020)

Today's Brazilian National School Feeding Program (PNAE) was born from the Education Ministry's School Lunch Campaign (CME). Begun in 1955, the CME had an abstract goal to fight child malnutrition and poor student outcomes by improving eating habits and overall health. Within a year, the program was renamed the National School Feeding Campaign (CNAE), and it largely functioned as an international development project that provided food donations to first through fourth-grade students.

From 1956 to 1960, the United Nations Children's Fund (UNICEF) supported the program. Then from 1960 to 1973, the US Agency for International Development (USAID) and the Food and Agriculture Organization of the United Nations (FAO) took over. The donations were highly processed food products, mostly dry milk, which were not distributed regularly throughout the school year nor received by schools in the more distant northeast and Amazonian regions. Furthermore, the program often functioned as a political patronage system: program administrators focused more on gaining favor with certain political groups than on feeding students.² Foreign aid ended in 1973 during the "The Brazilian Miracle" (1964–1973), which was a period marked by strong national economic growth, fueled by nationalist ideology and a military dictatorship that consolidated power through violence, repressing political opponents, and rolling back individual and collective freedoms.

Without international (albeit unreliable) food donations and with distribution challenges but a desire to continue the CNAE, the national government made deals with domestic food industries. As a result, a Brazilian food industry subsector emerged that produced goods almost exclusively for the CNAE. As school food shifted from being internationally to domestically produced, school menus continued to feature highly processed

prepared foods. The government also reduced operating costs (e.g., administrative structures and human resources).

When the military dictatorship ended in 1985, the principles of decentralization and community participation guided re-democratization of the country, and guided the CNAE.³ The government allocated more funds to the program and attempted to decentralize school food acquisition through local purchasing in two hundred municipalities.⁴ In 1993, the National School Feeding Campaign (CNAE) changed its name to the National School Feeding Program (PNAE) and continued attempts at decentralization so that school food could be managed locally. While at the beginning of 1993 only municipalities with greater than fifty thousand inhabitants were included in decentralization planning, all municipalities were invited to participate by 1994.⁵ By the early 1990s, the CNAE's food reached 90 percent of urban schools and 85 percent of rural schools. However, the centralized management method and food distribution irregularities remained and so too did the disconnection between addressing food insecurity and poverty as an underlying root cause of hunger and malnutrition.

STRATEGIC POLICY SHIFT AND A PNAE TRANSFORMATION

Beginning in the twenty-first century with the presidency of Luiz Inácio Lula da Silva, a coordinated mobilization was intensified to combat hunger as a main effect of poverty. Stakeholders included universities, unions, land- and home-related (e.g., domestic laborers) social movements, and collectives of health, social assistance, nutritional, and food policy militants. They demanded a departure from the previous food distribution models that provided free food products, prioritized and privileged large and often transnational agribusiness, and were not concerned with addressing the root of hunger: poverty. Previous models also overlooked safe, nutritious, culturally and locally relevant fresh food and its agroecological production. Overcoming hunger, they asserted, required nutritious, safe, secure, and sovereign food systems linked to broader antipoverty strategies that produced stable and living-wage work, land access, and income.

In 2009, during the second Lula term as president, school food was universalized, codified in the Brazilian Constitution. The government was

required to provide every student from kindergarten to high school, every day of the academic year, regardless of social condition, a free school meal. Also required was that students receive nutrition education as a part of the school curriculum.⁶ Last, the 2009 law mandated community participation in controlling and monitoring the PNAE to reduce corrupt practices that previously proliferated under more centralized PNAE management.⁷

As of 2009, the PNAE aligns with the National Nutrition and Food Safety System (SISAM), which is responsible for ensuring adequate food to the population as a human right.⁸ The PNAE became central to SISAM efforts to combat hunger, promote nutrition and food safety, and fulfill the human right to adequate food that must respect local food culture and traditions.⁹

Currently, all 5,540 municipalities within the twenty-six Brazilian states and the federal district participate in the PNAE. Each is responsible for managing local school food funds received from the federal government to plan menus, purchase foods, prepare, and distribute meals.¹⁰ Each state and municipality also has a School Feeding Council (CAE)¹¹ to advise and monitor the local management of the PNAE.

