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PUBLIC LAND ALLOCATION AND THE TERRA LEGAL REGULARIZATION PROGRAM IN THE BRAZILIAN AMAZON

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Abstract

The motivation for this article were the recent criticism from different groups claiming that the Terra Legal Program may promote land grabbing and land concentration on the hands big landlords, therefore, this article intends to show that the biggest beneficiaries in the destination of the Federal Public lands are in fact the small-scale farmers through regularization of their possessions, the creation of settlements and promotes the preservation of the amazon forest through the creation of protected areas.

In addition, the article seeks to compare the rules and mechanisms for control of the allocation of federal public lands carried out by the Terra Legal Program with the rules and mechanisms adopted by the State Land Institutes of the Legal Amazon. The analysis showed that the federal legislation that establishes the mechanisms of land allocation and its management by the Terra Legal Program (Laws 11.952 and 13.465) are more robust and comprehensive than the legislation used by the State Land Institutes. Although it has been recently observed that some of the Land Institutes are implementing legal and institutional reforms to strengthen their actions.

Key Words: Brazil; Legal Framework; Land Regularization; Terra Legal Program; Land Governance

Summary

Introduction

The total area of unallocated Public Land (*Terra Devoluta*) under federal and state responsibility in Brazil is not yet known. Based on research work conducted at federal and state level, this article, will look at the complexity of this problem and for the lack of compatibility between federal and state legal frameworks looking for different solutions that encompass the land tenure regularization of the state and federal public lands in the Brazilian Amazon.

One of the public policies implemented to confront the challenge of land tenure regularization in the Brazilian Amazon, the federal program "*Terra Legal*", (Legal Land), was designed to tackle the problems related to the large amount of federal land with no clear property rights, mostly through land regularization of private land and allocation of land to public uses. The program was created through the Law n°11.952, passed in July 25 of 2009, which focused on regularization and titling of land parcels on public federal land located in the Legal Amazon territory.

In addition, the law enabled the State to transfer unallocated lands to the municipalities, states and other federal institutions for regularization of urban plots, indigenous lands, protected areas, agrarian reform settlements, *Quilombola*[1] settlements and for other public and social purposes.

The challenge of implementing Terra Legal is impressive in its scale: to regularize 47 million out of approximately 123 million hectares of federal public plots of land (*glebas*) that have not yet been classified as protected areas, indigenous lands, agrarian reform settlements or military areas, spread over the nine states of Legal Amazon. This corresponds to an area the size of the American states of Washington and Montana put together.

The main purpose of the Law nº 11,952 was the regularization and titling of landholders without legal titles (adverse possession) up to 1,500 ha or about to 15 fiscal modules[2] (MF). The basic requirements are that the landholder wasn't a beneficiary of any other policy of land regularization or agrarian reform and must, to receive the title, demonstrate that the land is under productive agrarian use. An important recent innovation was the enactment of the Law nº 13,465/2017 that further enforced the Law nº 11,952 and expanded the application of the rules used by the Terra Legal program for conducting regularization of

[1] Quilombolas are Afro-Brazilian residents of Quilombo settlements first established by run-away slaves in Brazil. They are descendants of African slaves from slave plantations that existed in Brazil until the abolition of slavery in 1888

[2] A Fiscal Module represents the unit used for rural land taxation according to each municipality. In certain municipalities of rural Amazonia, one Fiscal Module can be as big as 100 ha, whereas in rural Cerrado or Mata Atlantica this size can vary between 5 or 50 ha.

public land to the rest of the country, and also increased the target population of the program, including landholders of areas up to 25 fiscal modules (MF).

Table 1 - Illustrates the distribution of these federal lands.

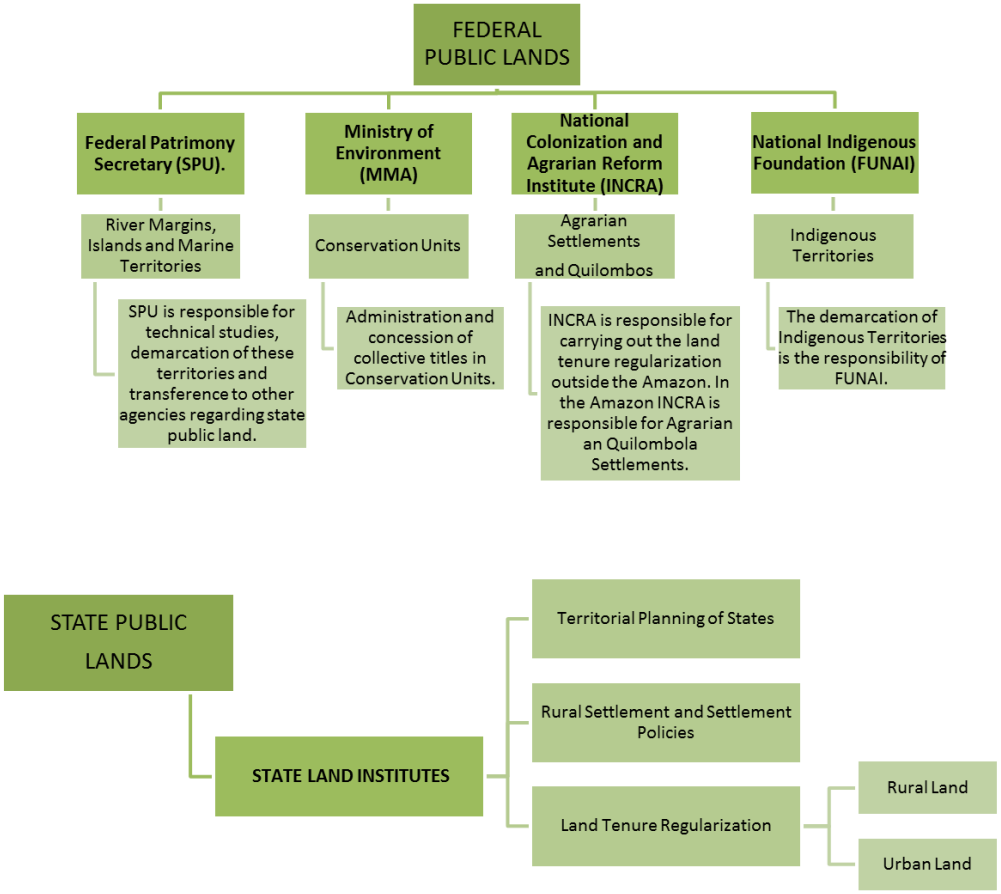
Total area of Legal Amazonia (501.600.000 hectares)	**Hectares**	**% of total**
Public Federal Lands, available (*area arrecadada*)	123,276,928.76	
Public Federal Lands, allocated (*area afetada*)	76.302.390	
Scope of Terra Legal Program	46.713.632	**100%**
Areas allocated until now (MMA, FUNAI, INCRA, SPU, States, emission of rural and urban land titles)	8.033.574	17%
Land remaining to be addressed by *Terra Legal (through land tenure regularization)*	32.550.294	70 %
Land still to be allocated (in process of evaluation)	6.127.098	13%

