

The Brazilian agrarian issue requires solution in the XXI century

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1. Introduction

In this beginning of century, Brazil has, on one hand, a high economic growth, strong institutions in various areas and improvement of social situation, but, on the other hand, the rural and urban land situation is still very precarious, with elementary issues that are not resolved and that most developed countries solved them still in the eighteenth and nineteenth centuries.

In the rural world, the high concentration of land ownership and the high idle land associated with the existence of numerous landless workers demanding land show that the Brazilian agrarian issue still needs to be addressed. On one hand, the constant conflicts over land, including deaths and injuries, the existence of possessions with the possibility of new possessions of land, the great possibilities of fraud in the process of land records, the complete lack of control over land purchases by foreigners, and the constant need to create new registrations to prevent deforestation in the Amazon are all symptoms showing that a facet of the agrarian issue is related to the legal uncertainty associated with land ownership. On the other hand, the urban area of the country has almost 40% of its population living precariously in slums, tenements and informal subdivisions. What is behind all these processes is the possibility of land speculation, which is one of the most profitable action with less risk in the country. These processes will only be fought effectively in a process in which society together with the competent bodies assume an effective governance of land markets.

The Brazilian critical agrarian problem in the XXI century has its origins in the pattern of settlement and development of the country and the legal and institutional solutions, which, even though tried to face the problem, aggravated it in most cases. Historically, the Brazilian agrarian reality was marked by the existence of formal regulation, but which was not fully implemented, making the rules of access to land quite fragile and incomplete. The Land Law of 1850 already had the following objectives that would govern the property: to order the territorial appropriation in Brazil; to end the possession; to make a land registry; and to turn the land into a reliable guarantee for loans.

However, that was not what happened: the land, whether urban or rural, remains until the present only with controls that seek to secure the property, but, depending on the region with risks, they do not regulate the ownership or its use. Until now, there is no register of private property or public land (vacant or otherwise), nor any way of adequate social adjustment. Therefore, with this framework, the land is likely to have any use from its owners, from the speculative, through the productive to the predatory ones. To date there is no record of the lands belonging to the Government by the various existing mechanisms; not even the vacant lands defined in the Land Law of 1850 were specified.

The consequences of this process are quite comprehensive, from establishing the boundary between rich and poor, determining the development of the technological sector, the organization of production, up to the definition of urban areas more or less valued and/or preserved.

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The democratization of the country coupled with governments more committed to the social and environmental aspects, from the late twentieth century, undertook actions and policies that move toward a greater regulation of the land in the country. But all of them are still quite specific, localized and with short scope. Given this set of actions implemented in the recent past, it was possible to realize the magnitude of the problems and already implement some solutions, which currently require a deepening.

But the country's major problem is the absence of concrete mechanisms that regulate the ownership, use and occupation of the Brazilian rural and urban land. And this lack of regulation, effective rather than rules, results from and is determined by the possibilities to speculate on land, that is, to make money with the purchase, maintenance, transformation and subsequent resale of land in any of its form.

It is also known that the rules that were aimed at the effective regulation of these markets through laws always ended up being circumvented or not enforced, creating more favorable conditions to speculation for some people. Therefore, the ideal regulation would be the one in which society had governance and could define the proper use of the land, either from the production point of view or for homes, simultaneously preserving the environment. But the first step to improve land governance in Brazil is by understanding the current structure of governance and the potential for its transformation to achieve the above goals.

The main objective of this study is to show that it is the municipality that has to take the role, together with the population, of generating the effective governance of land in the country. For this purpose, initially, in item 2 we will show that the Brazilian agrarian issue was not resolved mainly because the Brazilian Government was not able to regulate land ownership. That is, we will show that a significant proportion of the chronic problems of use and occupation of rural and urban land in the Brazilian reality arises from the lack of appropriate regulation/governance in these markets.

Item three will theoretically address why the land is subject to speculation and that the Government has a crucial role in its regulation. Item four will show the evolution of legislation and rules that were created to regulate the access to land or curb land speculation, resulting in a chaotic framework of land administration and, therefore, in the lack of land regulation. The next item, five, will evaluate the key recent land policies and the barriers to the solution of the Brazilian agrarian issue. Item 6 will aim to point out the direction of the main actions that must be implemented to build an institutional framework for land governance that is suitable to the Brazilian reality, to help equate its agrarian issue.

2. The Brazilian critical agrarian situation

It is unacceptable that in the XXI century, when Brazil walks strongly in the direction to be one of the world economic powers, various aspects of the agrarian situation are still in a very critical state. What is more shocking is that the country continues to appear in international news with three aberrations: the largest land conflicts, including deaths, a high concentration of land ownership and the deforestation in the Amazon forest. The three result from the agrarian issue that was born in the process of colonization and which, to date, has not been addressed, much less solved. All these problems are associated with the fact that the country has a set of rules related to land ownership that do not allow its proper regulation, resulting from: a) the absence of a record; b) the possibility to hold and regulate land; c) the absence of tax on land; and d) the possibility to continuously speculate with land, as we will show below.

2.1. Agrarian conflicts

Table 1 below shows that over the first decade of this century the number of land conflicts, including murders, persists with very high values. We can observe, through the same table, that the number of conflicts is around 1000 annually, and the number of people involved is, in the last three years, greater than 300,000 people, a significant contingent. Not to mention the few dozen deaths resulting from these conflicts. Therefore, it is undeniable that there is an agrarian issue as there is violence around land.

Table 1. Some numbers on land conflicts. Brazil. From 2002 to 2010.

	numbers of conflicts.	people involved	area with conflict, in ha	numbers of murders	attempted murders	death threats	numbers of prisoners	numbers of persons attacked
2002	925	425,780	3,066,436	43	36	244	158	18
2003	1690	1,127,205	3,831,405	73	64	266	380	48
2004	1801	965,710	5,069,399	39	99	284	421	335
2005	1881	803,850	11,487,072	38	56	266	261	166
2006	1657	703,250	5,051,348	39	72	207	917	749
2007	1538	612,000	8,420,083	28	66	259	428	443
2008	1170	354,225	6,568,755	28	44	90	168	800
2009	1184	415,290	15,116,590	25	62	143	204	277
2010	1186	315,935	13,312,343	34	55	125	88	90

Source: Pastoral Land Commission (CPT)

Another dimension of the conflict is the existence, in the country, of many landless workers requiring land to be settled. Only among the claimants for land for agrarian reform, according to the MST, there are in the country more than 50,000 families, indicating that the demand for land, besides being high, is done with strong political mobilization. The Pastoral Land Commission estimates that, in 2010, there were 36 camps with 3,579 families in them, which indicates that the solution of the agrarian issue for these persons includes the willingness to live a part of their lives under a tarp to obtain land in the agrarian reform process in the country.

