



# Student Paper Series

Fostering sustainability in Brazilian agrarian reform:  
insights from *assentamentos* and *ecovillages*  
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## Table of Contents

1	Introduction.....	1
2	Understanding the context .....	4
2.1	Brazilian agrarian reform and MST.....	4
2.2	<i>Assentamentos</i> : Rural Settlements in Brazilian Agrarian Reform .....	12
2.3	<i>Ecovillages</i> : a source of insights for sustainability in small rural communities .....	32
2.4	Synthesis: <i>assentamentos</i> and ecovillages side-by-side .....	40
3	Research design and methods .....	42
3.1	Selecting our cases.....	44
3.2	Collecting the data.....	46
3.3	Analyzing the data .....	47
4	Analyzing sustainability challenges in <i>assentamentos</i> .....	52
4.1	Moving towards sustainable production .....	54
4.2	Building infrastructure for sustainability .....	59
4.3	Creating attractive conditions for the youth .....	61
4.4	Two domains for the design of solutions to sustainability challenges in <i>assentamentos</i> .....	64
5	Insights to address sustainability in <i>assentamentos</i> .....	70
6	Closing remarks .....	76
7	List of references .....	LXXVIII
8	Appendix.....	LXXXII

## Executive Summary

We conducted a constructivist qualitative research project, designed as an instrumental collective case study, in order to discover potential ways to foster sustainability in agrarian-reform settlements (*assentamentos*) in Brazil. We visited twelve communities—six *assentamentos* and six *ecovillages*—in May-October 2014 and gathered data through interviews, observations and documents produced by other sources. Inspired by the so-called “Gioia Method” and grounded theory, we followed a research strategy characterized by a constant process of interaction with the data, involving the use of qualitative data analysis (QDA) software. In the process, one broad research question — ‘*how can sustainability in assentamentos be fostered?*’— was broken down into two: ‘*which are salient challenges to fostering sustainability in assentamentos?*’ and ‘*which insights for addressing those challenges may be obtained from existing assentamentos and ecovillages?*’.

The synthesized results were *three clusters of challenges*—moving towards sustainable production, building infrastructure for sustainability and creating attractive conditions for the youth; *two elements for the design of potential solutions*—improving access, use and dissemination of sustainability know-how and enabling cooperative collective dynamics; and *four insights that can serve as input in the design of policies and governance arrangements* to foster sustainability in agrarian reform: (i) the power of example can be an effective means for the transition to more sustainable practices; (ii) building a common vision among *assentados* can support the maintenance of cooperative collective dynamics; (iii) more room for experimentation can strengthen sustainability know-how; and (iv) collective initiatives can prevent isolation in rural communities by acting as touchpoints with the external world and bringing exchange opportunities for *assentados*.

## 1 INTRODUCTION

On a warm and dry August morning in Brasilia, we interviewed the former president of INCRA (Instituto Nacional de Colonização e Reforma Agrária)—the Brazilian government agency in charge of implementing agrarian reform—who declared that the institution under his leadership was going through a learning process centered on “not taking sustainability as an ornament” [33:44]. Mr. Guedes is a Brazilian bureaucrat from the southernmost Brazilian state, Rio Grande do Sul, the same place where MST—the *Landless Rural Workers Movement*, a grassroots organization indisputably recognized as a key actor in the Brazilian agrarian reform process—was founded.

The roots of Brazil’s extremely unequal structure of rural landholding trace back to colonial times, when the Portuguese authorities divided the vast territory into large stretches of land and granted control and exploitation rights over them to a relatively small number of wealthy members of the nobility, on a hereditary basis (Faoro, 1958). Since that period, the Brazilian agrarian model has been deeply marked by inequality, environmental degradation and an orientation to commodity production (Furtado & Iglésias, 1959; Prado Jr, 1942). In this context, agrarian reform has been claimed to be *the* strategy to deal with land inequality and to promote economic and social development in rural Brazil.

In a country that was for centuries ruled by agrarian elites, carrying out agrarian reform has never been an easy enterprise. Agrarian reform has been oscillating in the political agenda in the last five decades and can be considered one of the factors that helped motivate the conservative-military coup d'etat in 1964 (Ondetti, 2008). During the same authoritarian regime, INCRA was created (1970), with the main goal of assisting the state-led territorial expansionism that resulted in the occupation of Brazil’s most distant rural areas. At this point, “hundreds of migrants from various states of Brazil were taken to occupy the margins of the *Transamazonica* road and

companies from various segments received tax incentives to develop large agricultural projects” (INCRA, 2015c).

Today, INCRA’s role has changed and Mr. Guedes’s statement opens up the context of our journey, introducing our main topic of interest: *sustainability in agrarian reform*. Consensus on a precise definition of ‘sustainability’ is far from being achieved—and perhaps never will be, given the political weight that the concept has acquired in practice (Kates, Parris, & Leiserowitz, 2005). However, given the purposes of our research and for reasons that will be explained in detail further below, we have adopted a broad understanding of ‘sustainability’ not just as a capacity to endure in time, but also to “meet the needs of the present generation without compromising the ability of future generations to meet their own needs” (the so-called *Brundtland* definition; (WCED, 1987)).

The southern region where Mr. Guedes was born witnessed the rise of MST in the 1980s—a period in which Brazil was returning to democracy. This grassroots movement emerged as a national unifier of regional social mobilizations calling for agrarian reform. MST organizes occupations and encampments in unproductive properties that do not “fulfill their social function”, pressuring government to reassign land property rights to underprivileged families. When successful, the result of the political pressure leads to the establishment of *assentamentos*—i.e., rural settlements resulting from the particular Brazilian process of agrarian reform.

However, being granted the right to land is just the beginning of a longer struggle for *assentamentos*’ residents—the *assentados*. After being established, they receive subsidies and credits from the federal government, together with diverse types of support from MST. Both are essential for *assentados*’ ability to meet their present needs. The question that triggered this research stemmed from a curiosity not just about how this ability occurs at present, but also about the *maintenance* of *assentamentos* in time, bringing in the question about the ability of these rural settlements to meet the needs of future generations. It was this concern that

brought us to the main question that guides this investigation: **how can sustainability in *assentamentos* be fostered?**

In order to provide an answer to this question, we set up a research project under an empirical approach that uses qualitative case studies (Stake, 2005) informed by constructionist grounded-theory data analysis methods (Charmaz, 2014). We attempted to approach the question not just by looking at experiences of different *assentamentos*, but also by exploring another kind of rural settlement that was chosen as a contrast case: *ecovillages*. Ecovillages are human settlements intentionally designed and organized with the purpose of achieving social, economical and ecological sustainability. *Assentamentos* and ecovillages in Brazil and Germany were used as source of ideas and insights to approach the question from different perspectives.

In a nutshell, the main goal of our research was to **identify sustainability challenges in *assentamentos* and provide insights that can shed more light on the design of policies to address them.**

We organized the present narrative in six chapters, including this introduction. Chapter 2 provides relevant information about the context in which Brazilian agrarian reform takes place, highlighting the relevance of MST, describing the process by which *assentamentos* are established, and pinpointing key aspects of ecovillages. Chapter 3 describes and justifies our methods, carefully explaining the approach and the way in which we designed and carried out our research. Chapter 4 identifies sustainability challenges faced by *assentamentos* and presents potential elements for the design of solutions. Chapter 5 brings insights to address those challenges, which emerged from our research. Finally, we give an overview of the whole project, highlighting its main contributions and suggesting future avenues for research and policy design.

## 2 UNDERSTANDING THE CONTEXT

### 2.1 Brazilian agrarian reform and MST

#### 2.1.1 Historical developments

As mentioned in the introduction, land inequality has been present in Brazil since colonial implementation of a system known as *capitanias hereditárias*, under which the territory was divided into large stretches of land controlled by a relatively small number of wealthy families of the nobility (Faoro 1958).<sup>1</sup> That system was initially implemented in the coastal areas of Brazil's Northeast—where large sugarcane plantations boomed with the systematic use of slave labor—and was eventually reproduced in other regions. The *capitanias* system led to the early development of a commodity-export economy based on the exploitation of natural resources (such as wood and gold) and agrarian production (mostly of sugarcane, coffee and rubber), carried out in extensive rural properties that came to be known as *latifúndios*.

After gaining independence in 1822, the rural elites retained or even increased their influence in politics, and the pattern of extreme land concentration remained (Ondetti, 2008). Slavery was abolished in 1888, but freed slaves were not granted rights over land, and they remained attached to a largely unchanged economic and social system. By the beginning of the twentieth century, most of Brazil's workforce was still concentrated in rural areas and attached to the highly concentrated ownership structure of *latifúndios*. The only relative exception was Brazil's southernmost region, where authorities sought to stimulate European migration “mainly for the purpose of defending the country's southern frontier, leading to the establishment of a substantial class of solid smallholders in the states of Rio Grande do Sul, Santa Catarina, and Paraná” (Ondetti, 2008, p. 10).

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<sup>1</sup> For an updated view on land distribution in Brazil, see DIEESE (2011). For more information about Brazil's rural GINI, see MDA (2001).

Contemporary processes of agrarian reform first arose as part of the demands of organized rural workers in the early 1960s, both in the south and in the northeast of Brazil, where they were strongly repressed (Stedile, 1999, p. 17). The emergence of these demands occurred in a context of significant mobilization of Brazilian civil society, spurred by a variety of causes. The case for agrarian reform was set on the backdrop of the new Federal Constitution (1946), drafted in the *redemocratization* period following the fall of Vargas's dictatorial regime, which stipulated that land had an inherent "social function"—the promotion of social well-being—and could be expropriated from private owners when it did not fulfill it.<sup>2</sup> This general principle reflected the conviction of some intellectuals that the unequal distribution of land represented an obstacle to Brazil's economic and political modernization, but until the 1960s it remained "little more than words on a page" (Ondetti, 2008, p. 11).

The *Peasant Leagues*, a seminal movement of poor farmers, initially supported by the Communist Party and the Catholic Church, became a nationally prominent voice that pressed for an equivalent treatment of rights of urban and rural workers and the need for a "radical" agrarian reform. Although the left-leaning president João Goulart supported these ideas, the political context was extremely polarized, with rural elites acting decisively against his proposed measures to empower rural workers. Goulart was able to approve the *Rural Worker Statute* (1963), which extended the right to unionize, but Congress blocked his initiative to pass an agrarian-reform bill. Goulart's political agenda, which was promptly seen as a "socialist threat" in a cold-war polarized world, was ultimately overridden by conservative opposition, with undisputed support from the CIA, in the 1964 military coup d'état.

Although the military regime aggressively reacted against grassroots rural activism, the first military President surprisingly embraced the claims for land reform and

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<sup>2</sup> Article 147 from the 1946 Federal Constitution stated: "property use will be conditioned to social well-being. The law can [...] promote the fair distribution of property, with fair opportunity for all" (*authors' translation*).

sponsored the approval of the *Land Statute* (Law 4.504/64). Enacted six months after the military took office, the Land Statute provided a legal framework for expropriation and redistribution of land. However, rural elites exerted a level of resistance that obstructed its implementation. The military authorities proceeded by promoting the technical modernization of agriculture and supporting commercial crop production, eroding popular access to land. Nonetheless, despite its initial failure in implementation, the *Land Statute* would later provide activists with a further justification to pressure for agrarian reform, as well as with legal instruments to make it practically viable — as was later the case, when changes in political will and context emerged (Ondetti, 2008, p. 13).

Meanwhile, the military dictatorship decided to establish rural settlements (*assentamentos*) as part of its agrarian policy, but they were intended more as means to occupy and defend territory in remote regions—in particular the Amazon—than to redistribute land and improve the lives of poor rural workers. The program received the slogan “A land without men for men without land”, and its implementation was assigned to INCRA (**National Institute of Colonization and Land Reform**), an agency created specifically for that purpose. At the outset, INCRA’s main goal was to assist in this ‘colonization program’ (INCRA, 2015c). However, the program was cut down in the 1970s and replaced by state-subsidized private colonization in the Center-West of the country (Ondetti, 2008, p. 63). Once again, the concept of “agrarian reform” remained on paper.

In the late 70s and early 80s, occupations of land and other forms of protest for land reform intensified, as part of a larger wave of mobilization against the weakening dictatorship. In a surge of political activity, the Catholic Church began playing a crucial role through the **Comissão Pastoral da Terra (CPT)**, an internal branch led by bishops, priests and pastoral agents who affiliated themselves with “Liberation Theology”—an ideological tendency that emphasized the social dimension of pastoral activity and incorporated Marxist understandings in its engagements. The CPT worked intensely to mobilize and coordinate grassroots activists and prevented

the creation of separate factions, thereby contributing to the formation of a unified national-level movement (Stedile, 1999, p. 23). In addition, the CPT and other related organizations aided by mapping out strategies for dealing with authorities, the media, and other external actors; identifying and training potential leaders; engaging and organizing families in local municipalities; and raising awareness by publishing “easy-to-read booklets justifying, often in religious terms, the need for land reform and other social changes” (Ondetti, 2008, p. 73).

## **2.1.2 The Landless Rural Workers Movement (MST)**

### **2.1.2.1 How did MST arise?**

It was in this context that MST (*Movimento dos Trabalhadores Rurais Sem Terra* - Landless Rural Workers Movement)—arguably the most significant organized social movement pushing for agrarian reform in Brazil—was born. João Pedro Stedile, an influential leader of MST and member of the CPT national leadership in its early years, remarks that the genesis of MST was determined by three major factors, one of which was the coordinating role of the CPT and its allied religious movements (Stedile, 1999, p. 21). In his opinion, however, the strongest factor was the socio-economical landscape brought about by the ‘modernization’ of Brazilian agriculture during the 1970s. By bringing in mechanization to formerly labor-intensive fields, masses of rural workers started moving either to the “agrarian frontiers”, where they faced extremely harsh conditions; or to urban areas, where the accelerated process of industrialization presented a promise for jobs that nonetheless soon faded (Stedile, 1999, p. 18). Many of those who stayed in rural areas, but had no access to land, became motivated to join a movement, eventually embodied by MST, which pressed for comprehensive agrarian reform.

Furthermore, Stedile argues that the particular political context also needs to be considered as a third explanatory factor for MST’s genesis (Stedile, 1999, p. 25). During the late 1970’s and early 1980’s, a number of different voices, both in rural areas and in cities, were expressing discontent with the dictatorship and calling for

the re-democratization of the country. As a result, some of the actions that led to the foundation of MST received unprecedented levels of support; for example, more than 30,000 people from all over Brazil were present in one of the first occupations of unproductive private land, in Rio Grande do Sul. By inscribing itself in the wider context of democratization and political inclusion, the rural workers movement enhanced its visibility and capability to mobilize great masses of people<sup>3</sup>.

MST was formally founded in 1984, at a CPT-sponsored conference in Cascavel, in the southern state of Paraná, which brought together social movement representatives, rural worker union leaders and intellectuals. One interviewee told us that a group of “MST thinkers” (as he calls them) was already active before this event, studying previously unsuccessful activities—including some that had been “deadly” for participants—in order to come up with better tactics for achieving their goals [7:2]. In its first years, MST focused its activities in Brazil’s South, where, as mentioned above, conditions for mobilization were relatively more favorable, but quickly expanded to the rest of the country, establishing a national presence by the mid-1990s. To adequately develop this strategy of expansion at the national level, the movement decided early on to centralize its leadership, placing its main office in São Paulo. Soon, MST’s leaders became closer to key political actors from rising worker unions, political parties, and top-level public universities—nurturing partnerships that in time strengthened the movement’s leverage and visibility (Stedile, 1999, p. 9). MST also maintained its strong ties with the Catholic Church, while crafting its own path as an independent organization that had already gathered tens of thousands of active participants. In fact, MST’s fierce defense of its autonomy as grassroots movement, despite often leading to friction with other leftist groups, was pivotal for MST’s consolidation as a unique voice within Brazil’s organized civil society (Ondetti, 2008, p. 14). Furthermore, MST found opportunities for advocacy and leverage at the international level already in the early 1990s, when it became a member of *La Via Campesina*, the largest global network of peasant movements.