Source: Database System Terra Legal, December 2018

Over recent years, Terra Legal has demonstrated considerable progress in clarifying the allocation of federal lands for public interests through continuous inter-institutional consultations as well as in land surveying. Upon conciliation of the Technical Board for Public Land Allocation (*Câmara Técnica de Destinação de Terras Públicas*, CT), federal lands are allocated for public and social interests, e.g. for the establishment of conservation units, territories for indigenous peoples and traditional communities, or the creation of agrarian settlements (Table 1). The remaining lands are released for regularization of private claims of smallholders, who demonstrate technical and legal compliance of the standardized requirements for land regularization.

On the other hand, besides the federal public lands, there is a large amount of unallocated public land at state level. For a large proportion of these areas there is no georeferenced information available.

Figure 1 - Hierarchy of Land Management in Brazil



Source: elaborated by the authors, 2019.

The administration and management of public land at State level is responsibility of the State Land Institutes (*Institutos de Terras*) and state environmental agencies (*Órgãos Estaduais de Meio Ambiente*), which have the mandate for allocation of public land. This allocation is also mostly demand driven and most of the processes lack detailed records, geospatial information and transparency, especially regarding lands that were allocated and regularized in the past. The allocation of state public land was originated in the 1892 Constitution, which established that all public unpossessed land belonged to the states of the nation. A very rough estimation of the amount of this type of land in the Brazilian states is between 10 and 20% (or more) of the state total area, but there are no official estimations or data supporting this.

A common critic that the *Terra Legal* Program is subject of, is that its legal and institutional framework may promote land grabbing. This article intends to show, initially, based on the results achieved by the Program, that the beneficiaries of the allocation of Federal Public lands have been mostly small-scale farmers, through the regularization of their possessions and the creation of settlements. Furthermore, a considerable area has been allocated for the preservation of the Amazon Forest through the creation of protected areas. This article will compare the rules and mechanisms for control of the allocation and regularization of federal public land carried out by the Terra Legal Program with the rules and mechanisms adopted by the State Land Institutes in the Legal Amazon.

The analysis will show that the federal legislation that establishes the mechanisms of land allocation and its management by the Terra Legal Program (Laws nº 11,952 and nº 13,465) is more robust and complete than the legislation used by the State Land Institutes. Although it has been identified throughout the study that some of the State Land Institutes are implementing legal and institutional changes to modernize and their actions and strengthen land governance in their respective territories.

Historical Review on Normative for Land Regularization

The Land Law of 1850 established that all lands that had not been appropriated by private agents would be incorporated into public property for later allocation (those are called unallocated areas - "*terras devolutas*"), whether for communities, for conservation purposes or for direct sale to interested agents. However, for the period that followed the Law of 1850, accompanied by the expansion of the territory occupation, neither an adequate cadaster nor control was made, regarding the different situations of domain that occurred (BRASIL, 1850). Therefore, public land was also not defined nor registered. The growing land disorder has stimulated various changes in the legal and administrative structure that regulate and control land management, particularly regarding the responsibilities on state and federal level.

The Proclamation of the Republic in 1891 (BRASIL, 1891) defined the current federative system, differentiating between the respective autonomies and responsibilities of the Union and the federal states. The constitution established that the unallocated areas were responsibility of the states. However, until the XX century, Brazil still did not have an effective cadaster and registration system, neither on state nor on federal level.

The regulation of property was legally structured first in 1916 with the Civil Code (BRASIL, 1916), regulating the purchase and sale of real estate and defining the need for its registry, including an obligatory document to prove ownership. However, this configuration also characterizes the State as a land-owner agent, thus, having the same responsibility towards its property registry for the public/State lands. This condition was later reinforced in the 1970's with the Public Registers Act, which regulates the real rights over property.

It is important to emphasize in this context that most of valuable land in the Amazon region belonged to the Union and the states until the 1960s, so only a tiny fraction of this total amount was privately owned. It is noteworthy that in this period approximately 90% of the area in the Amazon were forests or uncultivated lands, which were exploited by traditional peoples and communities, such as Indigenous Peoples, *Quilombolas*, river dwellers and people who live from forest products, so-called ecological extractivism. In addition, 11% of these lands consisted of pastures for cattle, 2% of lands were occupied with plantations and only 1% had a title of private property. In the 1990's, the difficulty of not being able to separate the public from the private land led to a land tenure chaos (FUNDAÇÃO PERSEU ABRAMO, 2016).