2.2. Concentration of land ownership

One of the facets of the Brazilian serious agrarian situation is the high degree of concentration of land ownership, as it can be seen in Table 2 below. Brazil is possibly one of the countries with the highest concentration of land in the world², despite recent efforts towards its democratization/distribution through the agrarian reform. The Gini index of property remains in the high level of 0.85, with no signs of falling. The participation in the total area of the 50% smallest agricultural establishments is still in the range of 2.3%, while the 5% largest establishments account for more than 69.3% of

² According to FAO <http://www.fao.org/economic/ess/world-census-of-agriculture/additional-international-comparison-tables-including-gini-coefficients/other-international-comparison-tables-of-agricultural-census-data-explanatory-notes-and-comments/en/>, the country has one of the highest Gini Index in the world.

the total of land. Information that attest to the extremely high degree of concentration of land in the country and that the extensive agrarian reform did not change the agrarian structure of the country.

The high concentration of land ownership in the country is the main source of the great social and economic inequality in the country and of a significant part of its rural poverty³, mainly through social exclusion, as the poorest do not have access to land.

Table 2. Agrarian structure of agricultural establishments in Brazil.

	1975	1985	1995/6	2006
Number of establishments (millions)	5.0	5.7	4.8	4.9
Total area (million ha)	323.9	369.6	353.6	294,0
Average area (ha)	64.9	71.7	72.8	67.1
Gini Index	0.855	0.859	0.857	0.856
Area of the 50% smallest (%)	2.5	2.4	2.3	2.3
Area of the 5% largest (%)	68.7	69.7	68.8	69.3

Source: IBGE Agricultural Census - several years

The very pattern of urban land occupation also has its origin in the large concentration of rural land, participating actively in the processes of urban exclusion and in the generation of urban poverty. Moreover, the absence of limits or regulation of access to land discourages agribusiness to do a more efficient use of land, maintaining a standard based on the abundance of land without significant increases in productivity in its use⁴.

Examples include the great idleness and/or the very low level of utilization of agricultural land and the extremely low rate of average stocking of the beef cattle in the country, which is only slightly more than one animal unit per hectare, significantly below the rates set by technical agencies. Another dimension of the large concentration of land in the country is the great land acquisition by foreigners in Brazil. This is only possible in a country where the agrarian issue is not resolved.

2.3. Deforestation in the Amazon forest

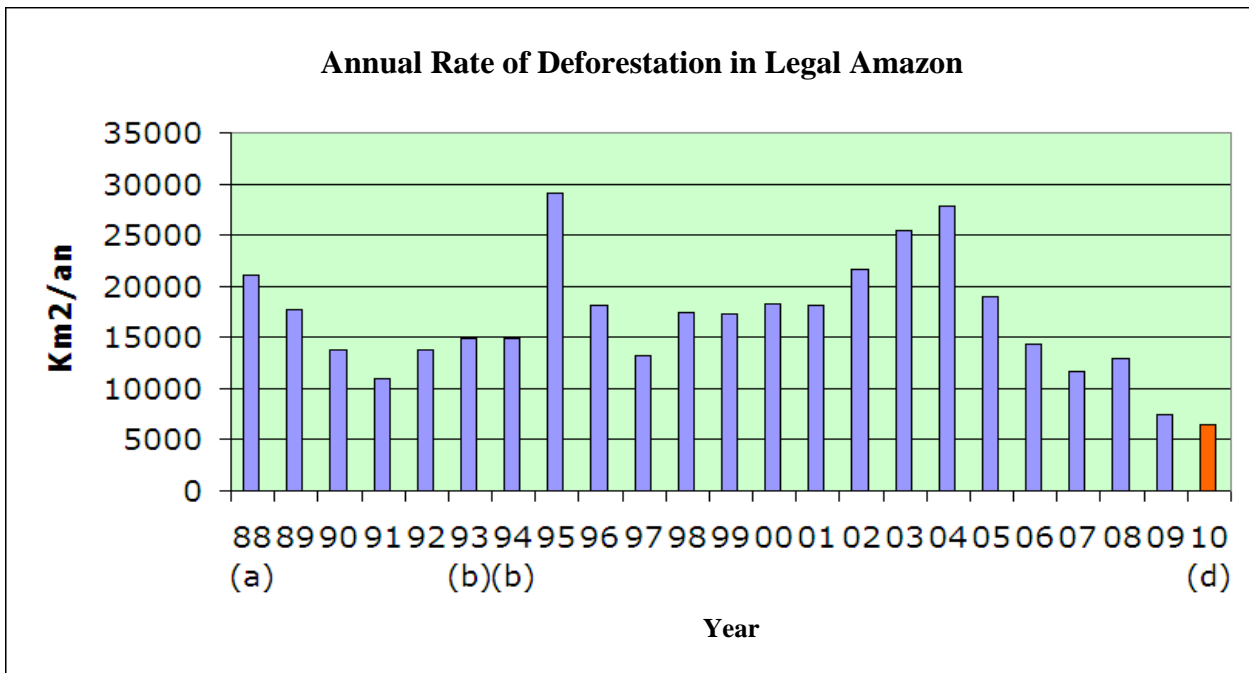
The persistent and high level of deforestation in the Amazon forest is also due to the absence of a solution for the Brazilian agrarian issue, particularly the absence of regulation of land ownership. According to FAO (2010): "Brazil has lost an average of 2.6 million hectares of forest per year in the last 10 years, compared with an annual loss of 2.9 million hectares annually in the 90s; in Indonesia, losses were 500,000 hectares in the period 2000-2010 and 1.9 million hectares in the period 1990-2000."

Chart 1, which is a survey of the Amazonian deforestation, based on satellite images, shows that the deforestation in recent years was around 6.4 and 7.4 million ha, which represents a substantial improvement, but it is still a very high level for a biome with the characteristics of the Amazon.

³ Deininger (2003) and Lipton (2009), based on numerous international experiences, with different arguments, show that the democratization of the access to land is the main policy to reduce rural poverty and to generate a model of development that is more inclusive and participatory.