BUYING SCHOOL FOOD FROM FAMILY FARMS

To facilitate compliance with the 30 percent minimum purchasing requirement from family farms, the 2009 school feeding law introduced an annual public call, in which family farmers compete against one another—but not against large farms—for annual contracts. This has increased inclusion of smallholder producers who were previously excluded from the benefits of a stable public policy program despite representing most of Brazil's population and food producers.¹²

PNAE-participating family farmers must be accredited, proving that they produce their products with family labor and are smallholder farmers. The term “farmers” is also applied to participants who are foresters, fish farmers, fishers, Indigenous peoples, *quilombolas*, land reform settlers, and foragers (e.g., harvesters of wild plants).¹³ There are two accreditations available.¹⁴ One is for individual family farms, and one is for farmer cooperatives. However, farmer collectives are prioritized in the public call to incentivize and strengthen cooperative models, which are considered to be more effective and reliable food suppliers.

A SUCCESSFUL COOPERATIVE FAMILY FARM EXPERIENCE

In the state of Ceará, in northeast Brazil, the National School Feeding Program has the potential to do immense good. The state's population is over nine million, and poverty levels are high, but so are levels of school attendance. A Human Development Index (HDI) of .682 ranks it seventeenth out of the twenty-six Brazilian states and the federal district in terms of HDI, and the state's poverty rate stood at 37.6 percent as of November 2020, compared to a 23.7 percent poverty rate for the national population.¹⁵ Food insecurity is significant, yet access to universal elementary education is high. In 2019, 99.7 percent of children from six to fourteen years old were enrolled in primary and middle schools. Ceará is ranked third out of the twenty-six Brazilian states on the Basic Education Development Index (IDEB).¹⁶

Children in Ceará have access to regular, nutritious school food, but they are not the only ones who benefit. Family farmers in this semi-arid region¹⁷ also benefit, however they labor in challenging ecological conditions in order to participate. We wanted to learn about farmers' lived experiences of the PNAE. Through a series of conversations and participant observation with PNAE family farmers in the Ceará region, we hoped to learn from them not as supposedly "neutral" researchers but with a spirit of solidarity.¹⁸ Our search for a dialogical and nonhierarchical relation between ourselves and the farmers led us to Ana and João.

Ana grew up on her family's farm before starting her own operation. "I was born into agriculture, from a family of farmers. I've always worked as a farmer," she told us. She had lifelong experience in agricultural production: "First, planting corn and beans, which the local weather allows. Later I started to dedicate my work to vegetable gardening, such as coriander, scallion, bell pepper, and lettuce. The production was in nine rectangular seedbeds." Before working with João, she focused on selling her produce "to community people."

João grew up in a city. Before becoming a farmer, he worked with his father in a local print shop and spent weekends at his grandmother's place in the countryside. His urban-to-rural migration was the reverse of typical patterns in the region. It was his involvement in the Landless Workers' Movement (MST) that awakened a desire to live in the countryside because of the increased food security and safety he thought it could provide.

Ana and João began collaborating in 2016 out of mutual need. While João had experience in and preference for collective farm production developed through MST participation, Ana, on the other hand, preferred individual work. Like many Brazilians, she also had a bias against the MST.¹⁹ However, they both saw an opportunity in the possibility of selling to the PNAE. Neither could become a PNAE food supplier individually because they could not meet the demands of the program. Forming a collective, a partnership, however, allowed each one to sign an individual sales contract with the PNAE, counting on the production of the other to complement or supply the food if the other's production was insufficient.

As they began to work together, João and Ana learned the benefits of their differences. João had internet skills, experience with collective production, and a connection to the MST—an organization that occupies public buildings, spaces, and unproductive estates and turns them into sustainable food production sites. Ana had experience with farming generally, and conventional vegetable gardening specifically, as well as selling to the local community. With MST resources, they developed a productive and sustainable farming system called the mandala.²⁰ “It was João who convinced me to make this [agroecological] change,” Ana explained, “and I accepted the mandala.”

THE MANDALA ENTERPRISE

Mandala technology is based on “an Indian philosophy characterized by a shared irrigation system based on seedbeds surrounding a water source, emulating the solar system.”²¹ Cultivated beds are laid out in concentric circles around the system's center, a water reservoir to irrigate plants and provide water for fish and poultry. A mandala can be constructed on small rural or urban properties of one to four hectares with adequate soil and a water source. It represents a viable technology for smallholder producers, as João explains:

I have learned garden cultivation with Ana. But working with mandala was a little different from what I did before, which was cultivating corn and beans. Even with Ana's knowledge, there were questions and difficulties about how to do some things inside the mandala. I looked for answers on the internet. But a lot of answers came from observing nature. We were observing, trying, and seeing what worked. To the current day, we [Ana and I] are watching and learning.