The great innovation in Brazil's land management occurred with the Land Statute in 1964, which, in addition to establishing land registration and the rural property tax, also preserved the legitimacy of informal ownership ("*posse*") for those who have been occupying lands in public areas. Another important landmark in the management of public land in the Amazon region occurred during the military regime in 1971, when the Decree 1,164/1971, that established the unallocated lands from within a distance of one hundred (100) kilometers on each side of federal highways, that were already built or under construction in the Amazon, would be responsibility of the federal government. But also, margins of federal rivers, national borders, the coastline, islands and other strategic areas were configured as responsibility of the Union.

This decree spawned important controversies for the management of public lands in the Legal Amazon region, since there were areas that had been allocated (or were in the process of destination) by the states, but now were responsibility of the Union. This decree was revoked in 1985, which further increased uncertainty about the responsibilities of the management for the unoccupied lands in the Amazon. This liability has impacts still today, and many traditional communities, which are occupying public land, are not aware if they are entitled to demand regularization for their land, and if they do, they are much less aware of which agency they should look for to start the process.

Since the Land Statute, a large part of the legal framework on land management was still lacking regulation, and the legal structure was only formally proposed after the end of the military dictatorship. The federal constitution of 1988 (BRASIL, 1988) foresees the federative pact, as a set of rules regarding attributions and responsibilities of the states and their relationship with the Union; however, allowing autonomy in relation to various aspects, such as, tax collection and management of immovable patrimony. Nevertheless, the Constitution of 1988 still allows institutional failures, since it permits states to legislate on assets under their jurisdiction, although the states and municipalities cannot establish regulations less restrictive than the federal ones. Yet, regarding land regularization in public areas, this study identified much less restrictive legislative structures in states compared to federal laws.

Methodology

The present study sought to understand the procedural instruction and the processes foreseen by law, that guide land regularization in the states (in contrast to the federal areas from the TL program), as well as the level of knowledge about the public lands in each state. To do so, it was necessary to identify and understand the legal framework, the knowledge (georeferencing and collection) of public lands, as much as the situation of the integration of information among public agents. Furthermore, we tried to describe the state systems of land tenure, including aspects such as the storage and registry of areas, internal operational systems, consultation of interests, requirements, reference value for land acquisition and reversion clauses.

The legal framework related to land regularization, as well as the administrative structure, vary greatly between states. To obtain the data needed for the proposed analysis, a questionnaire was prepared and administered in each of the State Land Institutes (LI) in the Legal Amazon by regional teams of GIZ, and in some cases by Terra Legal officials, with the participation of the LI representatives. It is important to highlight that not all LI responded the questionnaire properly, some for a bad timing during the period of interviews, and others for lacking structure or personal to do so. Because of that, more than one visit was made to some LI and to the others, a deeper research on secondary data and legislation available were performed in order to obtain the information needed to do a comparative analysis and identify disparities that can be improved.

In general, the actions that followed the visits to the LI were an initial analysis of the responses, a remote survey of the pertinent state legislations regarding land regularization and secondary data, which

composed a set of variables for the comparative study. There was a special consideration for the states where the visits did not have obtained enough information, but it was possible to obtain it from a second interview, then additional visits where carried out. These visits happened at the LI from the states of Pará, Amapá and Mato Grosso. Independently of the visits to the LI and questionnaire application, a survey was carried out to map the legal structure of each estate, to compose the comparative study also with the legislative dimension.

Furthermore, the technical-legal analysis was carried out in alignment with the preliminary results of the study "*Transparência de órgãos fundiários estaduais na Amazônia Legal*" carried out by IMAZON (Institute for People and The Environment in the Amazon) (IMAZON, 2018). IMAZON conducted a Comparative analysis of the land agencies in the Amazon States, seeking to identify the state land agencies, their attributions, bottlenecks, good practices and opportunities for improvement. The preliminary results of this study were discussed in Brasilia in December 2017 and were also incorporated in the present research to further substantiate the results with additional information.

The Agreement of Palmas on Land Governance in the Amazon (*Carta de Palmas*, see **Erro! Fonte de referência não encontrada.**) was used as orientation for the analysis, as it provides a frame agreed upon by all states in the legal amazon. By doing so, it was possible to understand the context of the legislative structure that guides them and how they could be standardized (or not), as well as their alignments with the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the context of national food security (VGGT) of the United Nations Food and Agriculture Organization (FAO), endorsed in 2012 by the Committee on World Food Security (FAO, 2012).

Table 2 - The Agreement of Palmas

The ten commitments of the Agreement of Palmas	Advances led by the Terra Legal Program
1. Refine and establish standards for the legal framework that regulates land tenure governance at state and federal level.	1. Promulgation of Law nº 13,465/2017 with innovations for the federal legal framework;
2. Promote solutions of the issues of unclear boundaries, overlapping titles and conflicts of	2. Comparative studies on the legal frameworks in different states in the Legal Amazon;

interest between the federal government and the States.	
3. Endeavour to have all state and federal public land tracts (*glebas*) geo-referenced and with certified boundaries within 10 years.	3. Integration of the federal and state governments through the sharing of land tenure databases. Improved bilateral communication between state governments for information compatibility on public land tracts (*glebas*) as well as advancing geo-referencing and certification of public land tracts;
4. Promote the standardization and integration of different land cadasters and connection with the registries.	4. Setting up the computerized Land Management System (SIGEF) for digitalizing the land tenure registration process and creating online databases and digital document archives, essential to the standardization of land registration in the Amazon;
5. Implement, through cooperation between the Federal Government and the States, a modular system of land management, including document storage, geo-referencing, titling and registration.	5. Setting up the computerized Land Management System (SIGEF) for digitalizing the land tenure registration process and creating online databases and digital document archives, essential to the standardization of land registration in the Amazon;
6. Promote transparency and access to information so that population can follow and monitor land related policies.	6. Improving access to information through the development of the Program's Electronic Management Dashboard with up-to-date performance information;
7. Encourage social participation for the definition, implementation and evaluation of land policies, to strengthen land governance.	7. Promoting ongoing dialogue with civil society and government representatives through the