⁴ In Reydon and Guedes (2006), we show how the strategy set of the COSAN sugar-alcohol company is based in the process of land acquisition, including those related to technological innovations. And that there is no incentive for a more rational use of the land.

Chart 1. Deforestation in the Legal Amazon



SOURCE: PRODES (2011)

In our view, the Amazon deforestation is the result of the continuity of the traditional form of expansion of the Brazilian agricultural frontier with the occupation of virgin lands (private or public), the extraction of its hardwood, the use of extensive livestock⁵ and, subsequently, the development of a more modern agriculture. These economic activities play the role of generating income, legitimizing the occupation of the new owners in the short term, almost without the need for resources⁶. In the long run, the land either remains with more intensive livestock farming, or, if there is demand, will be converted to grain or other economic activity.

But what is important is that there is an expectation that there will be demand for this land⁷, to be utilized sometime in the future, causing its price to rise significantly. And the closer to productive use the greater the value of these lands.

2.4. Land speculation

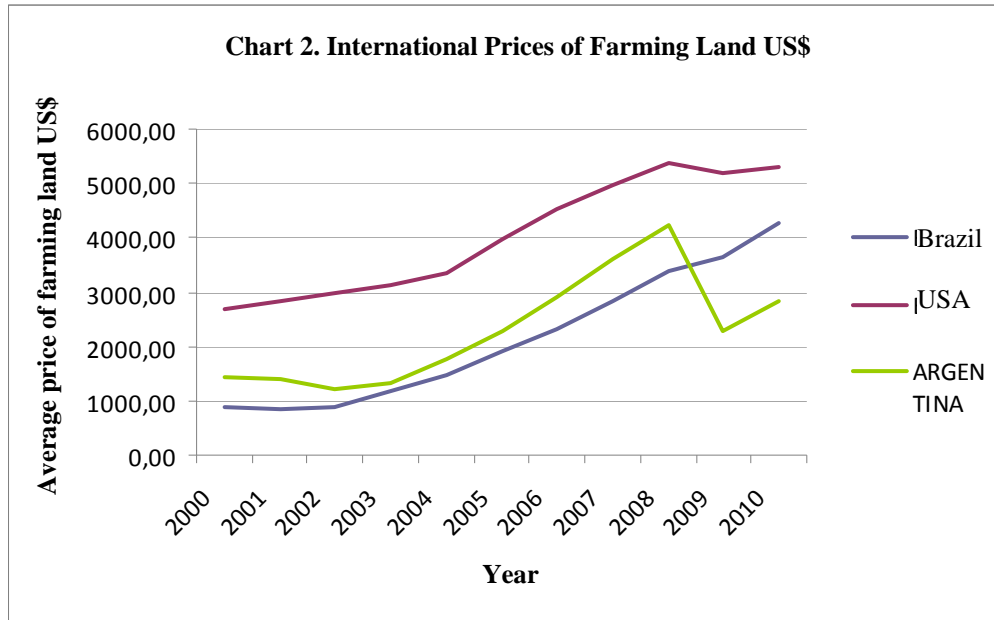
The possibility of land speculation, with significant economic gain is the core of the Brazilian agrarian issue that needs to be addressed. As shown in Reydon and Cornélio (2006: 157), land prices in Brazil assumed, at certain times over the 80s and 90s, higher values than in the U.S.A. and Argentina. Graph 2 below shows that the

⁵ Reydon (2011) shows that the main driver of cattle breeding is the existence of many vacant lands that can be appropriated, associated with the possibility to, at low cost, use livestock, turning deforestation into a strategy for unbeatable capital appreciation. An INPE recent survey showed that 62.2% of the nearly 720,000 km² deforested were occupied by pastures.

⁶ Often it is these same occupants who use slave labor.

⁷ This is due to the increased price of the arroba of live cattle and soybean, or even the announcement that the country will be the largest ethanol producer in the world. In recent years these factors have converged, causing the demand for land and also its price to grow even more, further pushing deforestation.

average price of croplands in Brazil assumes very high values and is in a very significant upward trend. Taking into account that the Brazilian average incorporates lands in Amazon and in Northeast with very low prices, we can conclude that the prices in the country are quite high.



Source: FNP and FGV

Brazilian agricultural reality has, in economic terms, made it possible the ownership of land to not be regulated, enabling its owners three main possibilities for speculative gains⁸ with the land:

a) Autonomous appreciation in portfolio

The land in Brazil has a very high appreciation and represents gains or at least maintenance of values applied. As we showed in Reydon and Cornélio (2006: 201), in some periods, the land is valued more than any other asset. And, in the set of a portfolio, it can represent a very significant gain for its owner.

b) Transformation in the rural use of land: from forest to pasture

⁸ To speculate is here understood as the process in which the economic agent perceives the possibility of gains in the future with the purchase or acquisition of an asset. It should be clear that speculation does not always generate the expected results. In the case of land, it is important to stress that there are few costs associated with its maintenance in the portfolio; these losses are minimal because there is frequently either urbanization or outbreaks of productivity gains with the land. Therefore, the maintenance of land in the portfolio depends more on the liquidity of the economic agent. This stems from the ability to waive the wealth applied to the land over time. The need to use the wealth applied to the land, or the real possibility of speculative gains, is what determines the time of sale and, consequently, if the speculation is going to be successful.

What happens, in reality, is that any person who acquires or occupies the land with forest has a clear perception that their land, that is their investment, is appreciated through the process of deforestation. In Table 3,⁹ we can observe that the price of land with wood in different states vary between R\$ 108 in Acre and R\$ 546 in Mato Grosso. We can see that the states with less deforestation have the lowest prices of land, while the states of Mato Grosso, Pará and Rondônia have the highest prices.

But the most important conclusion from the table is that in all states deforestation significantly values property, and, on the average of these states, deforestation more than quadruples the value of land. This happens because the price of land is still fundamentally the result of expectations of productive gains arising from the mixed farming associated with it, as, in deforested lands, its use can occur immediately and without the cost to deforest. In the most extreme case, which is from Acre, deforestation multiplies this value by more than 14 times, while in the state of Amazonas the value of the land is multiplied by nearly 10 times. Few investments have returns as high as these.