For example, there's a space in the mandala in which the scallion is smaller. The PNAE doesn't buy this smaller scallion, so we discarded it. But today we don't discard anymore; we use it to feed the poultry. Or for the composting. We learned to use everything. Nothing in the garden is wasted.

On both small land holdings, they created a round water reservoir that holds fifty thousand liters of water diverted from a nearby dam. In the tank, they raise fish and ducks. The ducks' feces help feed the fish, which also feed on small insects attracted by a light placed in the reservoir's center. The space between the water reservoir and the first ring of raised beds is used for raising and breeding poultry, usually chickens and turkeys. In the circles of cultivation beds around the tank, Ana and João grow coriander, scallion, bananas, papayas, sweet potatoes, pumpkins, cassava, cherry tomatoes, beans, cucumbers, and bell peppers. They also breed pigs.

Each mandala employs the owner and a total of five permanent workers. Ana's mandala system has two employees, while João's has three to help with planting, taking care of plants, harvesting, and delivering. All these phases are coordinated by Ana, with leadership skills she developed through daily practice. During the planting and harvesting periods, the need for labor increases to fifteen people. As João explains: "Daily, the following people work on my mandala: Careca, Bernardo, Bruna, Rosinha, Fábio e Cícero. They are always there and receive pay per day worked. But when it's papaya harvest time, we need many more people. At least fifteen people. So, we need help even from the neighbors."

By collaborating with each other and implementing the mandala, Ana and João strengthened their agricultural systems enough to become a sustainable, local source of both employment and food for schools. "The biggest farming difficulty for us, land reform settlers, is not the work, is not the water, is not the estate owning. The biggest difficulty is selling," according to João. "We don't have the customers to sell our produce. Because what I produce in my garden already feeds me and my family . . . selling to the PNAE, even with all the difficulties, helps me a lot."

When trying to sell on the open market, family farmers are subject to the whims of their buyers and shifting market and environmental conditions, making profits uncertain and variable. The setbacks and challenges of farming led Ana and João to participate in the PNAE. Once contracted to supply the PNAE with food, sales and thus profits are guaranteed. For

Ana and João, the stability it provides was worth enduring the challenges of becoming PNAE suppliers.

The first challenge Ana and João faced was the local city hall's rejection of their request to become PNAE-accredited suppliers. Ana and João were land reform settlers and collaborative producers, which should also prioritize their PNAE proposals. However, local officials did not believe they could meet contract demands. To solve this problem, the farmers carried out two actions. First, they and MST supporters occupied city hall for a week. Next, they called on the secretary of education, the local PNAE manager, to visit their production sites to prove their production capacity. Through this process, they revealed that city hall's resistance was linked to prejudice against the MST and land reform settlers, not related to their production capabilities.

The reluctance of public institutions to incorporate land reform settlers, quilombolas, and Indigenous peoples into the PNAE purchasing process can be attributed to "the lack of qualification of the involved servants, the organizational culture of the public institutions and the complexity of the decisions to be made by the procurement managers."²² In spite of this bias, Ana and João won over the local PNAE management, who accepted them as suppliers.

Ana and João report that issues with the local PNAE did not end after securing a contract. The PNAE management asked the farmers to supply crops that are not regionally adapted nor part of the local food culture. They demanded, for example, the supply of tomatoes, which are neither locally produced nor consumed. At the same time, the food orders excluded locally produced and consumed produce including cucumbers, watermelons, pumpkins, and okra.

The 2009 school feeding law establishes that menus must be designed with consideration to local agricultural production. Exclusion of a significant amount of locally produced vegetables and fruits and inclusion of culturally inadequate or ultra-processed foods is considered an unsatisfactory preparation of local PNAE menus.²³ This arises from PNAE management and dieticians' lack of knowledge of local family farming production, including crop varieties, seasonal rotations, and quantities. What's more, family farmers lack knowledge of the legislation. If the farmers are unaware of program requirements, they cannot demand the managers' compliance.²⁴

Farmers' knowledge of legislation and rules that regulate the PNAE food supply is necessary to empower them as policy protagonists.