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<sup>3</sup> An example was the exhibition by Sebastião Salgado, renowned photographer who registered pictures of MST’s initial activities. Available at: <http://www.landless-voices.org/>.

### **2.1.2.2 What causes does MST support and what tactics does it use to support them?**

From its beginnings, MST sought to build its social base by framing landlessness as a collective problem, rooted in long-standing social structures and state policies that had been systematically favorable to the elites. Those without land “were not simply unfortunate or incompetent individuals, but rather *sem terra* [“landless”], a class of people discriminated against by elites and an authoritarian state” (Ondetti, 2008, p. 76). This ideology resonated among many in Brazil’s most underprivileged classes, but MST’s decision to safeguard its identity as a distinctly *peasant* movement—born out of the hardships and focused in the shared goals of the “*sem terra*”— contributed to its permanence across time, preventing its dispersion or absorption into wider left-leaning movements.

MST’s statement of goals has remained practically identical since its foundation: (i) fight for land; (ii) fight for agrarian reform; and (iii) fight for a more just and fraternal society (MST, 2015b; Stedile, 1999, p. 31). The use of the term “fight” [*luta*] points to the implicit belief that such objectives can only be effectively attained through grassroots mobilization activities involving some sort of *confrontation* or *civil disobedience*. Historically, this belief traces back to the perceived failure of alternative means to demand for land reform, which accumulated in the years immediately before and after MST’s consolidation. Initially, such demands were presented to authorities by means of letters, petitions or meetings, or by the organization of municipal or regional assemblies, marches and demonstrations. When these tactics did not yield expected results within reasonable periods of time, more “confrontational” options were considered (Ondetti, 2008, p. 77). By the end of the 1980s, a consensus had emerged on the use of an approach that has since been referred to as “*ocupar e acampar*”—essentially, to occupy land that activists have identified as *suitable for agrarian reform purposes* and to establish an encampment on it, in order to exert targeted pressure on authorities. Although other forms of protest,

including marches, hunger strikes and vigil rounds are still organized, “occupying and camping” has since become the most visible, and doubtlessly most controversial, pressure tactic deployed by MST. Indeed, by 1989, MST had devised a remarkably short motto that mobilized followers by summarizing what it saw as its core activities: “occupy, resist and produce” [9:85].

The concept of “suitability for agrarian reform purposes” represents a key ingredient in MST’s justification for occupying land. As noted above, Brazil’s 1946 Federal Constitution incorporated an article stipulating the “social function” of rural property and the possibility of expropriation “on account of social interest, for purposes of agrarian reform,” if such function is not met. A similar stipulation remains present in Article 184 of the current 1988 Federal Constitution. Article 186 explains that a rural property meets its social function *if* it complies with requirements of “rational and adequate use”, including the use of available natural resources and the preservation of the environment, in compliance with labor regulations, in ways that favor the well-being of proprietors and workers. Essentially, this legal framework defines ‘unproductive land’ as one that *could* be used for agricultural purposes but that for any reason, other than being dedicated to preservation of the environment, remains unproductive. Unproductive land in this sense may be expropriated and in certain circumstances redistributed, after going through a bureaucratic legal process.

Concordantly, part of MST’s process for planning land occupations consists in identifying properties that potentially do not meet their “social function”: state- or privately-owned land stretches that remain *de facto* abandoned or unproductive. An occupation is understood as a means to push governmental agencies into carrying out the process of expropriation and redistribution stipulated by law. Of course, such occupations are, strictly speaking, illegal, and spur significant levels of controversy and resistance. Whereas activists and sympathizers call them “occupations”, critics—including landowners, conservative politicians, and most of Brazilian mass media—call them “invasions” (Santos & Carlet, 2010).

The processes that lead to and that ensue after an occupation takes place will be described in detail below, because they are important to understand how a large set of *assentamentos*, the focus for our research, are created. For now, it is important to highlight that MST does not limit itself to the planning and execution of protest activities. MST's salience as an organized social movement in the Brazilian context, together with the partnerships that the organization has developed across time, provide it with a number of capacities for supporting its members, including those in established *assentamentos*, either directly or through intermediation with governmental agencies. This can be described as MST's *unionist angle* (Stedile, 1999, p. 34). In accordance with these capacities, the movement today exhibits a complex organizational structure, with specialized units dedicated to communication, international relations, human rights, gender, health, education, culture, production and youth.

### **2.1.2.3 How is MST portrayed "from the outside"?**

There are at least two very different narratives contributing to build MST's image from outside the movement. One largely corresponds to the portrayal in documentaries and academic research, and the other to the portrayal in mainstream media reports. Neto & Pompeia (2009) performed an analysis showing how the latter are usually framed in ways that neglect discussion of the causes motivating the occupations, thereby contributing to the diffusion of a broadly negative image of MST across large sectors of Brazilian society. *Grupo Globo* and *Grupo Abril*, two of the most popular and conservative media groups in the country, often represent the movement's members as outlaws, thieves, vagabonds, looters, assassins, or even terrorists.<sup>4</sup>

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<sup>4</sup> For more information on how Brazilian mainstream media report MST activities, see Mourão (2011) and Ferreira (2012).

## **2.2 Assentamentos: Rural Settlements in Brazilian Agrarian Reform**

### **2.2.1 What are 'assentamentos'?**

INCRA defines an "assentamento project" simply as a "set of agrarian independent units, installed by INCRA in a place where a rural estate belonging to one unique proprietor originally existed" (INCRA, 2015a). MST also provides a definition of its own, which reflects its convictions as social movement: "An *assentamento* is a space for a set of peasant families to live, work and produce, fulfilling a social function for the land and safeguarding a better future for the population. Life in an *assentamento* guarantees for the families social rights that are not guaranteed to the entire Brazilian people, such as housing, schooling and nutrition" (MST, 2015a). Beyond these definitions, our field observations and interviews suggest that, in practice, a significant number of *assentamentos* share a similar *process of creation* in which both MST and INCRA play central roles.

INCRA's database currently registers a total of 9,255 *assentamentos* with 969,691 families, covering about 88.3 million hectares of territory. *Assentamentos* also exhibit a wide variance in their conditions of "life, work and production". Living conditions, capacities and methods for production and commercialization of goods, access to policies and services, and other physical, economic and social characteristics vary intensely across different cases. Particular differences in *assentamentos'* processes of creation may help explain some of this variance—we will turn to this point further below, in the analysis chapter. In order to provide a deeper background, this section will focus on the elements that characterize, in general, the process of creation of an MST-related *assentamento*.

### **2.2.2 What formal processes lead to the creation of an *assentamento*?**

The process starts with INCRA detecting or, more frequently, being indicated about a rural estate that potentially fulfills conditions for expropriation. In the majority of cases, the process begins with a 'formal' indication made by MST, which has

dedicated members performing research on unproductive rural properties. Sometimes, MST is aided by “friends” in local government, who may have access to databases and other sorts of information to suggest the likelihood of sufficient grounds for expropriation.<sup>5</sup> After the detection or ‘indication’, INCRA notifies the owner of the estate and a team visits the property to inspect and evaluate those conditions. This team issues an Agronomic Report of Fiscalization (*Laudo Agronômico de Fiscalização*), which attests whether the property is unproductive or not; and, if yes, whether it is suitable for agrarian reform purposes (i.e., the establishment of an *assentamento*). As basis for the Report, the team presents a “study of the land’s capacity to generate income”, which includes information about “the agricultural suitability of the land, the number of families that it may be able to hold, its economic viability, the availability of water and a pre-project of the spatial organization that a future *assentamento* might have” (INCRA, 2015f).

Historically, such “indications” were not *formal*, but rather performed by means of an MST-led occupation. However, in 2001, in a moment when the frequency of MST’s occupations was very high, President Cardoso issued a *Provisional Executive Order* (“*Medida Provisória*”)<sup>6</sup> forbidding the inspection and expropriation of any land that *had been* occupied, for two years after the occupation is declared ‘over’ (normally by intervention of the police). As a result, owners have the possibility of using this time period to effectively turn unproductive land into productive land (which MST cannot then hope to press for expropriation) [9:63]. In an effort to counteract MST’s action, the amendment also introduced penalties<sup>7</sup> for individuals who already are

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<sup>5</sup> Suggested by a senior *assentamento* leader [7:27, 7:28].

<sup>6</sup> The *Provisory Executive Order* is a legislative norm adopted by the President of the Republic that, by its definition, should be issued only in cases of relevance and urgency. The MP, as it is called, has immediate application, but to turn into law, must have Congressional approval. However, MP 2.183-56/2001, which introduced changes on Law 8.629/93, was never voted by Congress and is still valid today. The reason for this legal aberration is that the last version of the MP (that had its primary version in 1997 and successive reeditions) was issued one month before the enactment of Constitutional Amendment 32/01, which limited usage of MP by the President, but gave definitive validity for all MPs issued until that point, until Congress considered them (art. 2º)—something that never happened in this case.

<sup>7</sup> Law 8.629/93, Art. 2, §6-7.

*assentados* but support others in their occupations—a practice that is still frequent. Therefore, today many MST occupations occur only *after* INCRA issues the “Agronomic Report”. Even so, when the pressure of an occupation is too intense (“it needs a lot of people”), INCRA may sometimes proceed with the inspection; however, the situation varies from state to state [9:64].

When INCRA’s Report positively identifies the land as suitable for agrarian reform purposes, the President of Brazil needs to sign a decree that attests the piece of land as being of “social interest” and eligible for expropriation. It also stipulates compensation for the previous owner (in public-debt bonds). If the President, for any reason, withholds signing the decree, the process may be blocked. Once the decree is signed, INCRA continues with the legal “expropriation claim”, by proving before a court that the land has been paid for through debt bonds and that the monetary value of any added value (such as infrastructure) left by the previous owner has been deposited in an account linked to the process. The judge then has 24 hours to transfer land property rights to INCRA. However, according to one interviewee, this never happens so soon [9:7]. Indeed, if the previous owner resists the legal action, the “expropriation claim” can last for years, even decades.

Once INCRA acquires property rights over the land, it issues an Ordinance (*Portaria*) through which an *assentamento* is officially created. The document includes details such as the estimated number of families, the name of the *assentamento* project, and the next steps that will be taken for its implementation. A new process, leading to the permanent establishment of families in the *assentamento*, begins with a liberation of credit options and the creation of the PDA (*Assentamento Development Plan*), on the basis of which basic infrastructure will be built. Usually, technical experts from INCRA draft the PDA in collaboration with *assentamento* residents.

An *assentamento* can belong to different project modalities (21 in total)<sup>8</sup>, depending on the characteristics of the families, the distance to urban areas and the process through which the area became subject to agrarian reform. There are five types of *assentamentos* currently implemented by INCRA, each of them with specific conditions and goals (INCRA, 2015b). Among these, Sustainable Development Projects (PDS), the majority of cases in our research, are those that in principle aim to “develop environmentally distinguished activities” (Portaria INCRA 477/99).

After introducing the definition of *assentamento* as a set of “individual agrarian units”, the same INCRA document states: “each unit [...] is delivered [entregue] to a family without economic conditions to obtain and keep a rural estate by other means”. Note that the verb “delivered” does not seem to adequately capture the magnitude of the struggle that has just been described, in which *assentados* have to fight for their piece of land and stay, at times for years, in precarious conditions with no infrastructure.

The Law states that all citizens are eligible to participate in the process of agrarian reform, independently of their gender or civil status; however, it grants priority to those who have demonstrable experience in rural activities (Law 8.629/93, Art. 19).<sup>9</sup> However, this legal priority does not seem to play a relevant role in practice, since the process of creation of an *assentamento* can be understood as INCRA ratifying the people that were *already* camping and occupying a given piece of land, instead of a selection of candidates for which priority could be granted.

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<sup>8</sup> For a full list, see INCRA (2015b). *Assentamentos* built on State or Municipal land are subject to state agencies’ control, although the same federal regulation is applicable. For instance, in São Paulo, ITESP “cooperates with the Federal Government in the land reform destining state public land for landless rural workers. It also cooperates by providing technical assistance to *assentados* and inspecting private properties (that could be destined to land reform).” (ITESP, 2015)

<sup>9</sup> An interviewed *assentado* reported that a clean certificate of criminal antecedents is also required [7:29], as the law 8.629/93, since the Provisional Executive Order mentioned above, states that: “It will be excluded from the Land Reform program those that [...] were identified as participant of a public building invasion, acts of threat, kidnap or maintenance of public servants and citizens in captivity, or any other acts of violence practiced in those situations” (Art 2º, §7º).

### 2.2.3 How does the government support *assentamentos* after their creation?

According to the same INCRA document that includes the definition of *assentamento*, “*rural workers* that receive a parcel commit themselves to live in it and exploit it for their own livelihood, on the basis of family agriculture, supported by credit, technical assistance, infrastructure and other benefits for their development” (INCRA, 2015a). There are two points to be made here. First, interestingly, not all those who receive a parcel can be straightforwardly classified as *rural workers* at the outset. Although some *assentados* may have been workers in large rural properties, others have lived most of their lives in the poor outskirts of cities, with little access to education and often working in low-paid positions or simply being unemployed.<sup>11</sup> For these *assentados*, obtaining a piece of land comes hand-in-hand with the necessity of developing capabilities and skills to effectively work on it and use it as a source of income.

Second, the quotation signals the governmental duty to provide the basic conditions for the development of *assentamentos* (“credit, technical assistance, infrastructure and other benefits”). The credit programs offered by INCRA to *assentados* were recently redesigned to achieve what the agency describes as a “more sustainable model” (INCRA, 2015e)—although the reasons why previous models were less sustainable are unclear. One of the implications of the “redesign” was the division of credit transfers in three separate “cycles”: (i) **Installation**, (ii) **Productive Inclusion** and (iii) **Productive Structuration**. Each “cycle” is spread across several modalities that can add up to a maximum of about R\$50,000 (approximately U\$15,000) per family. Funds given under INCRA’s credit programs must be repaid by *assentados* within a fixed number of years, with payment conditions that are relatively favorable for the Brazilian context. These include the possibility of waiving a significant portion of credit payments, depending on a number of conditions (Art. 3º, Law 13.001/14). A similar model is used to provide housing credit under the program “My House, My

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<sup>11</sup> For more information on the profile of *assentados*, check INCRA (2010).

Life" (*Minha Casa, Minha Vida*), which grants up to R\$28.000 (approximately U\$8,500) to rural beneficiaries, with up to 96% of the credit value waived (Caixa Econômica Federal, 2015). Following the model adopted in *Bolsa-Família—a direct cash transfer federal program to fight poverty*—credits for *assentados* are now transferred via the use of magnetic cards, which allow access to the funds without further intermediaries.

Despite the availability of these programs, interviewees reported that credits are simply not enough to cover expenses for construction, given the combined costs of materials and workforce [7:83, 9:78]. Therefore, *assentados* usually have to resort to jointly provide workforce by themselves (a system traditionally called "*mutirão*" in Brazil) and exchange services among them. In addition, in order to access housing credits, *assentados* informed that they had been requested to present an architectural project beforehand. The job may be performed by INCRA technicians, but apparently many times it is accomplished via MST partnerships, for example with architecture departments at public universities [7:82].