We must take into account that these owners, besides the gain equity with deforestation, have the gains from the sale of wood (in Cotriguaçu, state of Mato Grosso, it is estimated a net return of R\$ 2,400/ha) and its subsequent economic use (if with livestock, it will generate an additional net revenue over R\$ 120 per hectare/year)¹⁰. Therefore, the major catalyst for deforestation is the combination of the gains from land appreciation, in its conversion from forest to farmland, associated with gains from wood and livestock, posteriorly established.

Table 2. AVERAGE PRICES OF FOREST AND PASTURES LANDS - Amazon States - in R\$/ha current in 2008

STATES	Forest R\$/ha	Pasture R\$/ha	Variation %
Acre	108.00	1571.80	1455.4
Amapá	141.00	800.00	567.4
Amazonas	132.43	1243.91	939.3
Pará	457.73	1509.40	329.8
Rondônia	358.50	1762.50	491.6
Mato Grosso	546.13	2083.69	381.5
Average NORTH	416.53	1832.39	439.9

SOURCE: AgraFND (2009)

This process of acquisition and deforestation, which is already very profitable in private areas, becomes much more lucrative in vacant lands, which, according to estimates¹¹, represents 42% of the total area of the Amazon, where most part of deforestation happens. That is, in the possession of vacant lands, the gains from wood,

⁹ The methodology of Agra FNP collects average prices in homogeneous regions of the States mentioned, using a terminology that is not homogeneous. To the woods, we added the woods, easy and difficult access woods. To pastures we used the formed pastures (easy and difficult access), formed pastures of high support, formed pastures of low support.

¹⁰ See Margulis (2003).

¹¹ Estimate from Shiqui (2007) indicates that 42% of land in the Amazon are vacant.

livestock and land appreciation are multiplied, as the land itself did not have to be acquired, just misused from public assets¹².

c) Transformation in the use of land: from rural to urban.

The process of fragmenting land in the country, in order to generate urban plots, especially for the poorest, has always occurred through the occupation of new areas, usually rural ones without any type of regulation of land use. This does not mean that the administrative body and the legally responsible, the local governments, do not try to do it, but they do not have the tools and the ability to do so.

Reydon (2007), based on several authors (Maricato, Grodstein, Fernandes, Rolnik, Santos, among others), shows that cities, particularly the poor, are formed on the fringes of existing cities. Usually illegally, construction of illegal settlements gets legalized as the Government leads infrastructure and other needs to it and creates mechanisms for regularization.

The exchange of attributes of land from rural (measured in hectares) to urban use (measured in square meters) brings a high appreciation to the land, either through regular or clandestine allotment. An example of the appreciation of land through the incorporation of a regular allotment was calculated by Gonçalves (2002), who estimated the potential gains from a real estate development in Pedreira, a municipality in the metropolitan region of Campinas. The author calculated the profit per square meter, from the prices of rural land from IEA per hectare (ha) and reached values, depending on the type of land, from R\$ 0.25/m² to R\$ 0.60/m². This same plot subdivided into lots in the urban market would have cost from R\$ 70.00/m² to R\$100.00/m². This means that the appreciation of land in the transformation of land from ha to m² ensures a 100 times higher return to the seller. It is worth noting that, in legal subdivisions, there is a series of transaction costs that are imposed by public agencies, in addition to planning and urban standards that must be met for the allotments to be accepted as a regular before the municipal authorities.

Bueno (2004) examined the process of illegal occupation in the watershed areas through the study of the formation and consolidation of three illegal allotments in the district of Parelheiros in the Guarapiranga Basin among the 68 registered in the Municipality of Parelheiros. When comparing purchase prices of the plots with the sales prices of urban lots, Bueno (2004) reached very similar results to those of Gonçalves (2002), with appreciations 288 times higher in Jardim Almeida and over 60 times in two other allotments.

Once more we realize that the Brazilian government has no mechanism to regulate land markets, and in this light the agrarian issue becomes more acute and the number of conflicts rise also in urban areas.

2.5. The lack of land regulation and/or governance

¹² Perhaps some spending with goons, guns, lawyers and the legal and illicit costs of regulating the area.

The best evidence of the inability that the Brazilian Government has had to effectively regulate the land market is the establishment of Ordinance 558/99 of INCRA, which imposed to all property owners with more than 10,000 ha the need to present documentation proving their properties, as reported by Sabato (2001). This inability is evidenced by two aspects of the Ordinance: a) the act itself of having to request the documentation, as the Government should hold the necessary information for all properties; and b) the fact that 1,438 (46.9%) of the 3,065 properties did not answer, which add 46 million hectares (as shown in Table 4).

From the 3,065 owners summoned, only 1,627 of them appeared, what excluded 1,438 properties (46.9%), amounting to 46 million ha¹³ that were excluded from the register. And 49.6% of the area of these properties are located in the Brazilian states of the North and Central-West, mostly in the Amazon forest, as shown in Table 4. But we can observe that, in all states, there are properties suspected of illegal occupation.

TABLE 4. Owners/holders of rural properties suspected of illegal occupation. Brazil and regions.

REGION/Federative Units	No. PRPTY.	%	AREA (ha)	%
BRAZIL	1,438	100.0	46,156,619.4	100.0
NORTH	128	8.9	5,477,825.1	11.9
NORTHEAST	152	10.6	4,247,183.1	9.2
SOUTHEAST	187	13.0	7,208,982.5	15.6
SOUTH	29	2.0	690,607.9	1.5
CENTRAL-WEST	661	46.0	17,382,403.7	37.7
ADDRESS NOT INFORMED	281	19.5	11,149,617.1	24.2

Source: INCRA, Listing of properties that did not meet the notification of Ordinance 558/99, of 21/Dec/2000.

These efforts, during the Fernando Henrique Cardoso administration, led to several publications that show the agrarian problems, arising from the (de) regulation of private property. One result is the report of the White Paper of Illegal Land Occupation in Brazil, INCRA (1999:2), which clearly shows, from a preliminary survey of the Brazilian agrarian situation, the lack of regulation of land ownership in Brazil:

“In an unprecedented survey, Incra is mapping the agrarian structure of the country in order to locate, one by one, the cases of fraud and forgery of land property. The illegal occupation is one of the most powerful instruments of domination and agrarian concentration in the Brazilian rural areas. Across the country, the total land under suspicion of being illegally occupied is approximately 100 million hectares - four times the area of São Paulo or the area of Central America plus Mexico. In the North, the numbers are alarming: from the total area of the State of Amazonas, with 157 million hectares, it is suspected that no less than 55 million have been illegally occupied, which is three times the territory of Paraná. In Pará, a ‘ghost’ sold to dozens of successors approximately nine million hectares of public lands.”