	Intergovernmental Executive Group (GEI), which sets guidelines and monitors Terra Legal actions;
8. Promote and facilitate communication between the land related institutions, the control bodies, the offices for land registration, the judicial and legislative powers to identify and resolve the problems related to land policy in the Amazon.	8. Intensified interinstitutional dialogue via the Technical Board for land allocation which effectively brings together representatives of all government organs responsible for land tenure regularization.
9. Standardize methodologies and criteria to establish a reference for land valuation in the Legal Amazon, for land tenure regularization purposes and to avoid discrepancies in values applied by federal and state governments.	9. Setting up a computerized system for automating calculations related to land value and issuing of payment slips (SIGEF Finances), in addition to revising legislation to simplify land value calculation methods and define a common reference for land valuation;
10. Strengthen land tenure regularization activities and their integration, executed by land related institutions.	10. Strengthening of the land related institutions in the Federal States through SERFAL's strategic planning and alignment with other agrarian policies.

Source: Informative Factsheets from Terra Legal Program (March 2018).

Description of the general workflow of the land regularization process

The land tenure regularization workflow of public federal land can be represented by three stages: A first stage where the public area is identified, georeferenced, certified and put into a consultation process amongst different public institutions. A second stage is the land titling process itself. The last stage refers to monitoring and supervision of the compliance of contractual clauses in the post-titling phase.

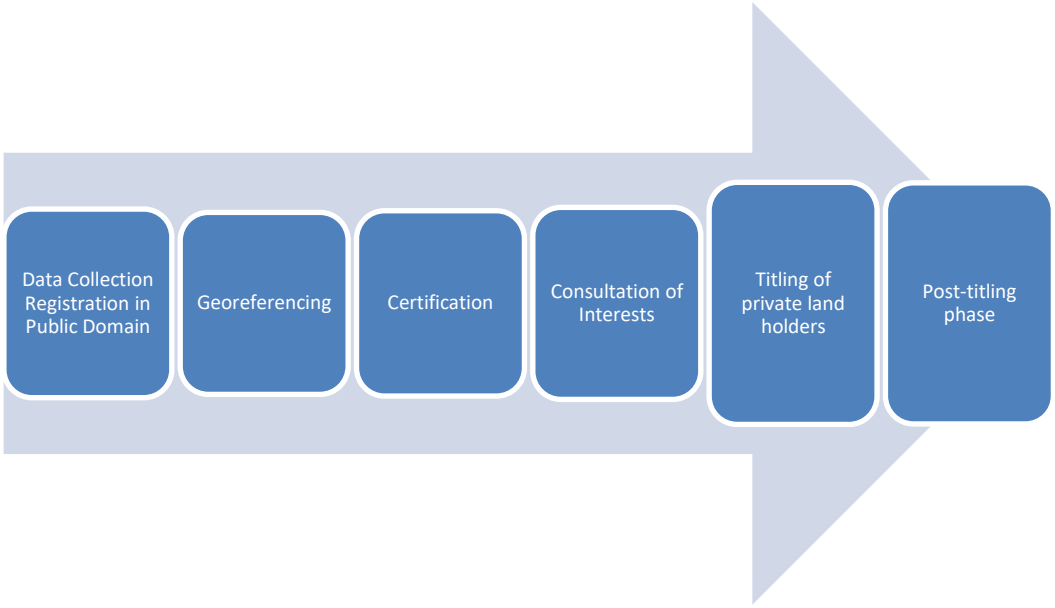
The first stage begins with the identification and collection of information on the area to be regularized. In this process the public entity formalizes the domain of an area, on which private law does not apply. In the case of the Union, these are "declared rural areas indispensable to national security and development" (Article 28 of Law nº 6,383 / 1976). The instrument that made possible the collection of land in the Amazon was Decree-Law nº 1,164 / 71, since almost all the land was transferred to the Federative states in the constitution of the Republic.

A second step in this stage is the georeferencing and certification of the area (*Gleba*). The georeferencing of a land hold is done by qualified professionals that survey the boundaries between land holds and determine the position of each vertex that composes the limits, described in coordinates associated with a Geodetic Reference System. It is a requirement for certification of the rural land hold.

The Certification of a rural land hold is an administrative process in which INCRA verifies if the technical parameters of the land hold are according to the law, and if there is no overlapping of the land hold's area with any other unit in its geo-referenced database. The Certification accures prior to registration (at the Real Estate Registry Office).

A final step in the first stage of land tenure regularization is the consultation of interests. Law nº 11,952/2009 demands consultation with the institutions responsible for public lands to share information on their plans on areas to be regulated. The objective is to ensure that the regularization of public land is not carried out without first considering social or environmental interests. Therefore, Secretary of Patrimony of the Union (SPU), Ministry of the Environment (MMA), National Indian Foundation (Funai) and National Institute of Colonization and Agrarian Reform (INCRA) are asked to express their interest in the area that is to be regulated. If there is a manifestation of interest of only one institution, the area is destined to the same. When there is more than one stakeholder, the area cannot be targeted unless consensus is built beforehand. If none of the institutions mentioned here express their interest, the area is automatically available for land titling by the responsibility of the Program Terra Legal.