In addition to providing funding and assistance, government also plays a key role in legally defining land ownership in *assentamentos*. *Assentados* only enjoy partial property rights over the land units (parcels) that they receive: they may *use* and *earn income* from them, but are legally restricted to *transfer* them to others (by selling, exchange or other means). This is achieved by means of a legal structure in which INCRA holds ownership over the entire land of the *assentamento*, whereas *assentado* families hold particular legal instruments—known as a CDRU ("Concession over the Real Right of Usage") or a TD ("Dominion Title")—which permit usage and income-generation over the parcel, but not free disposition or "alienation" of it. In principle, holding these documents allows *assentados* to access government-supported credits from public finance institutions, but not always from private finance institutions, such as banks, which usually require full ownership rights, including transfer rights, as collateral for credit (Rezende, 2006).

The legal restrictions for transfers are strict. For the first ten years, *assentados* cannot transfer their parcels in any way. If they wish to leave, all they can do is ask INCRA for a refund of investments over the parcel (such as housing). After the ten-year period is over, and only if a number of “resolutive conditions” from the CDRU are fulfilled, the *assentado* may apply for a definitive transfer of the TD and a property title with full alienation rights. If the application is accepted, the monetary value of the parcel is calculated on the basis of what INCRA had to pay for the land at the time that it was expropriated—with maximum limits depending on the region (MDA Ordinance Nº 7/2013). The *assentado* has the possibility of negotiating the payment in annual installments for up to 20 years (with no payments for the first 3 years).

As with any other titles, the parcel is transferred to the *assentado*'s heirs when (s)he dies; however, they cannot fragment the inherited property. Therefore, not all heirs may be able to join the *assentamento*.<sup>12</sup> Finally, even with a definitive property title, there is one further legal restriction: if the parcel is sold, the new owner will not be able to merge it with any other property larger than two “fiscal modules”—a measure of land size that varies from region to region, ranging from 5 to 110 hectares. This restriction was implemented to prevent the accumulation of agrarian-reform small parcels by big landowners, a possibility that would manifestly defeat the land redistribution purposes of the reform. According to INCRA's former President, such a measure bears great relevance for preventing the “reconcentration of land”, and represents the first time that Brazil has explicit dealt with legal limits on land property [33:13].

INCRA itself is the organization legally responsible for infrastructure provision, with priorities set on roads, water and sanitation systems, and electricity networks (Law 4.504, Art. 73). Construction may be carried out via public tender processes administered by INCRA or, as is more frequently the case, via partnerships with ministries at the federal level or government agencies at the state- or municipal-

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<sup>12</sup> For a discussion on succession and other related legal issues for *assentados*, see Souza Siqueira (2011).

level. In theory, INCRA has a period of three years after the PDA is done for guaranteeing the provision of basic infrastructure (INCRA, 2015d). However, some *assentamentos* visited for this research still lacked basic infrastructure even after *ten years* of completion of the PDA, revealing the complexity and magnitude of the task and the deficient capacity of the governance system to address this critical issue—a point we will emphasize in subsequent analysis.

Moreover, and as could be reasonably expected, *assentados* can in principle benefit from a number of additional government policies, which are available either exclusively for themselves or for small farmers in the whole country. Among those policies, we highlight **PRONAF**, **PRONERA** and **PRONATER**:

- **PRONAF**, the “National Program for Strengthening Family Agriculture”, is a federal program that since the early 1990s aims to strengthen small-scale agriculture by offering a variety of credit options for small farmers (including *assentados*). Credits are targeted to enhancing commercialization of products, acquiring infrastructure and machines for family agroindustries, and building capacities in fields such as agroecology, ecology, forestry, and engagement of women (Law 13.001/14). These credits are targeted to a broader group, and *assentados* need to face a bureaucracy to obtain and frequently update a so-called “DAP” (Declaration of Elegibility to PRONAF) in order gain access to them.
- **PRONERA**, the “National Program for Education in the Agrarian Reform”, was created in the early 2000s to improve access to education among young and adult *assentados*. Born out of a partnership between the Brazilian government, MST, UNICEF and the Catholic Church, the program supports educational projects in basic, technical and professional levels, with a particular focus on developing literacy and other fundamental skills, as well as on training educators (INCRA & MDA, 2004).
- **PRONATER**, the “National Program of Rural Extension and Technical Assistance”, was created in 2010 with the aim of promoting “sustainable production and development in rural areas” through technical assistance and rural extension projects, aiming to “improve the living conditions of beneficiaries” and “incentivize cooperativism”, among other broad goals (Law 12.188/10, Art. 4). Technical assistance is usually provided by means of *non-*

*formal* educational services, either directly by public agencies at the state and local levels or partner organizations (mostly universities and NGOs).

The actual results of these broad and ambitious government programs are particularly hard to evaluate (Guanziroli, 2007). Given the scope and time limitations of the research project, we decided not to focus on a detailed evaluation of these programs. The links between our findings and the results of these government initiatives constitute a topic for further investigation.

#### **2.2.4 Phases of an *assentamento's* history: how does an agrarian reform settlement come to be?**

During our research, we tried to better understand how an *assentamento* was created and the different phases that it goes through. We identified three important moments in the creation of an *assentamento*, with its establishment as a landmark. All activities pursued by MST and *assentados* before the official establishment of an *assentamento* were grouped in the "Pre-Establishment" phase; those directly pursued around the official establishment were grouped in the "Establishment" phase; everything occurring thereafter was grouped in the "Maintenance" phase.

In chapter 4, where we explain our analysis of the sustainability challenges faced by *assentamentos*, we will focus more on the "Maintenance" phase. However, in order to better understand the roots of those challenges, we need to look closer at how an *assentamento* comes to be.

##### **2.2.4.1 Pre-Establishment**

The pre-establishment phase of *assentamentos* is divided into two distinct moments: grassroots engagement and occupation and encampment.

###### **2.2.4.1.1 Grassroots engagement**

As indicated above, one of MST's central activities consists in engaging and mobilizing active participants, most of which come from extremely underprivileged

backgrounds. This process of *grassroots engagement* represents the starting point for the creation of an *assentamento*. Given the particular history and present institutional configuration of Brazilian agrarian reform, MST has in practice become the key actor for identifying, gathering, and guiding individuals and their families in the long process that may lead them to become *assentados*. From the perspective of MST's leadership, this role is based on the historically-derived conviction that "there are no rights without pressure" (Stedile, 1999, p. 43). The experience consistently reported not just by Brazilian agrarian reform activists is that the laws stipulating the expropriation and redistribution of unproductive land (explicit even in the Constitutional level) remain largely futile, *unless* pressure is exerted "from below" in such a way that the variety of state actors involved in a process of expropriation and redistribution are effectively led to counteract the influence of landowners and allied political elites (Comparato, 2001; Ondetti, 2008).

For MST, each potential expropriation of land becomes a specific initiative involving the collaboration of different thematic sectors within the movement's organizational structure. The most important sector in this phase acts in the so-called "front for the masses"; as one interviewee described, their main focus is to engage "families under precarious conditions [...] living on benches in squares, in *favelas*, sleeping on the streets, or in hostels, inviting those families and showing them a bit the rights they have to live with dignity" [7:26]. Meetings are frequently organized with the help of local clergy members, union leaders, or sympathetic politicians, and are held in churches, union halls, or community centers (Ondetti, 2008, p. 75). In such meetings, lists are passed to pre-register those who might be interested in joining occupations and encampments in the region. Although pre-registration is in principle open to everyone from the start, MST regional leaders usually emphasize that participation represents no guarantee of becoming an *assentado*, given the many obstacles and contingencies along a path that can take years and comprises many risks, including expulsion by the police [7:35].

Interestingly, grassroots engagement is not centered on individuals but rather on *families*. This has been a historical tendency for MST, which may be explained, on the one hand, by the fact that families are less likely to be violently repressed or straightforwardly stigmatized as “criminals” (Ondetti, 2008, p. 49), but on the other hand, and perhaps most importantly, by the traditional relevance that the ‘family unit’ bears in Brazilian society. Interviewees consistently speak about families [*famílias assentadas*] when describing the histories and present configuration of their *assentamentos* [15:11, 19:4, 31:8], a reality that traces back to the very first moment in which MST mobilizes potential *assentamento* inhabitants. Governmental policy confirms and reinforces this point, as most policy instruments (including laws and public programs) are specifically framed to target families. As pointed out by Brazil’s Secretary of Family Agriculture, “the strongest unit tends to predominate for everyone, and that is the family unit for [agricultural] production” [36:22].

It is in the grassroots engagement phase that beliefs and expectations about a possible future life in an *assentamento* are discussed with future *assentados* for the first time and where common visions and identities start to be built. However, the core of these processes—which, as we will argue, strongly determine the collective dynamics of a future *assentamento*—occurs in the next phase of an *assentamento*’s history.

#### **2.2.4.1.2 Occupation and encampment**

Occupation and encampment are carried out under conditions that are frequently very harsh, in environments with non-existing infrastructure. Shanties or tents are built with wood, thick black plastic, and other materials gathered during the grassroots engagement phase or donated by third parties. In order to survive in these conditions, participants in encampments are divided into different ‘taskforces’ responsible for particular areas, such as building and maintaining the tents, managing the provision of water and other basic resources (such as gas cylinders), cooking food, and interacting with the police and other authorities [7:10].

The harshness of the conditions implies that already within the first few days, some of the participants quit: “you can imagine all the rain and the wind [...] there were no trees here, no break for the wind and the wind would take the tents [...] so some quit and some went to another encampment and so we came to this number families here today” [15:17]. Conditions can be so precarious that in one of the *assentamentos* we visited, a young child sickened and died after drinking water polluted with “agrotoxics” which had been illegally stocked in a warehouse close by. In that case, although official investigations led to this conclusion, there have been no legal consequences for the farm-owner as a result of the death [31:116].

In addition to these environmental threats, MST occupations are frequently repressed with violence—especially in remote areas. In some cases, such violence may be carried out by the military police, which intervenes if the owner of the land requests an eviction in court on the basis of trespassing, and the judge grants it. One of the most dramatic cases of police violence occurred at *Eldorado dos Carajás*, in the northern state of *Pará*, where, in 1996, 19 MST activists were shot dead by the military police in the context of an occupation in which over 3,000 families were participating. Less deadly, but equally widely known cases of police violence have occurred in other regions, with media coverage that frequently ends up portraying MST in negative light (Fernandes & Ramalho, 2001) and the sole responsible for the violence.

Beyond repression by the police, mercenaries (so-called *capangas*), hired by landowners, may also attack MST encampments. Sometimes *acampados* even wake up at night to find their tents and surrounding fields on fire. An interviewee reported that this sort of attacks are more likely to occur when the land has been obtained through illegal processes of land grabbing (generically called *grilagem* in Brazil), because in these cases, if an expropriation eventually goes through, there is no compensation for the alleged owner [9:83]. Despite the risks, and especially after the law amendments that took place under President Cardoso’s mandate, MST continues to occupy land for which there is outstanding evidence of *grilagem* or for which

INCRA has already emitted a report indicating the suitability for land reform. In these cases, the probability to successfully establish an *assentamento* may be relatively higher.

As reported, shared hardships often experienced by participants in encampments lead to two kinds of relevant outcomes. First, the intensity of the experience contributes to the formation of strong feelings of trust, solidarity, and common identity as *sem terra (landless)*. These are strengthened by the fact that, during this stage, one clear, shared goal becomes evident to all: to obtain land on which to live, work and sustain their livelihoods. As stated by an interviewee,

“So, the issue of the encampment, it ends up being... it’s that the mystic is very strong, right? Because the objective is one, to obtain the land, the worry is one, to obtain the land... and we end up doing things collectively. You do a gathering of food and it is collective; you organize a lunch in the encampment and it is for everyone. This fact of being close, right? The space in the tents.... because even though every family has its tent, they are very close, then life ends up being more collective. When someone gets sick everyone worries...” [15:34]

The “**collective character**” of life in the encampment is further reinforced by a number of collective discussions and decisions that occur during this phase, corresponding to a high frequency of meetings in which *everyone* can participate [7:6]. These discussions and decisions deal with daily life in the encampment, but also go well beyond that. For instance, they decide on a name for the encampment (which usually is inherited to the *assentamento*, if the encampment is successful in its purpose). The name is usually regarded as a tribute. Examples of names include those of Brazilian academics who studied the question of land, such as Milton Santos (famous geographer); well-known church figures engaged with the landless movement, such as *Dom Tomás Balduino* or *Irmã Alberta*; or names of those killed during the encampment, as in *Pequeno William*, named after a child who died after drinking polluted water on site.

Participants in the encampment also agree on a set of internal rules and commitments that allow for a basic level of peaceful coexistence. Interviewees reported that, following a strong tradition in the movement of seeking consensus

when a decision needs to be taken, these rules are agreed upon by all [9:119; 23:60].  
As described by another interviewee,

“Families put on paper what they wouldn't like to happen inside the *assentamento*, like a theft, or aggression to animals or humans, or to drink too much... these are things that are signed by all the families. And if one of those items of internal rules is broken, then automatically that family already knows that they are not able to live in community, in that community... what we call the “excluded from the excluded” [7:30].”

This indicates the second kind of important outcome of the encampment experience: an ongoing **process of selection** of those families who in the end might stay in the *assentamento*. Selection places a critical role in an *assentamento* creation process because, in principle, there are no closed doors for anyone, neither from the previous grassroots engagement phase nor during the occupation: “the principle of MST is ‘the more people are there, the better’; our pressure comes because of the quantity of people, if we have 1,000 people, the pressure for expropriation will be larger than if we had just 100” [9:55]. Based on the descriptions provided by interviewees, selection seemingly occurs as a result of two distinct mechanisms:

1. **Self-induced selection:** when participants decide to quit after realizing the extent of the hardships, or after learning that particular expectations cannot be satisfied. An example is the expectation of “getting land to sell it afterwards”, which as we have seen is impossible under legal constraints. Discussions in collective meetings apparently serve to clarify the actual possibilities and limitations of life as *assentados*—and to understand the dimension of the efforts needed to get there in the first place. This process leads to some families voluntarily deciding to leave—and the ones who stay experience an even stronger feeling of shared identity in a common struggle as *sem terra*. In the words of one interviewee, land is seen as something to be “conquered”, not “won” [7:32]; another interviewee distinguishes between those “really interested in staying in the land” and the “opportunists” [9:56].
2. **Other-induced selection:** when it is brought about by problems related with living in community, as suggested in the quotation above (i.e., when mutually-agreed-upon rules are broken). There do not seem to be pre-established mechanisms to expel participants: each encampment seems to find a particular way, perhaps on a case-by-case basis, in ways that were

described as “natural” [7:32]. To do this effectively, however, requires the development of a “strong organization” [9:56], capable of establishing such rules and implementing collective decisions. This is not always easily or quickly achieved.

Indeed, as reported by interviewees, the longer the phase of occupation and encampment, the stronger the two noted outcomes—building a “collective character” and developing a process of (self) selection. Both outcomes are, in turn, connected with the prospects for a successful *assentamento*. Interviewees expressed consistent views on this point: “the longer that people remain in the encampment, the better the *assentamento* will be (laughing)” [9:57]; “[...] the shorter the struggle to obtain the land, the less *politicized* people get there, right? And the less supportive [*solidarios*] they become the moment they arrive to the land” [11:52]. It thus seems reasonable to hypothesize that the particular characteristics of a long encampment phase—constant hardships and threats experienced together in shared spaces; development of a common vision based on the goal of “conquering land”; collective discussion and clarification of expectations; and a concomitant process of (self-) selection—lead to strengthened trust and solidarity in a future *assentamento*.