The next struggle Ana and João faced was related to food delivery logistics. Local PNAE management required Ana and João to deliver their produce to a central warehouse in the closest municipality, forty-five kilometers away. The food then traveled those same forty-five kilometers back to the schools in town. While the food was initially fresh and of good quality, by the time schools received it at the end of its ninety-kilometer journey without refrigeration, the perishable items no longer met sanitation standards for consumption. The schools then had to reject the food, which had also become more expensive for the farmers due to the costs of the unnecessary transportation.

PNAE management's solution was to still require farmers to deliver their produce to the municipality warehouse and to only distribute the family-farmed produce to urban schools. Fresh, locally produced vegetables and fruits grown near rural schools would be substituted with processed food.²⁵ This violated the PNAE requirement to supply healthy and culturally adequate food to all schools. Perhaps the PNAE managers assumed that the rural population would be uneducated about their rights and would accept highly processed foods. They were wrong. Parents and farmers noticed that their children were eating industrially processed food products at school even though their families or neighbors were the producers.

According to Ana and João, teachers, students' parents, and farmers voiced complaints in meetings with the school principals who, in turn, communicated with the municipal managers. The farmers expressed to the managers that if the situation was not resolved, they would interrupt the food delivery to the urban schools by delivering only to the rural schools. The complaints or the possible interruption of the urban schools' fresh food supply led managers to remove the processed food from rural school menus. Today, the local PNAE runs more logically: producers deliver food to the schools closer to their farmland, with daily or weekly regularity. The supply chain has been shortened, thereby creating a deeper connection between the farmers and the eaters, reducing costs, and supplying healthy and fresh food for all students.

Ana and João's experiences show that direct food delivery from small farmers to schools creates an opportunity for new dialogue between PNAE

stakeholders. The school professionals and the farmers now have a relationship, a bond. The acts of delivering, preparing, and consuming local food strengthen the ties between them, increasing trust in the products as well. The purchasing of school food from family farmers who deliver directly to local schools is an effective strategy for creating dialogue and understanding between education and agricultural stakeholders.

The local school workers we interviewed told us that the food they serve is produced both by conventional farmers and farmers like Ana and João with mandalas. The workers were initially skeptical that Ana and João could produce and deliver on time the quantities of food specified in the PNAE contract. But the mandala produced high yields of produce. Today, they praise Ana and João's work and the quality of foods they produce. Since the perishable food started to be delivered directly by the farmers to the school, there have been no issues with the school food supply. By successfully fulfilling their commitment and demanding changes to PNAE implementation, Ana and João have shifted the schools' perspectives about the value and capacities of local farmers.

The farmers also came to trust the schools. Previously, family farmers only engaged with schools as parents. Now, PNAE farmers have developed



9.1 Produce grown in the mandalas for school lunch. Credit: Jose Arimatea Bezerra and Ludmir dos Santos Gomes.

a broader multifaceted sense of belonging to the schools. They consider themselves a part of the institution with a duty to care for and defend it, as well as supply it with healthy food.

Ana and João have been personally and professionally changed by their PNAE work. Ana advanced professionally: she learned and integrated more innovative cultivation techniques that increased her agricultural productivity. However, she also improved the living standard of her family in terms of food quality and security and with increased ability to purchase consumer goods. "After I started to sell food to the PNAE, my life improved a lot," Ana shared. "My work changed a lot and changed for the better. The production increased. I had more opportunities. I bought a motorcycle, which I used every day for personal use and food delivery. And I also bought a lot of stuff, like furniture, home appliances and clothes. Thus, the income and even my family feeding got improved."

Ana is proud to be able to cover the costs of her daughter's university studies in the city of Fortaleza, making her the first family member to be admitted into a university. Ana's political perspectives have changed as well. She experienced firsthand and benefited from the efficacy of the MST's occupation of city hall. She also benefited from MST's promotion of the mandala system. She no longer distrusts the movement. Ana now personally understands how MST's collective strategies support socially excluded Brazilians' right to land, sustainable agricultural production, and improved farmer livelihoods.

One of the local teachers affirmed that Ana's achievements are not limited to income and purchase of material assets. According to him, with the mandala and the PNAE partnership, Ana has achieved not only better living conditions, in economic terms, but also attained something very important and exceptional: autonomy as a woman and as a family farmer.

As for João, he took a big risk when he made the opposite choice of many of his peers by migrating from the city to the countryside. While he had learned to do collective work on the MST settlement, it was due to the motivation of a potential PNAE contract that he formed a partnership with Ana. The mandala, the collaborative work with Ana, and supplying food to the PNAE impacted João's life. He saw his farm profits increase, which granted him stability and access to material assets. By delivering food to the schools, he became closer to the school managers, teachers,

and students, which increased his connection and belonging in the rural community. Now, he and Ana are both more than family farmers. They are producers of food for their school, a role and relationship that gives them new value and purpose.