The same report by INCRA (1999:15), preliminarily, points to the causes of this problem by stating that:

“Fraud has historically been facilitated by some institutional breaches, for example, the absence of a unique register. The agrarian agencies, in the three levels

¹³ See Sabato (2003) for further details.

(federal, state and municipal), are not articulated. Unlike what happens in other countries, in Brazil there are no special specific register for large areas. Data from federal and state records are not crossed, and the federal record, by the current legislation, is declaratory. The inspection on the notary is less than ideal.”

As a result of these surveys done by the government, justice initiated some actions to cancel a number of titles recorded in the notary. In the early 2000s, it was canceled, according to Lima (2002), in 14 counties of the state of Amazonas, the equivalent to 48.5 million hectares of properties registered with the respective notary, demonstrating the fragility of the system of registry of properties.

The lack of regulation of land ownership in Brazil, which is one facet of the agrarian issue, arises from the practice of illegal possession of land, particularly in the Amazon, which can be seen in Figure 3, obtained from Barreto (2008). The existing cadastral data, based on declarations of landowners who have land registered with INCRA, show that, in 2003, 35% of the 509 million hectares of land in Legal Amazon were occupied under the right of private ownership, either as registered property or as possession. Barreto (2008) states that the recent process of creation of Federal and State reservations, of various types, caused, today, 43% of the Legal Amazon to be under some kind of protection; approximately half of this area were indigenous lands and the other half in Conservation Units.

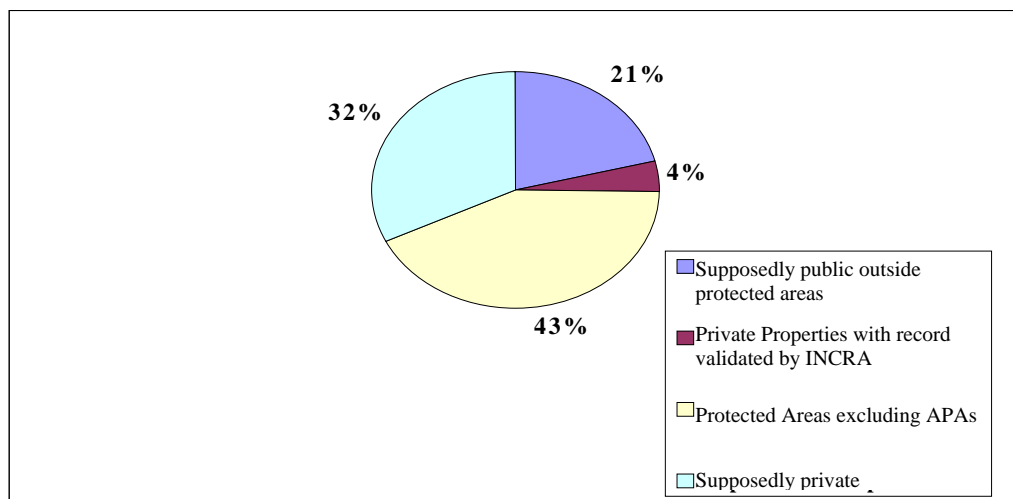
The decisive information obtained from this study is that only 4% of private land (20 million ha) have validated entries with INCRA. That is, in the Amazon, only 4% of private lands are legalized. There are over 158 million ha (32%) that are supposedly private land without validation of register. And the remaining 21% were not in either category and, thus, are not technically considered public land without allocation (Chart 3). Therefore, the issue of lack of regulation of land in the Amazon is the main problem to be solved.

But the situation is more complex and uncertain than these numbers indicate. Many Protected Areas are physically occupied by private individuals, whose claims of occupation may or may not be valid in accordance with the complex legislation to be presented. The large area described as private by the registration system is also in doubt. From the 178 million hectares declared as private property, 100 million hectares may be based on fraudulent documentation. Another 42 million hectares of this area are classified, from registration statements, as possession, which may or may not be subject to agrarian regularization, again depending on the circumstances of size, history and location¹⁴. Thus, 30% of the area can legally be uncertain and/or challenged.

It is in this context that there are contradictions surrounding the ownership of land, but the most glaring one is that there is a constant possibility to get hold of public lands and register them.

¹⁴ There are all kinds of sizes of squatters in the records of INCRA. Both small with less than 200 ha and those with more than 1000 ha added.

Chart 2. Agrarian situation in the Amazon considering data from the National System of Rural Registration (2003) and Protected Areas (2006).



Source: Barreto (2008)

3. Speculation and institutional regulation of land: theoretical aspects

Land is an essential mean of production, insofar as it is on it that production processes (agricultural and non-agricultural) are developed and human settlements (urban or rural) are established. It is also the source of life for an enormous rural population, whose structure of symbolic representation ensures the continuity of traditions and values. The land is the very nature, i.e., the natural environment in which men exist.

The possibility of using the land for speculative purposes stems from the fact that land markets are part of market economies, as Polanyi called. For him, "the market economy is the economic system controlled, regulated and directed by markets alone; (...). An economy of this kind stems from the expectation that human beings behave in such a manner to achieve maximum monetary gains." (Polanyi, 1980:81).

In market economies, the owners of wealth acquire different types of assets¹⁵, with different levels of liquidity to protect themselves from the uncertainties in the economies. They seek to anticipate the market psychology of different assets and decide to buy those who, according to their expectations, will provide them with greater net return.

The land as an asset has three important characteristics: a) it is scarce, available only in fixed amounts, and it cannot be easily created; b) it is not mobile; and c) it is durable, as it cannot be easily destroyed. These features make the land an attractive

¹⁵ Any property acquired for the purpose of producing income or for which there is an expectation that its value will rise in relation to its purchase price is considered an asset. In this sense, all goods can be treated as assets (see Reydon (1992) and Reydon and Cornelius (2006) for further details).

asset, as a productive factor, as collateral for credit and as a store of value. The land, besides having the general characteristics of an asset, also has the following specific conditions: a) it has a constituted secondary market; and b) it is economically scarce. Thus, both the generation of technology to increase its physical performance and administrative measures, for example, the effective regulation of land markets, can change the degree of land scarcity.