The length of the occupation and encampment phase varies widely: “while some last two months, there are other areas in which after fifteen years, the encampment was still not over” [9:58]. Part of the time may be spent moving between areas, undergoing continuous evictions, sometimes going back to occupy the same properties, until a place is found where the process for the *assentamento* establishment is allowed to continue [11:17]. One of the interviewees reported being part of a group of 450 families that experienced 9 different evictions until they were allowed to stay and the process of expropriation effectively began [15:6]. However, even after that happens, the remaining process of “legalizing” an *assentamento* is notoriously slow, with obstacles stemming from inefficient bureaucracy and lack of political will [31:11]. In one of the cases we visited (Pequeno William), people camped for five years in a location out of which they were eventually evicted, and then set a new encampment on land that belonged to the federal government and that had

already been inspected by INCRA and declared suitable for agrarian reform; “but even with all that given, with no landowner trying to block our way, we had to wait for three more years to be recognized as an *assentamento*” [31:12]. As a result, the community spent a total of eight years in the occupation and encampment phase.

#### **2.2.4.2 Establishment**

The next step, an *assentamento*'s actual establishment, marks the end of what is seen as a long fight “for land”, but represents the beginning of yet another, and perhaps longer, struggle. As described by INCRA's former president, “when people enter the *assentamento*, their objective of ‘conquering land’ is achieved, but this is not the end, it's just the beginning of a story with all the contradictions and dialectical processes that we know occur in the implementation of a rural community” [33:27]. Part of the difficulty of this process consists in working against the potential isolation of the *assentamento* in relation to its surroundings. Although some *assentamentos* are located in remote locations, others are established very close to or even within the space of pre-existing rural communities. The acceptance and incorporation of a large number of “newcomers” thus becomes a challenge [33:44, 36:3].

As noted before, the formal starting point for the establishment is the issuing of an Ordinance by INCRA and the subsequent creation of a PDA (*Assentamento Development Plan*). The PDA document specifies development guidelines for the *assentamento*'s specific case, and includes provisions for building basic infrastructure and stipulations about access to credits. INCRA representatives and *assentados* work together in drafting the PDA. During this process, *assentado* families also choose among possible options for agricultural production set forth in studies conducted by INCRA and MST [7:56, 9:75].

In this moment, a critical process takes place: the division of the *assentamento* land into distinct areas, with different uses and property right structures. In principle, land areas are differentiated in the following categories:

- (i) parcels for individual *assentado* families to live and work on;
- (ii) parcels for collective enterprises, which *may* include areas for collective production and processing of agricultural goods, for shared leisure spaces (e.g. soccer fields), or for other collective activities (e.g. an area for a community-meeting building); and
- (iii) areas dedicated to environmental preservation (e.g. forests, water springs and their surroundings).



**Figure 1.** Map of Assentamento Dom Tomás Balduino

Although the formal division of the land is officially “set on paper” by INCRA technicians, the process contemplates the input of the community of *assentados*, who decide the specific spatial distribution and uses of the different areas [9:72]. In the cases visited for this research, two different *general* scenarios were found:

- (1) **Separated/individualized family production and living:** each family is located within a separate parcel on which their house is built, and where they produce agrarian goods for self-consumption and eventual

commercialization—i.e. each family holds<sup>13</sup>, for ‘their’ parcel, legal instruments granting partial property rights, as described above. In this type of scenario, *assentado* houses are located relatively far away from each other, and collective areas are located in other, usually central or accessible, locations.

- (2) **Agrovillages:** families live in houses that are relatively closer to each other, in an arrangement known as *agrovila*. Family-specific parcels for agrarian production, as well as collective areas, are located around the *agrovila* (and people do not live over them). Families hold legal instruments granting partial property rights for the land on which their houses are built and for the land on which they produce.

Interestingly, agrovillage cases consistently exhibited stronger collective enterprises—such as long-standing cooperatives for production and commercialization of goods—than separated/individualized family production and living cases. This suggests that the spatial distribution of an *assentamento* and the development of strong collective enterprises are somehow related. One possibility is that spatial distributions have a direct influence in the development of collective enterprises. Another possibility is that *assentamentos* that choose agrovillage distributions in their establishment phase already have, at that point, conditions favorable to sustained cooperation (such as shared trust or a strong common identity)—and then manage to maintain these conditions in time, thanks to a variety of factors (including the chosen spatial distribution). This was indicated by an interviewee who reported that the “agrovila” arrangement had been decided upon in the encampment phase, when some of the families decided that they would establish a cooperative for agrarian production and commercialization, and that infrastructure (such as water and sanitation) would be easier and cheaper to build and maintain for all if their houses were closer together [19:36].

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<sup>13</sup> More precisely: “[titles] will be granted to the man or woman, or both, irrespectively of their marital status, in the terms and conditions stipulated by law” (Federal Constitution, Art. 189, §1).

In any of the two types of cases, *assentados* usually decide among themselves who will get each of the parcels that will be assigned to single-family living or production. Although this is a decision with a high potential of conflict, interviewees reported that consensus was easily achieved, and that in the very few cases in which disagreements arose, they were either resolved among the parties or put to vote in an assembly that heard each party's arguments and took a decision afterwards that were respected by *assentados* [9:73]. Apparently, the division performed in collaboration with INCRA employees results in parcels with a distribution of *pros* and *cons* that can accommodate *assentados*'s preferences with relative ease [7:53].

Furthermore, when areas are designated for collective agrarian production, *assentamentos* develop different mechanisms to structure responsibility of labor over them, and these vary intensely between the two types. In one telling case of an *assentamento* with separated/individualized family production and living, a relatively small area that had been chosen for joint production was simply informally divided into smaller parcels for individual *assentados*, who took them as "bits of extra land" to produce their own goods. The quality and quantity of agrarian production were manifestly different across the smaller parcels. This particular *assentamento* had non-existent collective enterprises, suggesting that conditions for sustained cooperation had not been achieved.

In contrast, in one agrovillage case, labor in the "collective land" was divided according to family capacity and updated according to performance: "So if I we have a family that has a capacity to produce in a certain area, they will have to take care of that, otherwise it will be reduced. If my family is small and I can only take care of a small piece, so I will be assigned just the small piece" [21:13]. This *assentamento* exhibited strong collective enterprises in other areas, including a system of *participative research* in agrarian technologies for producing and processing cocoa, and a collectively-run technical school that had students from different cities of the region.

In both types of cases, an important phenomenon that was consistently reported was the negative effect of the division of parcels for organizing collective initiatives. When the objective of 'conquering the land' is achieved and each family receives 'its own' parcel, the priority quickly shifts to financially supporting one's family through production in one's 'own' parcel: "in the beginning we all had the collective [initiative] and some profit. In the beginning... before the land was divided. But then I got my parcel, my neighbor got his own, and after the division of the land it was all over. Everyone was left with just her own" [13:14]. Another interviewee described it thus:

"You can still mobilize people, but you created that difficulty. That difficulty is real. It's not that the guy says 'I abandoned the struggle'. No! Far from that. It's just that now you have that difficulty that is work. You go there and you get "does it have to be now? I'm here planting, I can't stop, I can't leave my tractor here..." [11:57]

In other words, the pressure of addressing the immediate need to produce and earn income "for one's own" seems to hinder efforts for building collective initiatives that could be more beneficial to everyone in the long run [9:96].

### **2.2.4.3 Maintenance**

The "fading" of collective initiatives that begins in the *assentamento's* establishment tends to continue in the years to come. This seems to be particularly the case when, in addition to the effect of the distribution of land among individual families, the *assentamento* lacks any sort of *common vision*. Among the cases we visited, only two had developed a shared sense of what the *assentamento* was *trying to be an example of*, and in both cases this was tied to particular collective initiatives that were perceived as successful. In one case, the community had set for itself the goal of becoming a regional reference for the agroecological production of cocoa and derived products (Terra Vista); in the other, the community has very strong cooperative arrangements for producing and processing goods, and shares the vision of continuously experimenting with new products—the most recent being *cachaça* (COPAVA).

But even in these cases, the *maintenance* phase of the *assentamento* continues to present particularly intense challenges. Connected with the previous phases, these challenges represent the focus of our analysis in the following chapter. However, before we get there, it is necessary to introduce the contrast case of ecovillages, from which we obtained further insights for addressing sustainability challenges in *assentamentos*.

### **2.3 Ecovillages: a source of insights for sustainability in small rural communities**

Ecovillages—the contrast case in our research design—can be introduced as human settlements that are *intentionally* designed and organized with the purpose of achieving sustainability across social, ecological and economic dimensions. It is hard to say when the first ecovillages were created, but the oldest communities presently recognized by GEN (the *Global Ecovillage Network*—an umbrella network of ecovillages and related organizations) date back to the 1960s. GEN was founded in the early 1990s with the support of Gaia Trust, a charitable Danish organization that continues to fund it today. GEN provides visibility to its members and organizes events to disseminate know-how about sustainable living in community. Gaia Trust also funds Gaia Education, another well-known NGO in the field, responsible for creating the *Ecovillage Design Education* (EDE) curriculum, the most popular educational program in the field.

There is no “official” census of ecovillages, despite significant attempts to map and collect information on communities that self-identify as such (eurotopia, 2014; GEN, 2014). In May 2015, GEN had registered about 720 communities and projects that were “established” or “under construction”. Among them, 240 report to be located in rural areas (although many more may actually be in distinctly rural environments). Although the presence of ecovillages seems to be particularly dense in Northern Europe, the United States and Australia, in recent years many ecovillages have been

founded in countries across the global South, especially in Latin America, Africa, and Southeast Asia.<sup>14</sup>

All ecovillages share the principle of being *intentional communities*, i.e. groups of people that intentionally live together to pursue goals beyond the mere living together, collectively taking responsibility for designing and managing common structures and ways of living (eurotopia, 2014; Jackson, 1998, p. 1; Wagner, 2012, p. 82). In intentional communities, “community is not just about living together, but about the reasons for doing so” (Christian, 2003, p. xvi).

Although communities that identify themselves as ecovillages share an explicit focus on sustainability, in practice they exhibit very diverse characteristics, partially reflecting different interpretations of this concept. Importantly, even though ecovillages strive to have a significant degree of self-sufficiency (in energy and resource production for example), they do not aspire to be completely isolated from the external world. They rather seek to interact with the surrounding environment in mutually beneficial ways. As stated by an interviewee, most ecovillagers don't want to live in a bubble: “You shouldn't just live in *Sieben Linden* and just lose the point of view of what's outside, that's not the right way... you have to be in the flow, of what is really going on outside” [5:13].

### **2.3.1 Joining an ecovillage**

Although we found people from all ages living in ecovillages, there was a relatively high percentage of young people—especially when compared to *assentamentos*. Most residents in the ecovillages visited used to live in urban contexts, until they decided to explore an alternative way of living. The specific reasons vary, but all of them shared a sense of dissatisfaction with the ‘mainstream’ world. Most of them have also attained high educational levels, and come from relatively privileged socio-

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<sup>14</sup> For a detailed map, check <http://gen.ecovillage.org/en/projects/map>.

economic backgrounds. In addition, most reported not identifying with the left (nor any other position in a left-right political spectrum), and tended to reject the idea of direct government support for their communities.

One can either join an existing ecovillage or create, together with others, a new one. Usually, those interested in joining an existing ecovillage need to go through a pre-established admission process, frequently including a period of “mutual acquaintance” through working as a volunteer. This *volunteering phase* is regarded as essential for both parties (the prospective resident/volunteer and the community) to experience life among each other and see if it works [43:10].

Those who wish to create new ecovillages usually also work as volunteers, visiting different communities and sometimes taking an *Ecovillage Design Education* course. The steps taken in the creation of an ecovillage include: (i) developing a common vision within a group; (ii) finding land that satisfies expectations (location, price, resources, ‘feel’); (iii) if unavailable, progressively building basic infrastructure.

### **2.3.2 Ecological concerns: permaculture and traditional technologies**

Concerns about ecological impact were present in all visited ecovillages. In some cases (such as IPEC and Sieben Linden), methods and technology to reduce ecological footprint played predominant roles in inhabitants’ daily lives and in their collective plans for future development. These ecovillages incorporate the diffusion of *green technologies* as a core aim. They do not only teach those technologies for those who can afford to participate in their paid courses, but also by testing, developing and disseminating their experiences through varied means. *Bioconstruction*, for instance, is a central facet of IPEC; they built most of their buildings themselves, using only clay and other natural resources available in their own grounds. Compost toilets—relatively simple devices/buildings that allow the transformation of human excretions into compost—are widely prevalent in ecovillages and even perceived as potentially revolutionary [39:25].



**Figure 2.** *A compost toilet in IPEC*

However, the degree of practical involvement with ecological concerns varies across cases. In Sieben Linden, for example, the ecological dimension of sustainability was present as a core concern since its inception, in part because founding members were affiliated with strong environmentalist movements in the 1970s and 80s, and thus pushed for a more radical focus [49:5]. Other ecovillages are relatively more relaxed in this sense, but implement eco-friendly practices when they see them as compatible with their interests, means and constraints. Like an interviewee said. “yes, that is a point that unites us [...] but ‘Am I going to remodel the world?’ or ‘Are we going to be sustainable and ecological to save the world?’ No. I do that to have a better life now, today”[29:30].

A system of principles, methods and technologies known as “*permaculture*” is a key reference in many ecovillages, inspiring not just relationships with the environment, but also with the structuring of social relationships [41:85]. According to Mollison, who coined the term and whose contributions are seminal in the field, “permaculture

(from permanent agriculture) is the conscious design and maintenance of agriculturally productive ecosystems which have the diversity, stability, and resilience of natural ecosystems. It is the harmonious integration of landscape and people providing their food, energy, shelter, and other material and non-material needs in a sustainable way" (1988, p. ix). A main principle behind *permaculture* is the so-called principle of cooperation: "cooperation, not competition, is the very basis of existing life systems and of future survival" (Mollison, 1988, p. 2). Indeed, an understanding of cooperation as an essential guiding concept for sustainable living was observed in all ecovillages, with, however, different strategies to implement the concept in practice.

### **2.3.3 Social dynamics, relationships and communication**

Ecovillagers attempt to maintain strong cooperative communities in which they can feel "pleased to live" and personally fulfilled—and this means dealing with conflict: "*you have to deal with conflict, or you cannot live together*" [51:39]. In ecovillages, dealing with conflicts does not only mean taking collective decisions consensually (as far as that is possible) and avoiding factions, but also allowing space and opportunities for members to work on their emotional side. There is a clear purpose of enabling some sort of *self-development*, which is usually linked with the social foundation upon which the community is built. "It's not about suffering from the other, but it's about learning, and about being curious, about shaking the conflict and really learning. Conflict is really helpful when, after it, both parts are stronger." [51:39].

In consequence, ecovillagers frequently experiment on alternative ways for *creating community*, usually by employing innovative *interpersonal communication tools* learned from external sources (such as "non-violent communication" or "Expand the Box", among others) or developed by themselves (notoriously "Forum", developed in Zegg but widely used elsewhere). Even when concrete tools for communicating are

not used, there is a permanent concern about the sustainability of human interaction, associated with more fluid and honest communication.

Ecovillagers often report that living in community is hard (e.g., "it's really exhausting and it's a lot of contact with people here, and lots of things to do, lots of things to work..." [43:33]), but that this is precisely what they were looking for when they joined, and something they continue to find fulfilling along time. As reported by a interviewee, "Where I lived, I felt I didn't have too much interaction with the people around me, with my neighbors, and I wanted to have that back" [29:2].)

#### **2.3.4 Economic activities**

Ecovillagers intend to obtain enough income to fulfill their present needs without counting on governmental support. Interestingly, although most ecovillages are located in rural areas, agrarian production *does not* usually represent their main source of income. Rather than seeing food as a commercial good, its production is mostly meant for self-consumption and closely aligned with their own values and interests (e.g., consuming as organically and locally as possible).

The main source of income for ecovillages is the *provision of services*. Most ecovillages visited obtain income from hosting guests, offering courses and seminars, and disseminating technologies and know-how used and developed in their own communities. An interviewee from IPEC expressed: "What we do here is to produce technology, to produce more information, it is knowledge; we do experiments, learn... we rescue certain traditional knowledge, ancient building methods, and we also integrate knowledge from other parts of the world" [39:48]. Almost all ecovillages have a *formal organizational structure* allowing them to provide those services and manage collective resources. Associations, cooperatives and even limited liability corporations are some of the legal entities used to provide services and organize property and labor.