CONCLUDING REMARKS

There are hundreds of family farmers in the Ceará state like Ana and João who are improving their lives and overcoming poverty by selling food to the PNAE. Across Brazil, there are thousands more. With the more secure income they attain as PNAE suppliers, families with agricultural livelihoods can stay in the countryside, avoiding the rural exodus and improving the local economy.²⁶ At the same time, schools receive fresh local foods that contribute to ensuring the human right to adequate food, reinforce and stimulate the local food culture, and provide nutrition to all students.

From its origins in receiving foreign food aid to its 2009 shift to universalized school lunch, Brazil's National School Feeding Program has evolved significantly across its nearly seven-decade history to be able to better serve students and schools, family farmers, and local communities. However, gaps still exist between PNAE laws and objectives and their practical execution. Obstacles, both cultural and administrative in nature, hinder purchasing from family farmers, even though national law now specifies that their foods must make up at least 30 percent of PNAE supply. Due to lack of understanding of PNAE rules and personal prejudices, local managers often resist signing contracts with the land reform settler, Indigenous, and *quilombola* farmers whom they are legally obliged to prioritize. As a result, PNAE's declared objectives become watered down in reality.

Purchasing from family farms should be a regular, integrated, and uninterrupted PNAE practice. However, sometimes it becomes an area of dispute between farmers and managers. Like Ana and João, farmers have had to develop resistance strategies—occupation of public buildings, protests, and mobilization of school workers and students' families—to overcome the imposed barriers and finally become PNAE suppliers. In this way, they translate the idealized goals of the PNAE into reality.

Another approach to ensuring program implementation is by expanding farmer-university partnerships. The Federal University of Ceará (UFC)

houses the Collaboration Center for School Food and Nutrition (CECANE) which operates through a partnership between the UFC and the National Fund of Education Development (FNDE).²⁷ CECANE's objective is to develop teaching, research, and extension services about school food. Since 2016, it has accompanied and monitored the PNAE's actions in the Ceará state. In 2019, CECANE started to develop educational programs for family farmers and managers of the PNAE from municipalities that spend less than 30 percent of their FNDE funds buying from family farms. As these educational actions align school food managers with local family farming and expand family farmers' knowledge about the PNAE, school food menus can better meet the needs of local students and farmers.

Farmers should not face the challenges that Ana and João shared with us. The PNAE is codified in the constitution. Clearly, laws and rules are not enough. To establish a connection between laws and their enactment on the ground, more effort needs to be committed to uprooting a government culture of favoring big food industries and exposing and eliminating prejudices against family farming. Such efforts could enable thousands more Brazilian family farmers to secure sustainable livelihoods and provide hundreds of thousands more students with fresh food grown by their neighbors.

NOTES

1. The Landless Workers' Movement (MST) is a rural social movement that aims to achieve land reform in Brazil, i.e. fair land distribution to rural people, and to improve life conditions of the rural population.
2. Marcos Coimbra, João Francisco Pereira de Meira, and Mônica Barros de Lima Starling, *Comer e aprender: Uma história da alimentação escolar no Brasil* (Belo Horizonte: MEC/INAE, 1982); José Arimatea Barros Bezerra, "Do Programa Nacional de Merenda Escolar (1954) ao Programa Fome Zero (2003): Rastros do itinerário da política de alimentação escolar no Brasil," in *Vários. Biografias, instituições, ideias, experiências e políticas educacionais* (Fortaleza: Editora UFC, 2003), 449–467; Albaneide Peixinho, "A trajetória do Programa Nacional de Alimentação Escolar no período de 2003–2020: Relato do gestor nacional," *Ciênc. saúde coletiva* 18, no. 4 (2013): 909–916.
3. Maria do Socorro Chagas Barreira, "A intervenção planejada e o discurso da participação," in *Vários. A Política da Escassez: Lutas Urbanas e Programas Sociais Governamentais* (Fortaleza: Fundação Demócrito Rocha, 1991), 77–110.
4. Francisco de Assis Guedes Vasconcelos, "Acumulação de capital, corrupção e fome," *Revista Saúde em Debate* 39 (1993): 48–52.