Figure 2 - Workflow of land tenure regularization



Source: elaborated by the authors, 2019.

The second stage in the land tenure regularization is the titling process, which begins with the analysis of compliance with the requirements for titling of the land holder. If the land holder complies with all requirements, the land hold is put under geospatial analysis to verify the existence of any overlap with other areas that could be in a process of land tenure regularization. The final step in this stage is the issuance of the title.

The final stage is the so-called post-titling phase, which begins with the collection of fees that ought to be payed, depending on the land holds' size, and ends with the monitoring of contractual clauses. This stages and steps of the land tenure regularization workflow were used to compare and analyze the legal frameworks and protocols of the federal government and the states of the Legal Amazon.

Results

Analysis of results from Terra Legal Program

Until today, the Terra Legal Program has coordinated the allocation of 13.4 million ha of public federal lands for public and social purposes, the georeferencing of 60 million ha and the issuance of approx. 30.000 land titles or certificates of recognized occupancy (CRO), principally to medium and small-scale farmers.

Out of about 22.000 rural land titles, 97,3% have been issued to occupants with up to 400 ha of land, corresponding to 75,9% of the regularized area (see table 1 and figures 1 and 2). Only 2,7% of the beneficiaries possess parcels with more than 400 hectares, corresponding to 24,1% of the area.

Table 3 - Quantity of rural land titles emitted and corresponding area by plot size

	< 1 MF	1 MF - 4 MF	> 4 MF	Total
Number of land titles per plot size	17.828	5.695	708	24.231
Number of land titles per plot size (in %)	73,58	23,50	2,92	100,00
Area per plot size (in hectares)	510.412	751.492	451.098	1.713.002
Area per plot size (in %)	29,80	43,87	26,33	100,00

Source: Management System ("Painel de Gestão") SERFAL/SEAD, accessed on 11/01/2019.

Figure 3 - Distribution of area per parcel size

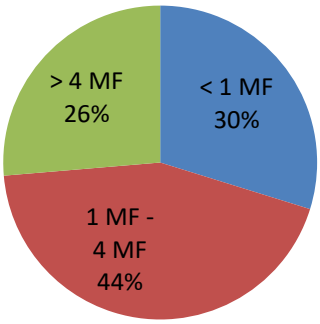
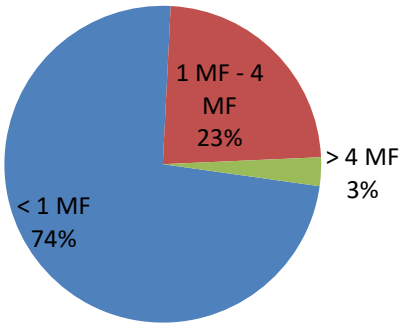


Figure 4 - Distribution of beneficiaries per parcel size



Source: Management System ("Painel de Gestão") SERFAL/SEAD, accessed on 11/01/2019.

The predominant profile of the beneficiary public of land regularization promoted by the Terra Legal Program, as demonstrated by the above data, can be explained by the following factors:

- prioritization of Legal Land performance in regions with concentration of family farmers;
- inexistence of land price tables for regularization of larger areas;
- integrated action with the policy of environmental regularization through the joint efforts ("*mutirões*"), focusing on areas of family farmers.

Most of the profiles of beneficiaries of land tenure regularization evidence one of the dimensions of the occupation of the Brazilian Amazon. Despite the occurrence of land grabbing and the existence of large properties, considering also the expansion of the agricultural frontier for the region, land tenure regularization promoted by the Terra Legal program recognizes mainly the rights of small farmers who occupied the Amazon in the last decades of the twentieth century.

We need to consider in the analysis of the results of the Terra Legal program the great dynamism of land holdings and properties in a border region of economic development such as the Amazon. Alone, land governance policies are incapable of transforming this dynamic, which is closely linked to the region's economic, social and political vectors.

The performance of the Terra Legal program shows that the policy of land regularization is fundamental to promote the management of the use of public lands in the Amazon, but must be integrated with other economic, social and environmental policies for the region.

Comparative Analysis of Normative Frames (Federal and State Level)

The legal structure that guides the regularization processes in state and federal areas in the Brazilian Amazon is very different. The legal frameworks (state and federal) regulating the land regularization process are very specific in the different Land Institutes, compared do the *Terra Legal* Program. For example, the state of Mato Grosso does not collect large plots, only smaller areas that are already occupied or have a specific destination (acting on demand), while the Union, through the *Terra Legal* Program, collects *glebas* of public lands ("*gleba*" ~ 10,000 hectares) and then regularizes the smaller areas that are occupied within the "*gleba*".

Based on the information obtained from the *Terra Legal* Program (TL), there are clear legal parameters to guide land regularization processes in federal areas, with well-defined requirements and regulations that must be fulfilled in order to obtain the regularization of the occupancy in public areas. Requirements such as: having a Brazilian nationality, not having another property, making effective use of the land/plot, proving peaceful occupation prior to 2004, not benefitting of other land tenure regularization programs, amongst others (these are showed by Table 4). Regarding these requirements under the federal legislation, it is important to highlight the definition of a fixed historical landmark (2004, later changed to 2008), which prevents new occupations. This is a very important instrument in this type of public policy, since the definition of this legal regulation it is increasingly difficult to be able to participate in a regularization process over public lands, making it possible to promote another type allocation/land use on those areas, such as environmental protection.