In this context, the price of land, as an asset, is the result of negotiations between buyers and sellers in the land market. Business is always done when the buyer has higher expectations than the seller on the future earnings of the land. But there is a differential power in this market: as owners speculate on future prices of their stocks of land, selling them when they think to be the best time, the land must be treated as if it was negotiated in a market with 'flex' prices¹⁶. This means that landowners, the sellers in the market, only sell it when there is an applicant who offers a price that exceeds their expectation of gains from land ownership.

The owners therefore have great power in this market, and they can keep stocks of land and sell them when they deem it the right time to maximize their earnings. However, when for any reason the owners find themselves fragilized, needing to sell their property, its offer price may be relatively lower. Here, for example, the state regulation may have an important role in setting limits or organizing the market.

A land market is formed only from the widespread acceptance of land ownership, regardless of its form, as well as guarantees for the maintenance of this form. Therefore, if there are changes in legislation or in guarantees given to land properties, its condition as an asset is relativized, raising the risk associated with its acquisition, reducing its liquidity and its price.

Hence, it is the institutional regulation that, by ensuring the ownership of land, has a key role in determining its price and ability to exercise some land speculation¹⁷.

To understand the role of the institutional regulation in the land market, we can resort to Polanyi (1980) who noted that, under capitalism, when there is the land conversion in a fictitious commodity, there was a tendency to transfer the regulation of the land (i.e., nature) to the market, subordinating life to the market economic system. It is his idea that the three markets, money, labor and land, as they are fictitious, require a strict state regulation. These are markets that will never be "self-regulated", as the markets for other commodities. According to Polanyi (1980:88):

"The social history of the nineteenth century was, thus, the result of a double movement; the expansion of the market organization in relation to genuine

¹⁶ The market may become 'spot' when the owners, usually by non-economic reasons, require immediate liquidity (for example, need to pay off a debt). If this condition becomes widespread, land prices can fall sharply.

¹⁷ Internationally, there is also evidence that such a process occurs, but with some sort of regulation so as not to impede its own speculation, according to Hobsbawm (1995:257): "Even in the West, the old motto of the business man of the nineteenth century 'Where there is mud, there is money' (i.e., pollution means money), it was still compelling, especially for road builders and property 'developers', who discovered the incredible profits to be obtained in an era of secular **boom** of speculation that could not go wrong. Everything that was needed to do was to wait for the right land value to rise to the stratosphere. A single building well situated could turn a person into a multimillionaire with virtually no cost, as they could borrow under the guarantee of the future construction, and more loans even when the value of this building (built or not, occupied or not) continued to grow. It was over, as always, with a **crash** – the Golden Age ended, as the previous **booms**, in a collapse of the real estate and banks –, but even then the centers of cities, large and small, were put down and 'embedded' throughout the world, incidentally destroying medieval cathedrals in cities such as Worcester, in Britain, or Spanish colonial capitals as Lima, in Peru. "

goods was accompanied by its restriction in relation to fictitious commodities. While, on the one hand, the markets were spreading over the whole face of the globe and the amount of property involved assumed unbelievable proportions, on the other hand a network of measures and policies were integrated into powerful institutions designed to curtail the market action related to work, land and money ... The society protected itself against the inherent dangers in a system of self-regulating market, and this was the only comprehensive aspect in this period history."

The more or less success in restricting the determinants of the market in land use, as well as how this was done, seems to differentiate the international experiences in terms of welfare and efficiency in agriculture and cities. In fact, the institutions and the institutional environment¹⁸ built to regulate the land market seek to define, regulate and limit property rights over land, in favor of socially defined goals.

We understand property rights as the rights that individuals have on goods and services. These rights comprise the right to sell (or rent) an asset, the right to use and derive income from an asset and the right to bequeath (by transferring rights to others) an asset. According to Alston (1998:3):

"Property rights are enforced in three ways. The individuals themselves impose their rights, for example, we put locks on our doors and protect our property. Social sanctions such as ostracism may prevent individuals from violating the rights of others. The coercive power of the Government is also used to enforce property rights, for example when the police evicted squatters from the property."

From the rights of property imposed, it is North (1990) and Alston (1998), *apud* Belik, Reydon and Guedes (2007), who show that the form and nature of *property rights* affect the economic performance because they determine the costs of transformation and transaction¹⁹. And that therefore, play a major role in defining the forms of economic coordination in the various spheres of human activity.

It can be concluded from the above that:

- a. In market economies, there is the use of assets for speculation;
- b. The land, whether urban or rural, is likely to be used for speculative purposes;
- c. The Government needs to regulate the land market, as it is not a self-regulated market;
- d. The form, the tools and the pattern of regulation of land markets directly interfere with the speculative, productive, environmental and social processes determining their rural and urban dynamics.

The next section will show how the legislation was gestated and what its main features for the Brazilian case are. And that, although there are legislation and assignment of institutional responsibilities, these are either ambiguous or subject to

¹⁸ We understand *Institutional Environment* as "the rules of the game that define the context in which the economic activity takes place" (Williamson, 1996:378).

¹⁹ Eggertsson (1990; 1999) argues that the institutional environment influences the economic performance and social welfare because it acts on the incentive structure of firms, stimulating or not the incorporation of technical progress and a better distribution of income.

non-compliance without further charge, always benefiting land speculators at the expense of the lower classes and the environment.

4. Synthesis of the agrarian problem in Brazil: a brief history on the lack of regulation

Since the discovery of Brazil, but more intensively since the occupation in the 1530s, up to the Land Law, the rules for occupation of urban and rural lands were defined from the power of the king, the Church and the political and physical power of the occupants. From the initial phase of occupation, through the power granted by the king, until the emergence of specialized agents in land speculation, there was a great occupation of the urban and rural areas near the coast.

The Brazilian Land Law (1850) must be understood in a broader context of establishing laws that placed restrictions on the access to land throughout the colonial world²⁰. In the Brazilian case, the controversies and differences of interest, especially among owners of the Central-South and Northeast, hampered and delayed its regulations. Its main objectives were:

- a) To organize the access to land;
- b) To make the access to unoccupied land impracticable;
- c) To establish a land register to define vacant areas (from the Government);
- d) To transform the land into a reliable asset for use as collateral for loans.