5. Mariza Abreu, "Experiências de 'municipalização' da merenda: Problemas e tendências atuais," *Em Aberto: Merenda escolar* 15, no. 67 (1995): 129–135.
6. Presidência da República do Brasil, Lei no. 11.947, June 16, 2009.
7. Presidência da República do Brasil, "Lei no. 11.947" (2009).
8. SISAM, Law no. 11.346, 2006.
9. Presidência da República do Brasil, Lei no. 11.947.
10. Presidência da República do Brasil, *LDB: Lei de Diretrizes e Bases da Educação Nacional*, 4th ed. (Brasília, DF: Senado Federal, Coordenação de Edições Técnicas, 2020).
11. Each CAE is composed of one representative appointed by the local leader (e.g., mayor), two education workers and/or students selected by local teacher and student unions, two student-parent representatives, and two representatives from civil society organizations.
12. Ministério da Educação do Brasil, *Aquisição de produtos da agricultura familiar para a alimentação escolar*, 3rd ed. (Brasília, DF: Fundo Nacional de Desenvolvimento da Educação, 2017).
13. Presidência da República do Brasil, Lei no. 11.326, July 24, 2006.
14. Aptitude Declaration for the Family Farming Strengthening National Program (DAP/PRONAF).
15. Vitor Hugo Miro C. Silva and Natália Carvalho Araújo, "Indicadores de renda e pobreza no Ceará em 2020: O que dizem os dados da PNAD Covid-19," *Desenvolvimento Econômico em Foco* (Universidade Federal do Ceará, Laboratório de Estudos da Pobreza: 2021), 4.
16. The Basic Education Development Index (IDEB) measures two indicators: the students' grades or performance and language and math tests.
17. The caatinga, a biome particular to Brazil, covers 88 percent of the Ceará territory, with the remaining 12 percent composed of mountain regions and the Cariri Valley, which is less affected by water shortages. Rains are irregular and during the long dry season, from July to December, water shortages require creative irrigation for agricultural production.
18. Paulo Freire, *Educação e mudança*, 31st ed., trans. Moacir Gadotti and Lilian Lopes Martins (Rio de Janeiro: Paz e Terra, 2008); Victor Vincent Valla, "Procurando compreender a fala das classes populares," in *Saúde e educação*, ed. Victor Vincent Valla (Rio de Janeiro: DP&A, 2000), 11–32.
19. Many Brazilians, taking cues from the press, politicians, conservative governments, and landowners, object to what they see as a threat of violence in the MST's tactics.
20. The mandala is a social technology that changes small pieces of land into productive food spaces, producing income and ameliorating poverty and hunger. Social technology is a concept that defines products, techniques, and/or methodologies developed through community interactions and that seek effective social change

solutions. Renato Peixoto Dagnino, "Tecnologia social: Base conceitual," *Ciência & Tecnologia Social* 1, no. 1, (2011): 1–12.

21. Renata Knychala Martins et al., "O sistema mandala de produção de alimentos: Uma estratégia para o desenvolvimento da agricultura familiar," Paper presentation, Anais do XXI Encontro de Geografia Agrária: Territórios em disputa: Os desafios da Geografia Agrária nas contradições do desenvolvimento Brasileiro, Universidade Federal de Uberlândia, October 15–19, 2012, 9.

22. Hugo Leonnardo Gomides do Couto and Francis Lee Ribeiro, "Objetivos e desafios da política de compras públicas sustentáveis no Brasil: A opinião dos especialistas," *Revista de Administração Pública—Rio de Janeiro* 50, no. 2 (March–April 2016): 337.

23. Ministério da Saúde do Brasil, *Guia alimentar para a população Brasileira*, 2nd ed. (Brasília, DF: Ministério da Saúde, Secretaria de Atenção à Saúde, Departamento de Atenção Básica, 2014).

24. Ludmir dos Santos Gomes and José Arimatea Barros Bezerra, "Alimentação escolar e desenvolvimento social local: O caso da aquisição de gêneros da agricultura familiar," *Educação & Formação* 4, no. 11 (May–August 2019): 114.

25. Ministério da Saúde do Brasil, *Guia alimentar para a população Brasileira*.

26. Pierre Bourdieu, *O poder simbólico*, trans. Fernando Tomaz (Rio de Janeiro: Bertrand Brasil, 1998).

27. Currently, there are seventeen Collaboration Centers for School Food and Nutrition, located in the different regions of Brazil. With the FNDE financial and technical support, these centers provide monitoring and advising for the PNAE, as well as research and educative actions.

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