Ecovillagers' income is complemented with economic activities developed with the communities surrounding them. They often provide specialized services like consultancy, dance classes, legal and psychological advice, among others; or obtain income through the Internet, for example via e-commerce websites (*Aldeia*).

Importantly, ecovillagers not only *provide* services for the communities around them, but also *consume* their products and services. Ecovillages visited often hire locals to help them in construction or maintenance. Beyond the economic dimension, they *also* exchange knowledge about alternative construction materials and techniques for sustainability, for example.

*Volunteering opportunities* are also common in ecovillages. Volunteers typically come in order to learn by doing and end up helping to build and maintain an ecovillage without, or with very little, financial gains: "they come to donate their time, energy, intelligence and work" [39:27]. However, volunteering programs have indirect costs and require effort from the community to provide the conditions necessary to attract and receive volunteers. Although volunteers can bring important contributions, they can sometimes be of little help or even an element of disturbance in communities [29:107, 39:28].

### **2.3.5 Worldview and experimentation**

The creation process of an ecovillage usually stems from the construction of a common collective vision. "The vision is like the vision what you want in life. The mission is what is the task of the community or company or whatever group to complete the mission, to reach the vision" [51:41]. The vision varies among cases, and sometimes, particular understandings of that vision may vary within the same community, but commonly within broad consistency with shared underlying principles or attitudes. In all cases, ecovillagers seemed to adopt an ideal of finding personal fulfillment while living in conditions that are created with a shared concern for sustainability. As stated by one interviewee: "I think that each person has

individual reasons, but everyone is concerned not only with creating a pleasant place to live, but one that is sustainable [...] the simple fact that we gave up a series of comforts to come to the middle of the bushes [*meio do mato*] is already an attitude from those seeking another quality of life. [...] I think that is something that unites us." [29:26].

In many ecovillages, the development of the common vision occurs within a general worldview where *spirituality* plays a key role—not necessarily in a religious sense, but more in the sense of emphasizing self-reflection about each individual's role in the world. This is associated with the story that ecovillagers share: a negative evaluation or discontent with 'mainstream' modes of living that motivates them to explore different lifestyles together.

Because ecovillages are designed to facilitate "quests for alternative ways of life", they become *places for constant experimentation*. Ecovillages can often be interpreted as live laboratories of sustainable living (in community). In all ecovillages visited, we observed that people tried to live a different life from those living in urban areas. The degree of experimentation can be more radical, such as in ZEGG, an ecovillage whose founding members embedded the concept in the name: Center for Experimental Cultural and Social Design (*Zentrum für experimentelle Gesellschaftsgestaltung*). One resident summarized their attitude as follows:

"ZEGG really has this experimental idea since the beginning, and the idea is to make experiments with ourselves, so we try and we see if the energy gets higher or lower. If the energy gets lower, the energy gets stuck, then it's not good. But if you can change something and the energy rises again and you see there's life, more force, more power, then it's good." [51:15]<sup>15</sup>

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<sup>15</sup> The use of the term "energy" clearly denotes the type of vocabulary that can be found in ecovillages. Here, it seems to express a rather intuitive, non-fixed approach to the evaluation of particular 'experiments'. How the "lowering or rising of energy" is *operationalized* for each 'experiment' is unclear, but our field experience revealed that there is a constant striving to achieve consensus in these sorts of decisions.

An open attitude to experimentation was also evident in *Sieben Linden*. One of its residents brought up the following example: “there was one woman who raised the idea of having a very very extreme ecologic group, with no electricity, no machines, being only vegan, stuff like this, and there were people who liked this idea and they became part of that group, or, more likely, they came to *Sieben Linden* to join that group directly.” [41:9]. That group, which became known as Club99, eventually dissolved, but their experience became widely known among environmentalist and ecovillage circles (Würfel, 2012).

In a nutshell, ecovillagers spend large amounts of effort and time trying out alternative ways of living in community with an explicit focus on sustainability, especially in the social and ecological dimensions of the concept. Because life in ecovillages involves frequent daily interactions within a smaller group, sharing spaces and undertaking numerous collective initiatives, a significant portion of that effort is dedicated to solving conflicts while keeping (or updating) their common vision. This constitutes the basis for the knowledge-related services that are central in ecovillages’ economic activities.

#### **2.4 Synthesis: *assentamentos* and ecovillages side-by-side**

The descriptions provided in the previous sections reveal that *assentamentos* and ecovillages are similar in some respects and markedly different in others. This is one of the main reasons why we chose ecovillages as contrast cases. We intended to explore whether they could be a source of insights to better frame sustainability challenges faced in *assentamentos* and to discover potentially promising tools, dynamics or general principles that could serve as reference to improve life in *assentamentos* and enhance their prospects for sustainability.

We can summarize the main commonalities as follows. *Assentamentos* and ecovillages are (i) rural communities that (ii) exhibit a certain resistance to urban life

and its dominant values (albeit in different ways), and that are (iii) concerned with sustainability as a broad concept, in different degrees.

The main differences between them concern (a) inhabitants' profiles, (b) sources of income and (c) processes of creation:

(a) *Assentados* usually come from the most underprivileged segments of society, while ecovillagers come from segments that have moderate to high levels of income. Therefore, most *assentados* have experienced extremely low levels of access to education and are frequently illiterate. On the other hand, ecovillagers often hold university degrees or professional titles, or are investing time as volunteers after high school.

(b) While in *assentamentos* the main source of income is the production and commercialization of agrarian goods (raw crops, not so often processed), in ecovillages it is the provision of knowledge-based (seminars, workshops, courses) and hospitality services (guests and visitors who pay to stay).

(c) In *assentamentos*, an organized social movement (MST) rallies potential inhabitants to occupy and camp on land that could be redistributed for agrarian reform purposes. Individuals *choose* to join the movement, but have limited chances to choose the other inhabitants of the settlement they will live in—although some (self)selection processes occur in the encampment as mentioned above. On the other hand, in ecovillages, individual founding members (the “pioneers”) choose to become part of a tight-knit group that finds and acquires the land, frequently with strong shared beliefs or identities—they are *intentional* communities—and new members are admitted only by consensus of all preexisting members.

### 3 RESEARCH DESIGN AND METHODS

How to foster sustainability in *assentamentos*? This question guided our research design and methods. From the start, our idea was not to merely seek theoretical knowledge (as in purely academic research), nor to inform a specific decision (as in traditional policy analysis approaches), but to produce knowledge that could lead to better decisions by stakeholders involved in agrarian reform (Mead, 2005). In short, we have carried out what we understand as a **policy research**.

Therefore, we decided to design a **qualitative field research**. We felt that our questions could be better answered by such a method. This was not only due to the lack of relevant statistics about the rural communities of interest, but also because we felt that our question required us to “lay our hands on the institutions” (Mead, 2005, p. 1) and have direct contact with agrarian reform policy elements. Consequently, we collected and read government documents, observed *assentamento* dynamics, and interviewed community residents and bureaucrats, with the intention of constructing our own updated perspective of the question.

In order to gather information and limit our data collection, we opted for a **collective instrumental case study**. It is **instrumental** as our objective in studying a case was to use information and insights obtained to help us construct an answer for a broader question—i.e. how to foster sustainability in *assentamentos*—rather than studying in depth the particularities and dynamics of each individual case. As explained by Stake (2005, p. 445), “the case plays a supportive role, facilitating our understanding of something else. The case is often looked at in depth, its contexts scrutinized, and its ordinary activities detailed, but all because this helps us pursue the external interest. The case may be seen as typical of other cases or not”. Furthermore, it is **collective** because we studied a number of different communities (*assentamentos* and ecovillages). Although embedded in different contexts and having different characteristics, the communities had two elements in common: they were rural and showed some concern to translate the concept of ‘sustainability’ into

practice. Also, we believed that understanding them would lead to a better understanding of our research question.

Our research can also be said to be **experimental**, as the state of prior theory and research in the field (sustainability in rural agrarian communities) is still limited, or **nascent** (Edmondson & McManus, 2007, p. 1160). Therefore, we opted for elaborating an “open-ended inquiry about the phenomenon of interest”, using “qualitative, open-ended data that need to be interpreted for meaning”. “Identifying patterns” became our main goal, suggesting ties with theory and outlining recommendations as “an invitation for further work on the issue or set of issues opened up by the study” (Edmondson & McManus, 2007, p. 1160).

Furthermore, we should highlight that our research was inspired by a strong **constructivist** approach. Although some preconceived ideas were present in the design of our research project, we tried, as much as we could, to go into the field without preconceptions, frameworks or even theories to understand our data. Inspired by the so-called “Gioia Method” and grounded theory, we designed our research to allow “revelation, richness and trustworthiness” and to explore salient concerns and questions linked to sustainability in rural communities. As Gioia suggests, we tried to “pick people's brains” and “figure out how they make sense of their organizational experience” to elaborate descriptive narratives that could capture what we think they know and explore salient themes based on their experience (Langley & Abdallah, 2011, p. 14).

Based on our previous experiences, we felt that in order to collect data and insights on selected cases and to later present them to our readers in novel ways, multimedia material would have to be collected. Following an increasing interest in incorporating a **visual dimension** to policy research (Meyer, Höllerer, Jancsary, & Van Leeuwen, 2013), we decided to try it out. Therefore, we collected videos, photos, and sketches—ourselves or with help from colleagues—and tried, as much as we could, to incorporate those objects to the research analysis and description. Although this

text does not contain many visual elements, we intend to soon publish a *multimedia interactive journey* through our research data.

From the start, we were aware that using video cameras for interviews could have an impact on our in-depth interview dynamics. However, as our topic was not very sensitive, we believe the gains of incorporating this visual dimension can exceed eventual losses. Anyhow, we tested the multimedia data collection approach in our first field trips and concluded that it did not seem to have a significant impact on interviews—our main concern. It is true that, as participants knew beforehand that they were going to be recorded or photographed—and that records would be openly available in the Internet—only those that agreed with those conditions participated.

### **3.1 Selecting our cases**

After deciding how our research was going to be carried out, we immersed ourselves in a pre-research about agrarian reform and ecovillages. At this point, academic papers, newspaper articles, videos and other materials available on the Internet about *assentamentos* and ecovillages were collected, skimmed, read or watched. Two initial interviews (through *Skype*<sup>™</sup>) were conducted—one with a Brazilian ecovillage founder and the other with a Brazilian bureaucrat from the Ministry of Agrarian Development, working on agrarian reform—in which basic information and materials were shared.

We then used the MST and Global Ecovillage Network (GEN) websites to select potential communities to visit. We decided to visit communities in Brazil and in Germany (in the latter, only ecovillages). The decision to visit ecovillages in Germany was taken not only because we were living relatively close to them, but also because they are internationally recognized as role models for sustainability, where people from all over the world come to experience life in community and learn about technologies and practices geared towards sustainability.

Given our instrumental collective approach, we understood it was important to have **variance** among our cases. Therefore, we chose to visit *assentamentos* and ecovillages with different conditions, histories, dates of creation, numbers of families and proximity to urban areas. Some of the communities we ended up visiting were not in our original selection, because they first appeared in conversations with interviewees.

We had initially chosen to visit 15 different communities: 10 ecovillages and 5 *assentamentos*. However, as the project progressed we opted to reduce the number of cases to 12 and settle on an equal distribution of communities. We thus visited 6 *assentamentos* and 6 ecovillages. Out of those 6 ecovillages, 2 were located in Germany (see Table 1).

Type of settlement	Name of community
<b>ECOVILLAGES</b>	
<i>Brazil</i>	Aldeia IPEC Piracanga
<i>Germany</i>	Sta. Margarida e S. Luís Sieben Linden Zegg
<b>ASSENTAMENTOS</b>	
<i>Brazil</i>	COAPRI & COPAVA Dom Tomás Balduino Escola Nacional FF Milton Santos Pequeno William Terra Vista
<b>TOTAL</b>	

**Table 1. List of communities visited (May-October 2014)**

### 3.2 Collecting the data

We visited each of those 12 communities for different periods of time during the months of May-October 2014. The community in which we spent the least amount of time was *Pequeno William* (6 hours), while the one in which we spent the most was IPEC (3 days). Although staying for a longer time in each community could have been desirable, our main goal was to obtain data through interviews and observations, without immersing ourselves in each community's specific dynamics. We intended to capture their perspective about their lives, not to assess our own impressions about them.

Therefore, in each community we collected data through in-depth interviews, tours around the space (*situated interviews*) and direct observations. They were registered using video cameras, audio recorders, photo cameras and sketchbooks. In most communities, we counted with support from a professional cinematographer and a designer to collect multimedia material.

We carried out **in-depth interviews** with at least one member of each community, with an average of 2.5 members per case. Interviews' length varied from 5 to 154 minutes, with an average of 59 minutes, adding up to a total of 38 hours. Interviews were semi-directive: although we had general points of interest, there was no fixed list of questions to be asked for every interviewee. Interviews included a variety of direct and indirect questions related to communities' organizational structure, sustainability-related efforts and daily practices. We also conducted three interviews with bureaucrats from important players in Brazilian agrarian reform policy: INCRA, MDA and CONDRAF.<sup>16</sup>

In each community, we conducted at least one *situated interview* or "walking interview" (Jones, Bunce, Evans, Gibbs, & Hein, 2008) which occurs in spaces linked to

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<sup>16</sup> INCRA - National Institute of Colonization and Agrarian Reform, MDA - Ministry for Agrarian Development and CONDRAF - National Council for Sustainable Rural Development.

the context of the interview—like a guided tour, but with questions constantly posed by the research team. This method allowed community members to describe practices with gestures and a more spontaneous interaction with objects, space and other people. Situated interviews were also recorded in video, photos and audio, although not in full. We captured 8 hours in total.

During situated interviews and researchers' free exploration of each community's grounds, we conducted spontaneous unstructured interviews with residents, external workers, volunteers and long-stay visitors. Those interviews were perceived as an opportunity to enrich and complement the data collected through in-depth interviews or gleaned from observations. There was no requisite number of spontaneous interviews per case.

We also collected "supporting material" that resulted from our observations. There were videos, photos and sketches from communities' infrastructure (housing, sustainable technologies, meeting places, common crops, etc.) and from residents' actions. This supporting material, although not essential for the analysis, has a very important role in bringing a visual dimension to the project, helping us remember important facts, and enhancing communication within the research team and with potential readers/users.

The research also contemplates data that were not produced by us, but by communities themselves, governmental bodies, NGOs and other researchers. Such data were either quantitative (e.g. statistics) or qualitative (texts, reports, photos, videos).

### **3.1 Analyzing the data**

After collecting the data, our next step was to categorize it according to *format* (video, photo, audio, text); *source* (primary, secondary) and *type of case* (*assentamentos*, ecovillages and bureaucrats). For the current analysis, we knew it

would not be possible to closely analyze the whole data set due to the time and format constraints of the Hertie School of Governance MPP program. Therefore, we prioritized in-depth interviews in video (where most of the content lies) as our main source of information.