But due to the interests of the owners in the country, the Land Law maintained the possibility of regularization of possessions, allowing the occupation of vacant lands and preventing the establishment of a record. That is, there was always the possibility to regularize the possessions that were the result of occupation of vacant lands. In addition to the usucapion (which states that after a few years the squatter can regularize their property), the states themselves (especially after the republic) in some historical moments gave properties with or without titles. This is the basic mechanism that caused and still causes the effective record to never be established and which would even allow the identification of vacant areas, which may be used by other types of agrarian policies.

Up to the Land Law, the registration of properties was basically done with the Parish Land Records, under the responsibility of the local vicar. This type of record was used long after the promulgation of the Land Law. Institutional changes after 1822, as, for example, the abolition of slavery (1888) and the Proclamation of the Republic (1889), far from questioning the dynamics of land-grabbing in the previous period, stimulated it, especially in the institutional environment built by the Old Republic.

But in 1864 a new institutional obligation ultimately establish a tradition that persist to this day and that ends up creating greater uncertainty and inability to effectively regulate the land market: the need to register the assets and properties in the notary

²⁰ As in Australia, for example.

office. Somehow the record in the notary office gives an air of legality to the property without any mechanism to ensure this²¹.

The Proclamation of the Republic in 1889 and with it the institution of autonomy of the states also created the possibility for these to demarcate their lands and grant titles. This occurred more intensely in some states than others, but, regardless, it created one more ambiguity on the issue of titles and, therefore, the inability to regulate the land market²².

The institutionalization of the Public Record of Land, in 1900, is possibly the main step for the system in effect today to register property in notary offices. In this rule, everyone needs to demarcate and register their properties either rural or urban, but without any inspection, and without a record. The Government would also need to demarcate and register its lands (vacant), which is impractical - as these are defined by exclusion - thus illegally acting. This requirement ends up enhancing the possibilities of fraud in the records in notary public.

But it was the enactment of the Civil Code of 1916 that led to the inability to effectively regulate land markets in Brazil, both by reaffirming the notary office as the institution of record and by enabling that public lands were subject to usucapion. In the words of Osório Silva (1996:324), "with it, it was completed the framework for the transformation of the Government in an owner as the others. And thus the doctrine of prescribibility of lands was sustained. Or, in other words, the possibility of usucapion of vacant lands. "

Therefore, the Civil Code, for reasons not necessarily tied to the interests of landowners, eventually established the great marks of institutionality of the access to land in Brazil by defining that the record in the notary was necessary (sometimes also sufficient) to prove its ownership. In the words of Holston (1993:71), analyzing the current reality of this legal aberration:

"..all transactions related to property must be registered in order to be obtained the relevant legal rights. Currently these records are governed by the Public Records Law (6015/1973) that defines the procedures that constitute the Brazilian system of notary offices - a private, labyrinthine and corrupt system. Its enormous bureaucratic power comes from the Civil Code (Article 533), which states that transactions involving real estate does not transfer property rights, or rights to it, unless from the date on which they are recorded in the books of notary offices, i.e., as the saying goes, 'who does not register it, does not own it'."

Therefore, based on the Record Law, in force since 1916, through the updates presented, the record was always based on some documents submitted by the owners.

²¹ The most common irregularity in the Notary Registry Offices of is the superposition of several areas, i.e., several owners say they own the same land. When this occurs, it is said that the land has a 'floor'; for each owner with an irregular title for that area, it is added another floor. The federal government is taking a decisive step in regulating the land market in rural and urban areas by approving the Law 10.267/2001, in which the notary is obliged, when there is any change in ownership, to pass it to the INCRA in a plan with the limits in cartographic form (latitude and longitude).

²² Yet there is the concern to regulate attested in the failed attempt to regulate the property through the Torrens Registration (1891) in which the squatters and the owners could obtain a definitive title by not contested petition. And the possibility of legalization of possessions in 1895 and 1922 (relating to possessions between 1895 and 1921) ends up creating the conditions for possessions to last and to weaken the regulation of land market as expressed in the Land Law of 1850.

The following are the main documents that validate the ownership of the property with the notary for registration purposes²³:

1. Adjudication
2. Acquisition of the Federal, State and Municipal Governments
3. Letter of auction
4. Buying and selling of particular
5. Granting of use of Federal, State and Municipal Governments
6. Giving in payment
7. Expropriation
8. Donation
9. Forum or Emphyteutic lease
10. Incorporation
11. Receiving of inheritance
12. Usucapion
13. Usufruct

A set of decisions that end up destabilizing the security over land ownership in the country was Decree Law 1164/71, and its subsequent amendments (Decree Law No. 2.375/87). The first one federalized the allocation and management of public lands along 100 km of federal roads existing and projected mainly in the Amazon. In decree Law of 1987, the federal government returned part of these lands to the States. However, the return did not occur immediately, as the Incra had already initiated several processes for the agrarian regularization in these corridors. In addition, the INCRA requested that the States submit a plan of land use prior to its return. Both situations have created a great confusion about the jurisdiction of extensive areas in the Amazon. There are still uncertainties about how many lands were returned to the States.

In this law of 1987, the federal government continued to control areas considered "essential to national security and development"; through Decree-Law No. 2375, the federal government expanded its control over other areas that were rich in minerals. Among them were: Carajás, in Marabá, and the mineral province of Tapajós, both in Pará. A Decree-Law (No. 16, 1989) confirmed the federalization of these areas in 1989.

Another aspect of this legislation in 1987 that provides some destabilization in land ownership in the country refers to the limitations of business within national borders. This law complements the previous legislation (Decree Law No. 1.164/1939, Law 6.634/1979, Law No. 9.871/1999), which aims to control the access of foreigners to these areas, but by requiring the INCRA and other land agencies to control these areas through processes not giving assurances to the property, it has only accumulated processes in its departments.

A striking aspect that makes the question of property registration in Brazil even more complex, as cited by MORRETTI *at al.* (2009), is that despite the Land Law having established already in 1850 the dominial system associated to property, it is only in 1973, with Law No. 6.015/73 (Article 176 paragraph 1), that came into being the matrix unitarity of properties, i.e., when each property starts to have a single registration, which is its own, where all actions related to that asset are recorded. But even so, the law of record (6.015/73) presupposes the veracity of documents, assuming the good faith of the persons that register them. The law of record of 1973 does not require the physical location of the registered property to be georeferenced or confirmed by the notary. Instead, the notary officials should verify the documents of land issued by government agencies. However, many notaries register the transfer of

²³ Documents that do not have a direct origin from the government must be based on a dominial chain with the origin in the sale of the area by the government.

documents without checking those documents of support because of the delays of the land institutes to provide them (Brazil 2002).