In the discussion with the agents involved during the elaboration of the study, divergent points between state and federal legislations were identified, being most of them related to the legal requirements, but also regarding the public consultation of possible interests involved in the same area, the reference price that should be used in cases of onerous regularization, on the mechanisms for monitoring, storing and reversing processes that were previously agreed but have not been fulfilled/complied. These results will be further detailed in by the next tables and sections of the article.

To justify which stages and steps of the generic land tenure regularization workflow and consequently which variables would be analyzed to compare the states and federal legal structures, first it was considered the federal workflow and requirements, which are understood as the most complete structure, to be used as benchmark for the state's analysis. Besides that, a special attention was given to the "Guiding Principles of the Responsive Tenure Governance (VGGT)" (FAO, 2012), as another important reference to understand the importance of each step in the regularization workflow and the robustness of each requirement applied to assess the quality of legal framework given to land regularization programs in Legal Amazon. From that, all information gathered was systematized considering the following variables for verification of compliance to legal requirements for land tenure regularization:

Table 4 - Analysis of necessary requirements, compared with federal legislation

Variables	AC	AM	AP	MA	MT	PA	RO	RR	TO
Requirements of Law 11.962/2009 (Federal)									
I – be Brazilian;									
II – be the only property;									
II – have effective land use;									
IV – pacific occupation and direct exploitation, of the owner or direct family members (antecessors);									
V – not benefit of any Agrarian Reform Program or any other land tenure regularization in the rural area									
Others:									
Habitual Living									
Permanent Living									
Annual family income up to 60 minimum wages									
Rational and adequate exploitation of the area									
Compliance with environmental legislation									
Georeferencing, according to State standards									
Compliance with voting regulations									
Exclusion of persons that have a position in a public company									
Not benefit of any land tenure regularization in the urban area									
Legend:		**Yes**		**Partial**	**No**	**Does not apply**		**Not informed**	

Source: elaborated by the authors, 2019.

The main difference between the legal frameworks that regulate the federal public areas with those of the Amazonian states is related to the applicant's requirements that will allow the process to occur under his/her name. None of the states matched the federal requirements in all aspects, being Acre (AC) one that most closely resembles it, followed by Amapá (AP), Amazonas (AM), Maranhão (MA), Roraima (RR), Mato Grosso (MT), Tocantins (TO), Rondônia (RO) and last Roraima (RR). The main differences in the requirements that deserves to be highlighted is related to the maximum area allowed for regularization, with federal legislation and the majority of states being 2,500 hectares, but in MA the limit is 1000 ha and in RR it is 1500.

Table 5 - Maximum/minimum size for regularization

Variables	AC	AM	AP	MA	MT	PA	RO	RR	TO
Size (ha = hectares; MF = Fiscal Modules (varies between municipalities)									
Small: Donation	100ha		1 MF	1 MF	100ha	100ha		1 MF	100ha
Small: Sale/ bidding				200ha		500ha			
Medium: Sale/ bidding			15 MF					1.500ha	2.500ha
Medium: Sale / bidding (proving social function)				1.000ha		1.500ha			
Medium/ big: Sale / bidding			2.500ha	1.000ha	>100ha	2.500ha			
Big: Proof of pacific occupation								2.500ha	
Big: Declaration of public interest					>3.000ha	>2.500ha			
Legend:									
		Yes	Partial	No	Does not apply		Not informed		

Source: elaborated by the authors, 2019.

Another important difference between the legal framework is related to the time limit of occupation that guarantees regularization. In most states, a minimum period of 10 years is required, in RR it is 5 and in PA and AC there are special conditions that allow it in 5 years. However, only federal legislation and the state of RR sets a date limit to the occupation, in the case of the current federal legislation the milestone is 2008 and for RR it is 2009. As discussed earlier, the definition of a limit date is an interesting instrument of this public policy, since it discourages new occupations in public lands.

Table 6 - Minimum time of occupation for regularization

Variables	AC	AM	AP	MA	MT	PA	RO	RR	TO
Minimum Time of occupation									
min 1 year									
min 5 years									
Time Frame									
Before 17.06.2009									
Before 22.07.2008 (Federal)									
Legend:		Yes (GIZ)	Partial	No	Does not apply		Not informed		

Source: elaborated by the authors, 2019.

The strength of the legal instruments that regulate land regularization in public areas is also a decisive difference in the quality of the legal and institutional framework on federal and state level. In this way, we verified that when there are clear and well-defined Laws that are based on the land regularization aspects, the results and information about the management of the public lands were better and more conclusive, in comparison with the states that presented a more fragile framework. In this context it is important to note that many states are updating and standardizing their legal frameworks, specially related to land management, an initiative that had positive results but, in many cases, innovations are still too recent to produce significant effects.

Regarding inventory and knowledge management of public areas, the federal areas under TL management are inserted and updated in the SIGEF, and the states that adhered to the same system as mechanism for control and management over land, obtained better results when compared to those who have not. Beyond these states, the MT, PA and TO have internal systems with integrate information, but do

not have a great part of their areas properly spatialized and systematized. The other states of AM, AP, MA and RO are not integrated with SIGEF and their respective internal systems are deficient.

In general, the states that aligned their legislative structures with the federal and legal parameters adopted by the TL program, performed better than the others. This can be verified in different aspects as in the requirements and the management systems, but mainly in the definition of the values charged in the costly regularizations. Many states, although they have the legal foresight to create their own values guides, do not have a good reference that is up to date, so they end up using the federal standard. Other states that had their own guidelines, presented values much lower when compared to those charged by the Union, indicating a greater facility in the adverse possession of public areas.

Table 7 - Results from IMAZON on conflicts and public consultation

Variables	AC	AM	AP	MA	MT	PA	RO	RR	TO
Information on conflicts									
Consultation of internal databases									
Consultation of external data									
Legend:		Yes	Partial	No	Does not apply		Not informed		

Source: IMAZON, 2018.