Type of settlement	Community	In-depth interviews		Situated interviews	
		Interviews	Length (min)	Interviews	Length (min)
<b>ECOVILLAGES</b>		<b>24</b>	<b>1349</b>	<b>10</b>	<b>379</b>
	Aldeia	2	112	1	60
	IPEC	3	175	1	95
	Piracanga	3	195	2	80
	Sieben Linden (Germany)	10	455	2	33
	Sta. Margarida e S. Luís	1	118	1	5
	Zegg (Germany)	5	294	3	106
<b>ASSENTAMENTOS</b>		<b>12</b>	<b>748</b>	<b>9</b>	<b>104</b>
	COAPRI & COPAVA	2	156	1	3
	Dom Tomás Balduino	1	150	2	6
	Escola Nacional FF	1	105	-	-
	Milton Santos	3	134	1	15
	Pequeno William	1	98	1	45
	Terra Vista	4	105	4	35
<b>TOTAL</b>		<b>39</b>	<b>2307</b>	<b>19</b>	<b>483</b>

**Table 2. Overview of data collected (by community and method) (2014)**

After transcribing all the relevant interviews, we used QDA (*Qualitative Data Analysis*) software (Atlas.ti) to start analyzing them. Inspired by Corbin and Strauss (1990) and Mair, Marti, & Ventresca (2012), we pursued an analytical process that consisted in successively “coding” our data in order to make sense of patterns and identify salient topics and questions.

First, we created in-vivo/open codes while reading interview transcripts, selecting quotes (data extracts) and assigning keywords either spoken by interviewees or created by the research team.<sup>17</sup> In this first step, the main goal was to associate “tags” to different quotes in order to facilitate our search and to start to understand *what our data was about*, while identifying topics about which we could write and areas we could use to sort and synthesize our material. The main goal was to identify pre-existing structures, dynamics, challenges and insights about sustainability in rural communities that could subsequently be placed in broader categories. This task was first developed by individual team members, and later on together.

During this initial coding stage, we elaborated memos and notes that already hinted to insights, ideas and analytical categories that could be used in our argument. Those memos were “partial, tentative and exploratory” and were used to “capture ideas in process and progress”, and as an initial opportunity to “learn about the data rather than just summarizing material”, creating ideas on how to proceed (Charmaz, 2008, p. 166).

After we finished the first round of open coding, we assessed which codes appeared more frequently and were emerging as significant to answer our evolving research question. We then moved to a more focused or selective coding, aiming to sort and synthesize the data and expedite our work by reducing the complexity and number of categories we were working with. This second coding stage involved the creation of second-order codes (or “families” in Atlas.ti) that were used to aggregate different first-order codes, and point out larger topics and patterns emerging from our data.

We then started to figure out the relationship between some of our first-order codes and second-order codes. In order to expedite this “axial coding” procedure, we chose to pursue this activity only for those codes and families that “carried the weight of

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<sup>17</sup> According to Charmaz (2008, p. 163), this first step requires a “close reading and interrogation of the data” coupled with “research field analysis of the data”, but we could not properly carry this out in practice, as most of the cases analyzed were located in Brazil and our team was based in Berlin.

the analysis” or could provide an “analytic momentum” (Charmaz, 2008, p. 164). Using insights from theory and our interactions with the data, we realized that sustainability challenges could be clustered and that they were deeply connected with each other and with other aggregated dimensions.

In a process of constant interaction with our data, we selected the codes and families that could help us provide a description of those clusters and dimensions, identifying negative and positive examples on each one of them and writing down possible insights on relevant common elements. In this process, we started to identify patterns and commonalities on salient challenges for sustainability in *assentamentos* and possible actions that could be taken to tackle them. In other words, we started to obtain answers to the research question.

Our analytical procedure, inspired by Glaser (1978, p. 57) prompted us to have two main questions in mind when looking at the data: “What is happening here?” and “What theoretical category is this data a study of?” Following Charmaz,

“[...] interrogating their data repeatedly with these two questions, grounded theorists explicate, expedite, and enhance intuitive strategies that other qualitative researchers often invoke on a descriptive level. These strategies include probing beneath the surface: comparing data, checking hunches, refining emerging ideas, and constructing abstract categories from data analysis.” (2008, p. 161)

As a final result of our analysis, we identified categories of challenges and tools and potential insights that could be used to reflect upon *assentamentos* under the lens of the broad sustainability concept, as outlined above. Our contribution lies in highlighting the dimensions that should be taken into consideration when designing policies to foster sustainability in Brazilian agrarian reform, and hinting at potential approaches that could serve in working towards this aim.

We acknowledge that our research has limitations due to its grounded-theory-inspired approach, as the coding and categorizing process may generate a certain *decontextualization* and the chaining and interplay of particular events may sometimes become lost in this process (Langley & Abdallah, 2011). However, we tried

to overcome those limitations, as much as we could, by permanently recalling the conditions of visited communities (aided by audiovisual materials) and incorporating them in our analysis.

#### 4 ANALYZING SUSTAINABILITY CHALLENGES IN ASSENTAMENTOS

In the last chapter, we provided the context in which our research is embedded, by (i) summarizing the historical background and central features of the Brazilian agrarian reform process, as well as its main actors; (ii) detailing what *assentamentos* are and the different phases that lead to their existence; and (iii) highlighting the most relevant characteristics of ecovillages, our contrast case. In this chapter, we will move ahead and analyze the data we gathered in the field in order to provide an answer to our first 'broken-down' research question: *which are salient challenges to fostering sustainability in assentamentos?*

In order to identify prominent sustainability challenges faced by *assentamentos*, we followed a constant process of interaction with our data. The particular set of challenges we identified was obtained from interview quotations that expressed problems, challenges, obstacles and difficulties faced in their communities. Those quotations were organized into broader categories (families and 'superfamilies') built around a common element (e.g. "agrarian production"). Therefore, the challenges we will describe mainly represent the views of interviewees filtered, selected and cross-checked by the researcher team using governmental reports, legislation and other references.

Before starting, we need to emphasize again that given our research purposes, we decided to adopt a broad understanding of sustainability not just as a "capacity to endure", but also to "meet the needs of the present generation without compromising the ability of future generations to meet their own needs" (from the well-known *Brundtland* report; (WCED, 1987)). This is a "malleable" definition that denotes the many disagreements that may arise in the practical implementation of the concept (Kates, Parris, & Leiserowitz, 2005). We have chosen it as a "working definition" because it highlights *three* central aspects of 'sustainability' that we found useful as conceptual background for understanding the cases and developing our analysis. First, that *sustainability does not relate solely to an environmental or ecological dimension*; indeed, the Brundtland definition encompasses "needs" of *present* and

*future* generations—and thus points to wider social, political and economical dimensions underlying the concept. Second, it also calls attention to an essentially *temporal aspect*; under the lens of sustainability, it is pointless to merely think about needs of future generations without contemplating needs of the present one (or vice versa). Third, it implies a sense of *empowerment of agents*, expressed in the notion of *abilities* to meet needs (which are collectively confronted or chosen).

As described in the previous chapter, an *assentamento* history comprises three different phases: *pre-establishment* (including grassroots engagement, occupation and encampment), *establishment*, and *maintenance*—with the latter pointing to an indefinite time period that extends into the future. In each of these moments, decisions, processes and actions are undertaken, with consequences for the capacity of an *assentamento* to endure sustainably. During those phases and in the transitions between them, abilities are acquired, needs are defined, new problems arise and internal dynamics change. Decisions taken in one phase may have an impact on how sustainability can be addressed at that moment and in the future. For instance, the spatial distribution of the *assentamento* (formalized in the establishment phase but shaped in pre-establishment) seems to be related to the nature and extent of collective initiatives that will be pursued in the future (see section 3.2.4.2). Therefore, although we tried to identify sustainability challenges in established *assentamentos* that seemed critical to their capacity to endure sustainably, we still had to look at the initial stages, where the roots of such challenges (and hence potential insights to address them) may often be found.

Given those clarifications, we have defined ‘sustainability challenges’ as situations that need to be addressed in order for an *assentamento* to meet its present needs, and endure in ways that can support the ability of future generations to do the same. After iterating with the data collected, we decided to create *clusters* under which identified challenges would be put. Those *clusters* are centered around activities that we have found to be relevant to foster sustainability in *assentamentos*. Each cluster

was built to provide a *synthetic view* of a large set of challenges, using a title that captures their main common descriptive element. The three clusters are:

- 1) moving towards sustainable production;
- 2) building infrastructure for sustainability;
- 3) creating attractive conditions for the youth.

Below, we will briefly characterize each one of them.

#### **4.1 Moving towards sustainable production**

The production of agrarian goods can be recognized as an essential component of life in *assentamentos* for two different reasons. First, the production of food for self-consumption constitutes a key element to support subsistence under conditions of scarcity—it upholds *food safety*. Nevertheless, in contrast with ecovillages, where food is mainly produced for internal consumption, food in *assentamentos* is also produced for selling. Indeed, the production of agrarian goods represents the chief activity of the vast majority of *assentados*.

The decision on what goods to produce and how to organize production is first discussed collectively by *assentados* in the establishment phase, with input from studies by INCRA and MST technical assistants. This decision also depends on the particular setting of the *assentamento* (quality of soil, distance to cities, size of properties, climate and environment, etc.) and influences the spatial distribution that the *assentamento* will have. Due to the often small size of parcels in the cases we examined, most *assentados* opt for planting crops, instead of growing cattle [21:15]. While *assentamentos* closer to the city tend to produce fruits and vegetables—which grow faster and allow a higher profit margin—those more distant focus on the production of grains, like rice or beans, widely consumed in Brazil.

*Assentados* commercialize agrarian goods through various channels. One of them consists in selling to governmental food procurement programs, which target small

farmers as providers. Another example is selling at street markets in cities close to the *assentamento*. As planned under the general scheme of agrarian reform in Brazil, the production and commercialization of agrarian goods represent the main source of income for *assentamentos*. In what follows, we will describe the main sets of challenges we found when we analyzed interview content related to these activities through the lens of sustainability.

#### **4.1.1 Protecting environmental conditions**

If agrarian production is to be sustainable, it cannot degrade the soil, water, and other environmental conditions that enable its continued realization. *Assentados* are not *obliged* to produce without synthetic fertilizers and pesticides, and despite the relatively increased visibility and use of so-called “organic” production methods, a great number of *assentados* still opt for non-organic “conventional production”. As an interviewee reported, ‘conventional methods’ are still often perceived as “easier”, “requiring less work”, and “having faster results” [9:48]. However, based on our data, it seems to be becoming increasingly clear for small farmers that such practices lead to a variety of problems, with increasing intensity in the long-run—including accumulated soil degradation and threats to the health of *assentados* and the wider population.<sup>18</sup>

Indeed, methods for organic production are gradually becoming more prevalent among *assentados*. Reasons apparently include reduced costs of maintenance, long-term gains obtained under these methods, and a perceived consistency of organic production with shared beliefs and values. Also, MST has recently inscribed *agroecology*—a particular system for organic production and associated eco-friendly practices—within its core political discourse ([7:58]; Carli, 2013; MST, 2006). However, a stronger shift to organic production seems to still require a wider dissemination of both the effects of ‘conventional production’ and the actual promises of organic production.

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<sup>18</sup> This perception converges with recent studies (Mäder et al., 2002).

Nonetheless, even when the benefits of organic production are clear, a main challenge that still hinders the shift derives from the relatively high expected risks involved in the *transition* from non-organic to organic production. The soil in *assentamentos* is frequently very degraded—precisely because, in many cases, it has been sprayed with synthetic “agrotoxics” for long periods of time, often within a monoculture logic. Hence, it can take a year or more for it to become *healthy again* and able to produce just by using organic or agroecological practices [9:48; 19:21]. During that transition period, however, the *assentado* has the pressure to produce food for self-consumption, obtain income to cover other needs and fulfill legal obligations as an *assentado*. As stated by one of our interviewees, when a governmental technical assistant suggested the transition to agroecological practices, she argued: “will you guarantee the sustenance of my family if I cannot produce that way?” [9:52].

Furthermore, *assentados* apparently rely on limited direct economic incentives to change for organic production.<sup>19</sup> The main direct incentive (i.e, higher profit derived from higher selling prices, in addition to reduced maintenance costs) was described as being extremely difficult to obtain for *assentados* [11:32, 17:32]. The chief reason mentioned was that a higher price can only be secured when there is some kind of certification. This proves to be extremely hard to get in their cases—especially because, even assuming that the costs of the certification can be covered, guaranteeing non-contamination with “agrotoxics” requires a commitment of *neighbors* to also produce organically, i.e. a *coordinated collective action*. In many cases, this difficulty is compounded by the fact that an *assentamento’s* neighboring fields can host large monoculture activities maintained with “agrotoxics”, which prevent them from obtaining the certification [11:36].

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<sup>19</sup> PRONAF offers a special credit line for Agroecological Production since 2005. For more information about it, see MMA (2007).

#### 4.1.2 Selling agrarian good production

The second set of challenges relates to selling agrarian good production and obtaining enough income for meeting basic needs. Indeed, as we have seen, most *assentados* reported difficulties in selling their products. Today, the main channel used to commercialize their production is the PAA (*Programa de Aquisição de Alimentos*) and other publicly-funded food procurement programs, such as PNAE (*Programa Nacional de Alimentação Escolar*). However, interviewees reported that the stability of income under these programs is frequently compromised because of changes in public administration, which lead to unexpected modifications in the quantity of demand [11:26]. Government procurement programs also incorporate “annual limits” that prevent *assentados* from selling overproduction from particularly good crops, resulting in profit losses [7:73, 23:98].

*Assentados* also reported that they find it difficult to sell their products to private companies (such as supermarkets), as wholesale buyers in large commercialization networks tend to require a *stable provision of bulk quantities* which are rarely, if ever, attained by individual *assentado* families [31:37]. The ability to circumvent these limitations only seems to occur when there are strong collective initiatives, able to more efficiently find alternatives for commercialization, like production and/or commercialization cooperatives [17:10; 17:20].

The main alternative for *assentados* that are not organized in cooperatives and that do not join food procurement programs is to either sell to *atravessadores*—people who buy from little farmers and sell to supermarkets and other retailers—or to directly sell their production in street markets or to small vendors in the nearest town [23:102]. However, especially when selling through *atravessadores*, the profit margins and stability of income are usually significantly lower than in organized *cooperative* cases.

Thus, to commercialize at large scales and benefit from potentially higher profit margins and increased stability, *assentados* seem to need to develop and maintain

collective initiatives that serve that purpose, either by putting together goods produced in ‘individual’ parcels or by producing cooperatively in the first place [17:27]. In *assentamentos*, such collective initiatives usually take the form of legally-established *cooperatives* or *associations*, which can act as *touchpoints* between the settlement and the world beyond its boundaries—including government agencies, surrounding communities and commercialization networks [11:29, 17:33]. They thus play relevant roles in intermediating for service provision, facilitating knowledge exchange, and making *assentados*’ collective demands and proposals more easily heard by government or society.

#### **4.1.3 Diversifying production: moving beyond primary-sector activities**

The potential instability of income generation mentioned before is closely tied to the nature of agrarian production. When *assentados* rely exclusively on agrarian production as their main source of income, factors like excessive rain, frost, plagues, climate variations, among others, can ruin their production and simply leave them without any income for the rest of the year [19:32]. Like many other small farmers, *assentados* need direct insurance for these eventual risks. For the *assentados* we interviewed, these impacts appear to be dampened only by the presence of strong collective initiatives that allow sharing consequences of shocks among multiple individuals, and progressively devising means of coping with them.<sup>20</sup>

Although most *assentamentos* focus on the production of raw agrarian goods, we found in some cases that these are processed on site and turned into goods like jam, chocolate, roasted coffee or even cosmetics. These processed goods incorporate added value and were reported to result in higher profit margins and more stable

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<sup>20</sup> Fafchamps and Gubert (2007) provide a detailed economic analysis of the formation of “risk sharing networks” in rural Philippines, and their main finding resonates with our observations of collective initiatives in Brazil’s *assentamentos*: “geographic proximity—possibly correlated with kinship—is a major determinant of mutual insurance links among villagers” (2007: 326). Rather than kinship, geographic proximity in *assentamentos* may be related to a shared history of struggle between the *sem terra*, but the consequence is similar: under certain conditions, it leads to “mutual insurance links”.

income. Other *assentamentos* also complement their income through the provision of services, such as offering courses and organizing workshops for *assentados* and nearby residents. However, this did not seem to be very widespread. Indeed, moving from the *primary sector* (raw goods) production to the *secondary sector* (processed goods) or the *tertiary sector* (services) presupposes the capacity to organize and maintain collective initiatives—as the required investments and processes cannot be individually undertaken by *assentados* [23:15].

## **4.2 Building infrastructure for sustainability**

Infrastructure matters for *assentamentos* because it provides the basic physical resources to support the livelihoods and activities of their inhabitants. This is as true in *assentamentos* as it is in any other human settlement—however, the salience of infrastructure-related challenges for *assentados* is remarkably intense, and the repercussions of lacking or having inadequate infrastructure bear particular relevance for the prospects of fostering their sustainability. As expressed by one *assentado*, “without infrastructure, what occurs is what has happened in Brazil until today [...] people without infrastructure end up leaving the land and moving to the city, to try to find a job for themselves and for their kids. This is [also] the story of my family.” [11:68]. The former president of INCRA recognizes the issue by stating “[We don’t want] the absence of such micro-infrastructure to be a factor of expulsion. Without it, those who want to reconcentrate land and expand their farms end up taking the place of *assentamentos* that already exist” [33:88].

We identified two main sets of challenges concerning infrastructure for sustainability: obtaining basic infrastructure and moving beyond standard conventional infrastructure.

### **4.2.1 Obtaining basic infrastructure**

In the vast majority of *assentamentos*, infrastructure needs to be built from scratch [36:11, 21:16]. As mentioned before, INCRA—in coordination with other government

agencies—is legally responsible for providing basic infrastructure within a period of three years after an *assentamento's* establishment. However, we observed that adequate water supply, sanitation and sewage disposal were absent in two *assentamentos* that were beyond that time limit; roads were also in very precarious conditions. Lack of water was singled out as the most important factor limiting opportunities for agrarian production [13:4]; some *assentamentos* do not even have enough water for household consumption [29:61] and many recently-established *assentados* have thought about leaving fundamentally because of this factor [31:92].

Without government-provided infrastructure, *assentados* see no alternative but waiting and struggling to live without it [31:41]. After all, they have few options available. On the one hand, they have very limited monetary resources and low chances of being offered individual credits. However, we have seen that when *assentados* develop strong collective initiatives (such as cooperatives or associations), they tend to be more successful in pressing government agencies to comply. Indeed, demanding infrastructure is a common issue that may have the potential of unifying *assentados* and motivating collective action (as reported in *assentamentos* Pequeno William and Dom Tomás Balduino).

#### **4.2.2 Moving beyond standard conventional infrastructure**

Government-provided infrastructure tends to be standardized for purposes of mass implementation, seldom taking into consideration the particular environmental characteristics of each *assentamento*. In other words, *infrastructure provided by the government offers little flexibility* [37:37]. In addition, it *focuses on conventional models that consistently leave out sustainability as a main concern in their design*. If a community wishes to implement anything other than the standard, they need to discuss, plan and formally present it to INCRA *before the assentamento's* establishment—a moment in which most communities have not yet recognized the long-term benefits that could be brought by context-adapted infrastructure designed for sustainability. An example was put forth in *Assentamento Terra Vista*,

where residents today regret having accepted the infrastructure plan provided by the government, without making any customizations [23:75].

Furthermore, when building their own infrastructure, *assentados* tend to opt for low-cost alternatives, especially those they can manage to do themselves with the knowledge they have available—and usually those are not the most sustainable alternatives. A frequent example is sewage disposal [11:74]. In most of these cases other, more sustainable options (as those noted before), could cost even less. In many *assentamentos*, for instance, food leftovers are thrown away without being composted, a process that could easily and cheaply transform them into organic fertilizer for their plants [11:38].

Most *assentados* have no access to knowledge on how infrastructure-related needs could be covered sustainably at relatively low costs—an area of knowledge that has been promisingly advanced by ecovillages, as it was noted before. In ecovillages we observed several examples of relatively cheap, efficient, and sustainability-gearred methods or technologies that could be adapted in the establishment of *assentamentos* or even in the precarious conditions of the encampment phase, where there is no possibility for building permanent infrastructure. They include technologies such as compost toilets, banana circles, rainwater-capturing devices and *bioconstruction* techniques. Although still timidly disseminated, some of these techniques are starting to be observed inside *assentamentos* through positive examples of neighbors who start using them, reporting their success and thus indirectly disseminating them [31:119].

### **4.3 Creating attractive conditions for the youth**

Several interviewees stressed that “keeping the youth on the land” (i.e. in *assentamentos*) is a prominent shared concern among *assentados* [17:69, 19:34, 31:124]. The problem was usually framed in terms of life in an *assentamento* being perceived by youth as “less attractive” than life in urban centers—a description

consistent with the strong pattern of rural-urban migration that has characterized Brazil and other Latin-American countries during the past five decades (Dufour & Piperata, 2004). Given the scope of our research, our intention here is not to discuss rural-urban youth migration in depth, but simply to highlight the common elements associated with this topic in *assentamentos*, derived from our data.

Migration of youth threatens the endurance of *assentamentos* for obvious demographic reasons. However, the presence of youth in these communities can contribute to their sustainability prospects not just because it represents the very possibility of having a “future generation”, but also because it can influence the *social dynamics* of an *assentamento* in ways that are potentially conducive to enhanced sustainability. The clearest example raised by interviewees was that young individuals could function as *vectors of new knowledge for the community*, bringing in fresh ideas that may improve the community’s capacity to meet its needs (and continue to meet them in the future) [7:97, 17:22, 17:75, 19:33, 23:70].

Young people can also *question established belief systems* working against the development of more sustainable living or production methods, and may play a relevant role in bringing about change. This was suggested by one *assentado* who favors organic production methods and who explained that, in order to convince neighbors to stop the “inertial practice” of using “agrotoxics”, he had realized by experience that it was better to approach his neighbors’ children [17:76].

We identified three main sets of challenges related to creating attractive conditions to the youth: providing attractive jobs, offering leisure options and creating room for them to build their houses.

#### **4.3.1 Providing attractive job opportunities for youth**

Interviewees reported that children in *assentamentos* have, in the vast majority of cases, access to basic (primary) and secondary education—usually in the public

schools of the nearest town or, in the case of one relatively large settlement, in a public school that had been built specifically for it. However, they also reported that the process to secure that access can be hard, involving long negotiations with local government authorities [7:90]. An even more critical challenge may appear in the case of access to technical or professional education programs, for which there are only limited opportunities in rural areas. Interestingly, however, *assentados* did not raise this point in interviews, emphasizing instead the challenge of *providing attractive job opportunities for qualified youth within assentamentos*. After all, most of those who receive higher education do not necessarily want to directly work with agriculture, but still could bring their acquired skills to improve the communities in which they grew in and their parents still live on.

Offering those jobs, however, is not easy, as it seems to require forms of collective organization—such as cooperatives and associations—that are not always present in *assentamentos*, and tends to be stronger in those communities that do not rely only on the primary sector. For example, in one case in which the *assentamento* had developed strong cooperatives for production and commercialization (COPAVA), interviewees noted that challenge and proudly highlighted that *assentados'* children had temporarily left to pursue programs in agronomy, accounting, pedagogy, and medicine—but then had come back to work in the *assentamento* as service providers or technicians in cooperatives or agroindustries, notably in the production of *cachaça* [17:26, 19:33].

#### **4.3.2 Offering leisure options for the youth**

Another challenge is the *provision of leisure or cultural activities* in *assentamentos*, where “today, leisure just means soccer on Sunday” [17:70]. “There is no sport, culture, theater, dance. Workshops and cultural activities are scarce in rural culture and in general. So we just have a soccer field and that is it, nothing more.” [19:34]. Currently, in order to obtain those, young people need to travel to nearby cities and, sometimes, just end preferring to move there [9:111]. As clearly stated by *assentados*, there seems to be a widespread perception of isolation in rural areas, and more

strongly so for the youth. If leisure options are not provided, it becomes harder to maintain attractive conditions for young people in an *assentamento*.

### **4.3.3 Finding space for the youth to stay (or move in)**

Finally, we identified a structural problem deriving from the particular property rights arrangements present in almost all *assentamentos* we visited. As the design of *assentamentos* is based on the notion of family as the fundamental unit, only the parents are granted partial property rights over parcels of land in the *assentamento's* establishment. At this stage all available parcels are granted to families and none are reserved to the future generations, making it very difficult to accommodate new residents thereafter.

There are only two alternatives to hold property rights over land in an *assentamento* after the initial distribution of land: by inheritance (a case in which land cannot be divided in smaller portions)<sup>21</sup> or by buying land from an *assentado* that acquires full property rights. However, as explained in the previous chapter, there are strong legal restrictions over this last option. As a result, grown-up adolescents might not stay in that specific *assentamento* and look for housing in a urban or rural area nearby, or may even take part in the process of becoming *assentados* themselves at other locations.

## **4.4 Two domains for the design of solutions to sustainability challenges in *assentamentos***

The clusters described in the last section synthesize the most salient challenges to fostering sustainability in *assentamentos* that emerged from our qualitative data analysis. In this section, we will take the first steps to provide an answer for our second 'broken-down' research question: *Which insights for addressing those challenges may be obtained from existing assentamentos and ecovillages?*

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<sup>21</sup> Law 8.629/93, Art. 18-A.

First, we would like to highlight that during the process that led to the construction of those clusters, we continuously realized that, although the noted challenges had been and continue to be prevalent in all cases of visited *assentamentos*, some of them seem to be more successful than others in dealing with them. In particular, interviewees in two of the *assentamentos* visited —*Assentamento Terra Vista* and COPAVA/COAPRI—consistently report *more effective* approaches to confront challenges under the three clusters than interviewees in the other cases. These two communities appear to have adopted agroecological or organic methods of production to a larger and more consistent extent than other cases, and to have higher and apparently more stable levels of income. At the same time, their infrastructure was relatively more developed and, in the case of *Terra Vista*, partially built with an explicit concern for sustainability. Finally, both cases seemed to be remarkably more capable of attracting and keeping youth than the others.

Although the previous description constitutes a simplified picture of many subtle details that can be gleaned in our qualitative data, our analysis of interviewee responses and observations systematically points to a general hypothesis: capacities to address challenges under the three identified clusters are *interlinked*. We chose this term to denote that such capacities are not merely correlated, but rather that they *work together* to more effectively tackle challenges in different clusters *at the same time*. The capacities that can drive an *assentamento* to move towards sustainable production, for instance, can *also* support the development of infrastructure for sustainability and, furthermore, aid in creating attractive conditions for the youth.

In order to capture these “interlinked capacities” in an organized fashion, we once again engaged in a process of interaction with the data, trying to find prominent *common elements* underlying the variety of practices that represent those capacities in practice. In this attempt, we used the contrast case of ecovillages to strengthen our analysis and obtain further insights, in order to understand how the elements

that emerged can support more effective approaches to address sustainability challenges in *assentamentos*.

The process led us to discover that two key elements present in the relatively more successful cases of *assentamentos* also play key roles in ecovillages' approaches to addressing sustainability challenges: (i) *access, use and dissemination of sustainability know-how*, and (ii) *cooperative collective dynamics*. We thus suggest that these two elements should be considered as domains for the design of solutions to foster sustainability in *assentamentos*. In what follows, we will show how these two elements are represented in our data—in *assentamentos* and ecovillages—and describe how they could help in addressing the sustainability challenges that we listed above.

#### **4.4.1 Access, use and dissemination of sustainability know-how**

Access to knowledge seems essential for developing sustainable *assentamentos* for various reasons. First, as most *assentados* come from very underprivileged backgrounds, many (especially older adults) are illiterate, and most of the things they have learned are connected with practical know-how acquired by experiences they had in the past. *Assentados* who have lived in the city their whole lives probably know little about agricultural techniques or life in a smaller community. If an *assentado* lived in rural areas, chances are high that she used to be an employee in a large farm and, as stated by an interviewee, “was born with a poison pump on their back” [17:76]. If she is to change towards more sustainable methods, others will need to somehow convince her of the benefits and teach how it can be done.

Access to knowledge, however, goes beyond formal education and learning, because knowledge required for sustainability comprises skills, practices, capabilities and technologies that can empower *assentados* to produce, build, communicate and live more sustainably. Many of these capabilities are not included in the official school program and are not disseminated in most big agribusiness farms or in cities. Examples of knowledge *assentados* could learn include techniques for energy

production [19:38]; processing of agrarian goods [7:33]; organic fertilizers [13:19]; bio-construction techniques [23:75], and agroecological practices [7:33, 19:20, 21:9]; and about relevant public policies available to them [33:42]. Although we found these sorts of knowledge to be relevant for fostering sustainability in agrarian reform, they were often missing and not always easily available for *assentados*.

Our data shows that knowledge in *assentamentos* is usually accessed by means of (i) courses offered directly or indirectly by MST; (ii) residents taking part in external courses and returning to the community [19:38]; (iii) technical assistance provided by government or universities [33:42]; (iv) by assessing and experiencing the positive results from others (learn by seeing others do); (v) through partnerships with national and international organizations; (vi) or simply obtaining information from internet.

In *Terra Vista*, the use and dissemination of ecological know-how was especially present through *participative research* for organic cocoa production, a collective initiative that has led to results enabling them to move towards organic methods while increasing their production and revenues, reforesting their land, and recovering their natural resources while deeply involving the youth. *Terra Vista* also hosts a technical school that offers courses on agroecology and rural technologies with students from all ages from seven different municipalities in the surroundings. The school constantly hosts events, which help to diffuse knowledge and learning from others, and act as touchpoint between the *assentamentos* and local communities. *Instituto Cabruca*—an NGO of which some *Terra Vista* residents are members—has become a partner institution providing them with technical assistance and, with knowledge produced in Terra Vista, promoting sustainable economical development consultancy for other small farmers and traditional groups. Another noteworthy spillover from this knowledge dynamics was in the audiovisual sector, which was recently created and employs mainly the youth, who produce videos and broadcast music, talks and news on the Internet and in their recently-acquired radio station.

Accessing, using and disseminating sustainability know-how as a way to address those challenges became an even more salient topic after our interaction with ecovillages. All ecovillages that we visited exhibited high stocks of sustainability know-how and an explicit intention to translate them into practices, as well as disseminating them as part of their model. Two big strands of know-how seemed more prominent: knowledge for ecological sustainability—such as *bioconstruction*, compost toilets, agroforestry, permaculture—and knowledge for community-building. These types of know-how were used in different forms: as source of income (through courses and workshops); as enablers for building more sustainable infrastructure; and as drivers for creating a stronger community and for attracting new residents and visitors who can learn, implement and disseminate this knowledge in their own environments. Finally, sustainability know-how is also appealing to young volunteers and can help to attract and keep the youth.