Regarding the public consultation to identify possible overlapping interests in the same area, which may characterize conflict, deserves emphasis due to the importance of the impact of such variable. On that matter, it is important to highlight the Technical Board initiative that has presented very positive results, this experience has been partially adopted by AC who built a state commission on land management in order to facilitate the dialogue between different institutions responsible for land tenure regularization and thus improving the management of public areas of the state. The states of AP, MA and MT demand the main land institutions whether they have interest in a certain area, but these states do not make public consultations with civil society. This is being justified by the fact that they already operate on public demand and requests. The other states do not consult interests or did not present qualitative information on this subject.

Generally speaking, in both, federal and state areas, institutional fragilities have been identified regarding the monitoring of plots that are in process of regularization. Follow-up is mainly done sporadically and without adequate control. Many states, such as AM, MA, MT, and RO, do not have or do not implement a legal framework regarding the monitoring and evaluation of land tenure regularization.

One relatively uniform aspect between the different legal frameworks the respect of the contractual clauses. Usually state norms are aligned with federal standards. The majority of states (except MT and RO) have legal provisions for reversing regularization processes, in case of non-compliance of contractual clauses. However, only in AC and on federal level the process is reversed trough a lawsuit, after surveying the areas. This information was confirmed with the Land Institute during the application of the questionnaire.

Table 8 - Analysis over the contractual clauses

Variables	AC	AM	AP	MA	MT	PA	RO	RR	TO
Are there contractual clauses for land titles?									
Harmonization with Law 11.962/2009									
Inalienability of land hold (10 years)									
I – Agrarian destination/ effective land use;									
II – compliance with environmental law, especially regarding the Forest Code (Law 12.651);									
III – prohibition of exploiting labor forces analogous to slavery;									
IV – Compliance with payment and fees conditions.									
Other Clauses									
Inalienability without consent of the State									
Inalienability until discharge									
Inalienability da of agroforestry destination									
Rational and adequate Use									
Identification of Legal Reserves and Permanent Protection Areas									
Payment of forestry taxes									
Respect of Labor Laws									
Prohibition of degrading and deforesting illegally									
Legend:		Yes	Partial	No	Does not apply		Not informed		

Source: elaborated by the authors, 2019.

Finally, we observed that the legal frameworks on land regularization of public areas differed on the comprehension of the targeted population. In the federal legislation and in the states of AC, AP, and RR socioeconomically vulnerable communities are benefitting of the public policy following clearly defined criteria by well detailed legal instruments. Other states like MA, MT and PA seek to benefit the most vulnerable communities, but they also regulate areas for private economic interest, in a more diffuse and less coherent legal framework.

From the perspective of this study, the states of TO and AM were the states that presented the most fragile, diffuse and less specific regulations for land regularization processes. As to this result, it should be noted that during the period of study the state of TO was undergoing a major modernization of its legal structure, with an ongoing project to define a new State Land Law, and was also reforming the office of the LI, which compromised the obtention of information by the team. The land management system for the AM state was also undergoing transformations that justified its bad results, in this case, the LI from AM had been recently discharged (2015), much of the information being still under organization by the new institution responsible for land management (Secretariat for Land Tenure Politics - *Secretaria de Política Fundiária*, SPF). Other processes of land tenure regularization in Amazonas have been saved in a system, whose management is outsourced to a private company (AIS). In this matter, the structure found in AM is much more fragile than the other states, in addition to that, the state is facing land disputes for interests, deforestation and recent agricultural expansions, and is equipped with a deficient legal framework to regulate land related issues.

Conclusions

The main benchmark for this study analysis was the federal legislation, which is understood to be the most complete legal framework regarding land regularization in the Amazon region. Special features, such as the fixed date to prevent new occupations, the public consultation, clear land prices definition and the legal requirements demanded for the applicants, are seen as positive aspects of the policy structure. Because of those features, the federal legislation was understood as the most robust framework and many states have built their legal frameworks inspired by such features.

Although, there is no state that follow the same regulations as the Union, except for Rondônia (RO), which has no responsibility over the public lands. Spite being a controversial statement, there is no specific state legislation on the subject, so, in any case, the federal regulations would have to be used. Besides the

specific condition of the RO state, the rest of the states developed specific frameworks, some of them inspired by the federal regulations, others related to regional aspects, sometimes more restrict or less, depending on the perspective.

In general, the state that has the most robust regulation, much of it inspired by the federal legislation, was Acre (AC), specially because of it monitoring and contractual clauses, but also because of the public consultations and mechanisms for conflict mitigation. Besides that, another state that deserves mention is the Roraima (RR) state, which does not own much territory but has much of its legal framework inspired by the federal regulations, besides that, it is the only state that has set a year milestone to prevent further occupations, a feature that is perceived as very important for such policy. The other states also deserve attention because of interesting aspects of their frameworks, but, as far as understood by this study, were less rigorous in their criteria.

The Pará (PA) state has shown a very complex structure, with lots of different legal instruments for different types of regulation, built in a very recent legal structure, suggesting a intention to tackle land issues and have better control over the territory in a very large state. Besides that, other states are updating their legal frameworks and their administrative structures, as seen in Mato Grosso (MT), Maranhão (MA), Roraima (RR) and Tocantins (TO). The state of Amapá (AP) also has a very new legislation, specially because is a very recent state, but also because it does not own much territory, due to the federal areas of frontier, rivers and protected areas, that account for more than half of the state.