#### **4.4.2 Enabling cooperative collective dynamics through conflict resolution**

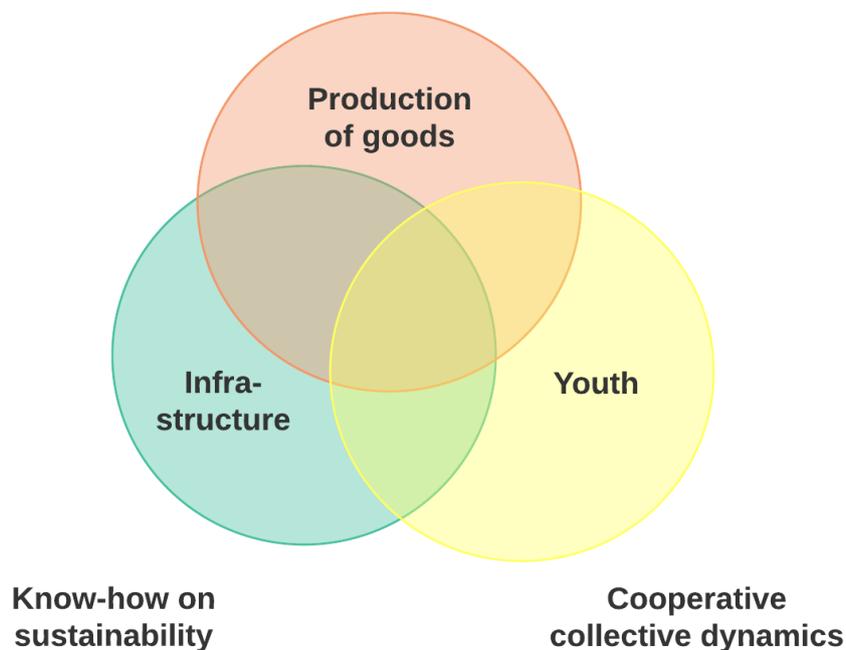
Along the different phases of pre-establishment, establishment and maintenance, *assentamentos* face a variety of situations in which conflicts need to be resolved. Sustained interaction with others in daily life requires means to settle disagreements and coordinate actions, especially when spaces are shared, resources are scarce, and future livelihoods depend strongly on what neighbors can do together. A lack of capacity to resolve conflicts has led some *assentamentos* to experience difficulties in setting up collective projects, especially due to a “tendency” of attributing responsibility for crises or shocks to “the cooperative”. On the other hand, in relatively more ‘successful’ *assentamentos*, an increased capacity to work together led some families to opt to share their “individual” parcels and install a system in which production parcels are assigned according to the size and the labor capacity of every family [21:13]. This integrated and cooperative system allowed them to build a wide range of collective infrastructure for service provision—including restaurants, laundries, bakeries and supermarkets—which not only diversified jobs in the community, but also allowed their income to be more stable. A high degree of

cooperation (and access to know-how) also lead residents in these communities to be able to gather enough resources for building an agroindustry for processing their raw goods—and those of their neighbors—and sell to companies and organizations across the country. Terra Vista, instead of just continuing to export high quality cocoa for European manufacturers—already a memorable triumph of their cooperative, linked to agroecological know-how—are now starting to make chocolate and cosmetics from their crops to commercialize in those markets. COPAVA produces *cachaça* (a sugarcane spirit) and several other agrarian processed (mainly dairy) goods and packed products (rice, beans) for selling and covering internal consumption.

The importance of solving conflicts to enable cooperative collective dynamics was also a key lesson from our experience in ecovillages. Some of them, such as ZEGG and Sieben Linden, master techniques and tools to resolve interpersonal friction in living and working together. In addition, they incorporate strong common visions. Apparently, the use of such techniques and tools is essential to explain how ecovillagers are able to live and work together and persist in tight communities throughout time. It is important to highlight that those techniques and tools operate under principles of experimentation; they bring flexibility at the same time that they create room for learning with trial and error.

## 5 INSIGHTS TO ADDRESS SUSTAINABILITY IN ASSENTAMENTOS

In the last chapter, we took steps towards answering our research question. The synthesized results were three clusters of challenges—*moving towards sustainable production, building infrastructure for sustainability and creating attractive conditions for the youth*—and two elements for the design of solutions—*improving access, use and dissemination of sustainability know-how and enabling cooperative collective dynamics*. We suggest that those 5 elements should be taken into consideration by policy designers and the most relevant actors involved in Brazil’s process of agrarian reform (i.e. INCRA and MST) when thinking, discussing and planning policies and programs to foster sustainability in agrarian reform communities.



**Figure 3.** Diagram: synthesis of our analysis

We now intend to go one step further, deriving additional insights that can shed more light on the design of these policies and suggest potential avenues for action. The insights are also meant to provoke useful reflections for the actors mentioned above. We believe that this sort of output—made possible by the methods described in chapter 2— represents an adequate first approximation to devising solutions for a

context exhibiting a high degree of *wickedness* (Rittel & Webber, 1974). When facing this sort of context, “the lack of certainty and the prevalence of ill-defined problems, set against the absence of concrete datasets to back up decision-making, calls for different, more creative and collaborative approaches.” (Siodmok, 2015). The insights we provide here are intended as examples of what these sorts of approaches can achieve, and as input for similar approaches undertaken by others in the future.

### **1. *The power of example can be an effective means for the transition to more sustainable practices***

The idea that effective knowledge transfer and behavioral changes are most likely to occur when one can actually see and experience their results leads to what we have called *the power of example*. “It is with our pedagogy of example that we convince people. For instance, in the beginning [after a crisis] no one else wanted to grow cocoa here anymore; when we started we were just 4, 5 people. Today you have 20 or 30 people with [a collective] area better than ours, and it wasn't necessary to impose that on them. They started to look and say 'oh, I also want to have a crop like that'. Just like they copy the beautiful crop of the big farmer, when they see a collective area that works, they also want to be part of that” [23:79]. Another *assentado* expressed that “we are doing this [agroecological practice] so other people in the assentamento can get to know about it and see that what we are doing and become interested. Being interested, then we are there to help”. [31]

The “power of example” appears to be a powerful tool for promoting sustainability know-how and improving cooperative collective dynamics in the particular context of *assentamentos*, where—as we have seen—direct material incentives for these purposes are either lacking or ill-designed. Individual *assentados* and collective initiatives within *assentamentos* would need to be provided with means and materials to effectively diffuse their example (e.g. in agroecology) to others in their *assentamento* and beyond. This diffusion could be partially based in communication technologies (interestingly, access to the internet was reported or observed in all

cases of visited *assentamentos*), but as indicated by interviewees in both *assentamentos* and *ecovillages*, actual hands-on witnessing or experiencing of know-how in practice seems crucial for its eventual implementation. Hence, the relevance of “offline exchanges”, such as those indicated in the first insight of this section, should not be underestimated.

## **2. Building a common vision among *assentados* can support the maintenance of cooperative collective dynamics**

Evidence from *ecovillages* indicates that sustaining a community throughout time can be facilitated by the presence of a common vision, as it can aid in the resolution of interpersonal conflicts and in the creation of a common background that facilitates common agreements [7:86, 41:86]. As an *ecovillager* said, “first you have to create a vision [...] you have to know what the community is for. And only then you can decide if something is really against the vision, and only [these] objections are accepted. The emotional 'no, I don't want it because I'm afraid of something', this doesn't count anymore” [51:27].

This is a lesson brought not only by *ecovillages* but also by *assentamentos*. In the pre-establishment phase, during encampment, there is a strong common vision of *fighting* to obtain their own piece of land, which contributes to stronger cooperative collective dynamics [7:32]. However, once the land is obtained, this common vision disappears and is usually not replaced by another. This lack of shared vision seems to be correlated with a progressive decrease in cooperative collective dynamics; in those *assentamentos* where a common vision apparently remained present, cooperation seems to be higher—like in *Terra Vista* or COPAVA. As an interviewee stated, the shorter the encampment phase, the more fragile is the “community”; the longer the period of encampment, the higher the chances of having people that will later become MST leaders [11:52].

Therefore, in order to endure, *assentados* in the encampment phase could determine a common vision that can persist after an *assentamento's* establishment—a vision other than “conquering land”. As an interviewee said, “if people come together to occupy a land, and from the very beginning they have this vision of having their own plot, their own house, and their own garden, then I actually think it's a challenge to switch to this communal idea later on” [41:86]. This vision, however, should be broad enough to be consistent with a wide diversity of individual views and to allow for adaptation [49:14]. It also needs to be specific enough to serve as an anchor for identity and an end-of-line criterion in collective decision-making. To obtain that, *assentados* could engage in activities—facilitated by professional group moderators—where they could collectively deal with conflicts, discuss the present and future, and arrive at a decision supported by consensus.

In order to maintain a common vision across time, *assentados* need spaces and tools to effectively deliberate and evaluate the vision's consistency with their initiatives and plans. As expressed by an interviewee in Sieben Linden, keeping a common vision that does not become futile in time implies the organization of periodic plenary meetings in which the vision is brought to the fore: “Why are we doing this? Why are we trying so hard? What is the effect we want to cause in the world?” [45:3].

Ecovillages' experiences indicate that a successful process of common-vision creation and maintenance is far from being intuitive, and that new experiences could profit from accumulated know-how about its facilitation. This includes not only helping *assentados* define and keep a common vision, but also empowering them to better deal with interpersonal conflicts—an essential skill given that isolating themselves from others implies critical opportunity costs (i.e., losing out on the potential benefits of cooperative collective initiatives, as argued in the analysis above).

### **3. More room for experimentation can strengthen sustainability know-how**

Ecovillages often regard themselves as social laboratories; in the words of an interviewee, "laboratories for future situations that we will face as humans" [45:1]. Ecovillagers strive to test different ideas and learn from their perceived successes and failures. This notion of constantly trying out alternatives, capturing feedback and adjusting behavior and practices can contribute to foster sustainability in *assentamentos*. Continuous assessment and frequent feedback are essential to avoid situations of total collapse: "you need to have this capacity to be a bamboo: of bending without breaking apart" [23:80].

*Terra Vista* seems to have incorporated this notion with a remarkable level of success. As stated by one interviewee, "[many things we do] we didn't do to work right away, we are testing and we are looking and willing to receive others' help to make it even better" [23:80]. For instance, through "participative research" in collective areas, they try out different techniques for agrarian production with results that can be later disseminated to other *assentados* and even other rural communities. This approach could also be expanded to other fields, including building infrastructure for sustainability and attracting the youth. By adopting trial-and-error approaches, technologies can be customized to each *assentamento's* reality.

Experience from ecovillages also suggests that, in the context of small communities that intend to endure in time, people should be trained to accept failures or mistakes and transform them into learning opportunities, instead of blaming others for 'negative' results. However, this capability does not arise naturally. Ecovillagers have systematically resorted to developing and experimenting with a variety of tools for communication, in order to collectively build that capability through repeated events. These tools could prove to be of great value for *assentados* in the creation and maintenance of collective initiatives.

#### **4. *Collective initiatives can prevent isolation in rural communities by acting as touchpoints with the external world and bringing exchange opportunities for assentados***

Sustainability can only be effectively fostered in agrarian reform if *assentamentos* are not isolated. As we have seen during our research, local, national and international exchanges can be a key for discovering, discussing, and effectively adapting alternative methods for production and construction, and for making *assentamentos* more appealing to the youth.

Our research indicates that engaging with people beyond *their assentamento* can provide *assentados* increased opportunities for learning and enhancing commercial and cultural activities. It helps to avoid isolation, and contributes to build a wider network of support—derived from the contact with people from other cultures and backgrounds. ‘External people’ can either be specialized employees—attained via technical assistance or partnerships—or volunteers, students and *assentados* from different parts of the country. However, their engagement should be perceived as rewarding enough to compensate the costs implied by hosting external people imply.

*Assentamentos* can play an active and not merely passive role in this regard. Nevertheless, in order to achieve this, some degree of cooperation is essential—*assentados* can hardly assume that role individually, as it usually involves partnerships. As demonstrated by *Terra Vista*, fostering strong collective initiatives can make *assentamentos* become local diffusers of knowledge and catalyzers for the empowerment of surrounding communities. This is particularly true as *assentamentos* become ‘hubs of development’ of technologies and skills for sustainable production to other farmers.

## 6 CLOSING REMARKS

How can we foster sustainability in *assentamentos*? In order to answer this question, we conducted a constructivist qualitative research project, designed as an instrumental collective case study. A large set of qualitative data was gathered in *assentamentos* and ecovillages with very distinct characteristics—different sizes, dates and modes of creation, geographical and economical context, member profiles, among others—and from the experience of bureaucrats and researchers in the field.

As far as we know, the attempt to link those two types of rural communities—*assentamentos* and ecovillages—had not been carried out in the past. Although our space and time constraints limited our analysis of ecovillage data, our intention in linking both types of communities was to bring fresh elements into the debate concerning sustainability in *assentamentos*. Other reserchers can profit from this efforts and build on it.

Furthermore, it should be once more emphasized that our main concern throughout the analysis was to collect and use in the first place elements from field interviews and observations (instead of relying on current literature and policy documents). This conscious methodological decision helped us have more freedom to explore the data, allowing the rise of insights in a more spontaneous fashion. Inspired by the so-called “Gioia Method” and grounded theory, we followed a research strategy characterized by a constant process of interaction with the data, with the intention of contributing elements for the design of approaches to fostering sustainability in *assentamentos*.

Given the space and time constraints we faced, our strategy led to an admittedly limited depth of analysis. Nevertheless, the more general approach allows us to structure policy debates regarding sustainability in *assentamentos* more inclusively, in such a way that other scholars and practitioners can more easily take part of them.

We believe that more meaningful policy design can happen when such spaces for dialogue occur.

This belief also explains our research design, which included a concern for more effective communication of research outputs through interfaces different than text-dominated black-and-white linear narratives. The multimedia datasets we collected can enable the production of more user-centered outputs, which we see as a future development that we intend to carry out on the basis of this text.

Indeed, our intention is to explore strategies for presenting the wide variety of data we collected in such a way that our research ‘leftovers’—data collected and processed, but not directly published in this synthetic narrative—can be accessed, used and disseminated not only by other researchers, but also by journalists, civil servants, and politicians, among other potential audiences. We interpret this project as the first prototype of a larger venture, *OndaPolitica* [[www.ondapolitica.org](http://www.ondapolitica.org)], which has the vision of bridging the gap between researchers and practitioners in the field of public policy.

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## 9 APPENDIX

### Appendix 1: In-depth interviews – database with sources for our QDA

[XX]	Date	Type	Community Name	Interviewee Name	Approx duration (min)
[01]	2014.06.16	ECO	Sieben Linden	(Volunteer on the road)	10
[03]	2014.06.16	ECO	Sieben Linden	Michael	15
[05]	2014.06.16	ECO	Sieben Linden	Sophie	30
[07]	2014.07.31	MST	Dom Tomás Balduino	Mauro	150
[09]	2014.08.01	MST	Escola Nacional FF	Celso	105
[13]	2014.08.12	MST	Milton Santos	Irene	24
[11]	2014.08.12	MST	Milton Santos	Osmar	50
[15]	2014.08.12	MST	Milton Santos	Fátima	60
[19]	2014.08.13	MST	COAPRI & COPAVA	José Ramos	60
[17]	2014.08.13	MST	COAPRI & COPAVA	Aranha	96
[21]	2014.08.18	MST	Terra Vista	Deise & Tarcisio	15
[23]	2014.08.18	MST	Terra Vista	Joelson	80
[25]	2014.08.20	ECO	Piracanga	Bruno & Juliana	120
[27]	2014.08.22	ECO	Aldeia	Gabriel & Sam	12
[29]	2014.08.23	ECO	Aldeia	[all residents]	100
[31]	2014.08.26	MST	Pequeno William	Acácio & collective	98
[33]	2014.08.27	BUR	INCRA	Carlos Guedes de Guedes	75
[35]	2014.08.28	BUR	SAF/MDA	Valter Bianchini	30
[37]	2014.08.28	BUR	CONDAF/MDA	Guilherme Abrão	105
[39]	2014.08.30	ECO	IPEC	André	75
[43]	2014.10.20	ECO	Sieben Linden	Beatrice	53
[41]	2014.10.20	ECO	Sieben Linden	Michael	67
[47]	2014.10.21	ECO	Sieben Linden	Lena	32
[49]	2014.10.21	ECO	Sieben Linden	Corinna	36
[45]	2014.10.21	ECO	Sieben Linden	Ita	154
[51]	2014.10.24	ECO	Zegg	Barbara	36
[53]	2014.10.25	ECO	Zegg	Joachim	38