An important issue found in some states was the legal references for land prices in some states, being way below regular standards, outdated and or determined by different regulations. The state of Acre, for example, does not charge for any regulation, the state of Mato Grosso set prices way below average, Amapá state has a table of reference that is outdated (therefore uses the federal standards). Although, the most outstanding low prices were found in Tocantins (TO), a state that has also one of the most diffuse and broad set of regulations, determined by different legal instruments, sometimes not from the same subject. Tocantins state has one of the most fragile frameworks, but is currently being updated into a more robust legal structure and is expected to be in conformity with the other states and federal legislations.

At last, the state of Amazonas (AM), which is responsible for the largest areas of Amazon Forest, was responsible for the worst results observed. From the legal perspective, the framework is quite recent, being very broad and diffuse in many aspects, besides that, the main concern rests upon the fact that the State Land Institute of Amazonas (ITEAM) has been replaced by a weaker agency (a secretariat) whose

main database was outsourced for a private company that holds public information in secrecy. As it also has been observed by IMAZON and other studies, the recent increase of deforestation and areas devoted for agricultural production, rises the interest of people over unclaimed lands that can still be exploited, demanding a direct response by the state to preserve its heritage. The worry rests on a new wave of disorderly occupation with low effectiveness, due to fragile legal institutions, lack of control over the territory and/or information.

This final discussion brings us to the conclusion that, despite its limitations, the federal legal framework is still has the most complete and robust conditions for land regularization in the Brazilian Amazon region. On that perspective, the states that are more aligned with the federal regulations, presented better results, but also, were responsible for initiatives that stimulates transparency, organization and control of information detained. From the perspective of this study, those features that promote a closer relation between the IT and the civil society, by clear and accessible rules, stimulate a more sustainable development in the region.

From that perspective, the Terra Legal program, an executive agency representing the federal jurisdiction, is responsible for formalizing properties dedicated to a population of small producers and family holders, who occupied the Amazon in the last decades of the twentieth century and have legitimate rights over that claim. It is also important to note that this program is succeeding in its original mission, to promote a sustainable development of the region for those who have rights over it, in an agricultural frontier of great dynamism, appointed as unregulated and contentious because of that.

The study has showed a positive outcome from the Terra Legal Program, as a policy of land regularization that is promoting an adequate use o public lands in the amazon region, but it is also understood that this policy cannot transform the historical dynamic of land occupation in the region, which is closely linked to economic, social and political vectors. It is necessary a collective effort of different agencies, policies and instruments, to integrate the population with other stakeholders and promote effective sustainable development, but is also important to gain control over the public areas in the Amazon forest to prevent them from being occupied under illegal claims.

These outcomes from the Terra Legal Program and reflections over the legal framework that regulate land use in the Amazon region gain further importance due to the present moment and near future to come. With increasing deforestation rates in Brazil and a conflicting political scenario that endure for years, it is

even more important to have stable and trust worthy institutions, that regulate public goods and benefits the civil society with the most positive outcome, such is the forest preservation in the Amazon region.

References

BRASIL. Constituição da República dos Estados Unidos do Brasil, de 24 de Fevereiro de 1891. "Nós, os representantes do povo brasileiro, reunidos em Congresso Constituinte, para organizar um regime livre e democrático, estabelecemos, decretamos e promulgamos a seguinte". Disponível em: <http://www.planalto.gov.br/ccivil_03/Constituicao/Constituicao91.htm>. Acessado em: 15/02/2019.

BRASIL. Constituição, 1988. Constituição Federal da República Federativa. Disponível em: <http://www.planalto.gov.br/ccivil_03/constituicao/constituicao.htm>. Acesso em: 08 oct. 2018. *Carta de Palmas*,

BRASIL. Decreto-Lei Nº 1.164, de 01 de Abril de 1971. Declara indispensáveis à segurança e ao desenvolvimento nacionais terras devolutas situadas na faixa de cem quilômetros de largura em cada lado do eixo de rodovias na Amazônia Legal, e dá outras providências. Disponível em: < http://www.planalto.gov.br/ccivil_03/decreto-lei/Del1164.htm>. Acesso em: 15/02/2019.

BRASIL. Lei 6.383 de 7 de Dezembro de 1976. Dispõe sobre o processo discriminató-rio de terras devolutas da União, e dá outras providências. Disponível em: http://www2.camara.leg.br/legin/fed/lei/1970-1979/lei-6383-7-dezembro-1976-357226-normaatualizada-pl.pdf. Acesso em: 26/03/2018

BRASIL. Lei nº 3.071, de 1º de Janeiro de 1916. Código Civil dos Estados Unidos do Brasil. Disponível em: < http://www.planalto.gov.br/ccivil_03/leis/L3071.htm>. Acessado em: 15/02/2019.

BRASIL. Lei nº 601, de 18 de Setembro de 1850. Dispõe sobre as terras devolutas do Império. Disponível em: <http://www.planalto.gov.br/ccivil_03/LEIS/L0601-1850.htm>. Acesso em: 15/02/2019.

FAO, 2012. "Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security". Food and Agriculture Organization (FAO) of the United Nations. Rome, Italy.

Fundação Perseu Abramo. Amazonas (200-2003). Disponível em: https://fpabramo.org.br/publicacoes/wp-content/uploads/sites/5/2017/05/Amazonas-web.pdf. Acesso em: 13/09/2017.

IMAZON, 2018 "Transparência de órgãos fundiários estaduais na Amazônia Legal". Dário Cardoso Jr., Rodrigo Oliveira, Brenda Brito. – Belém, PA. ISBN 978-85-86212-98-7

Secretaria Extraordinária de Regularização Fundiária na Amazônia Legal (SERFAL), Câmara Técnica de Destinação d Regularização de Terras Públicas Federais na Amazônia Legal – Glossário, Brasília - Março de 2015.

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