The great institutional innovation in the sphere of the Brazilian Agrarian Policy and Administration is the Land Statute of 1964, whose rules and concepts remain valid until the present. The more general concept, in which the agrarian reform of the last two presidents is based on, is that the rural property must comply with social functions, such as support for the welfare of the owners and workers, satisfactory levels of productivity of land use, conservation of natural resources, and compliance with labor laws.

Large properties (over 600 tax modules) that do not meet these criteria may be expropriated for agrarian reform. In the Constitution of 1988, the concept of social function of the rural property was incorporated into the Federal Constitution, and the social function is related to its appropriate productive use. Therefore, the calculation of productivity indices has been the basis for the definitions of land subject to expropriation²⁴. In 1970, it was created the National Institute of Colonization and Agrarian Reform, the INCRA, a federal agency created by Decree No. 1.110/1970 with the primary mission of deploying the Land Statute. According to the legal definition, the INCRA has as its main mission to make the agrarian reform, to maintain the national registry of rural properties and to manage the public lands of the Union. It is implemented throughout the national territory by means of 30 Regional Superintendencies.

Therefore, to guide the implementation of agrarian and agriculture policy, the Statutes of 1964 created the Registry of Rural Properties. All private or public properties should be registered, including possessions. Owners should provide information on the status of the documentation and land use (used to estimate productivity) to facilitate the agrarian reform. INCRA, created in 1970, became responsible for managing the National System of Rural Record (SNCR), which maintained the Register of Rural Properties. Once the property was registered, the INCRA issued the Certificate of Registration of Rural Property (CCIR) required for any land transaction. Squatters registered by INCRA also received the CCIR and should pay the Rural Property Tax, although the values of this tax have always been kept at low levels.

The first record in the INCRA register happened between 1965 and 1966. However, as in the Parish Record, farmers were required to only declare the data and the INCRA did not check the legitimacy of the information provided. In most municipalities, INCRA had the help of Municipal Registration Units (UMCs) installed in partnership with municipal governments. Initially, the record should be updated every five years, but the update occurred only sporadically. Only in the late 1990s, Incra actually began to take concrete steps to improve the quality on the record of properties.

The Land Statute, once again maintained the legitimacy of ownership, thus allowing the entitling of public land informally occupied. The squatter would have preferential right to acquire a plot equivalent to a rural module²⁵, which varies between 2 and 120 acres. With two hectares for greenbelts for large cities and 120 for properties in the Amazon forest. To implement this legislation, Incra must evaluate which federal land occupations are eligible for legitimacy through a process of discrimination of land, in which the government is able to separate private (or which has the right to turn into

²⁴ The possibility of expropriation, typically arising from the occupation by the Landless Workers Movement, in lands considered unproductive, coupled with the precariousness of the securities to property, has been a cause for insecurity among landowners in the whole country.

²⁵ According to the Land Act, a rural module is the minimum area that a family needs to make a living working on the property. Modules of rural property vary according to natural and economic conditions of each region.

private) from public lands. The current guidelines for the legitimation of possessions²⁶ renewed by INCRA in 2006 require that the squatter: (1) to not possess a rural property; (2) to prove permanent address, effective culture and direct, continuous, rational and peaceful exploration, for a minimum period of one year; and (3) to show that they explore the land in accordance with current environmental legislation.

4.1. Institutional framework of the agrarian regulation in Brazil

In this section, we seek to summarize the situation of the Brazilian agrarian regulation from the development of the legislation presented above and in force in the country. Chart 4 tries to synthesize through a schematic view the interrelationships between the agencies of the system of Agrarian Administration in Brazil. We can observe that there is no link between INCRA and municipalities, making it possible the many agrarian problems in the link between rural and urban lands. Moreover, there is not an institution that centralizes the register and that makes a connection with the agencies of the Judiciary, who are responsible for entitling properties. It is not shown in the table, but most of the agrarian problems in Brazil, both rural and urban, if not resolved at the administrative level, end up in court, and this, because it has many processes in all its courts, ends up taking years to try them, causing most matters relating to the land, whether urban or rural, to be judged as *fait accompli*.

The current institutional framework for the Brazilian Agrarian Administration consists of the following eight sets of major institutions that do not act in an integrated or joint manner:

- a) **Federal Government with legislative approval** – proposals for changes in legislation and institutions. It has been effective in the creation of Conservation Units of different types (Extractive Reserves, National Forests) and Indian Reservations.
- b) **State Government with legislative approval** - creation of Conservation Units of different types (Extractive Reserves, State Forests, among others) and Quilombo areas.
- c) **National Institute of Agrarian Reform (INCRA)** – in the Ministry of Agrarian Development, it is responsible:
 - i) to create and inform the unique number of the property registration system.
 - ii) Discrimination of vacant land.

²⁶ Normative Instruction 31/2006 of Incra. According to the Land Act, a rural module is the minimum area that a family needs to make a living working on the property. Modules of rural property vary according to natural and economic conditions of each region.

- iii) to register the property, but it does not do it; it just has a record from the self-declared for purposes of rural land tax (ITR²⁷).
 - iv) Grant of possessions in agrarian reform settlements. The emancipation of settlers (granting of property title) is still not defined.
 - v) to utilize vacant lands for various purposes, such as: colonization, settlements and others.
- d) **State Institutes of Lands** – responsible for the management of public lands belonging to the states.
- e) **Notary system for notes** – under the Ministry of Justice, this autonomous system is responsible for the control of contracts of land purchase and sale and for legal signatures;
- f) **Notary system for property registry** – also under the Ministry of Justice - it has the books of the properties in which all transactions related to urban or rural properties are recorded. But the record of ownership is not associated with maps, making it impossible to identify vacant lands and impossible to have a registration. (Law 10267 is trying to create the conditions to integrate this information with the collection of information and its availability to INCRA to do the mosaic of properties)
- g) **Municipality** – composed of the executive and legislative powers that define and establish:
- i) The municipal Master Plan in which, among other things, states which lands will be transformed in urban and rural; it can establish urban areas without the Master Plan
 - ii) Registration of urban lands for various purposes: from planning up to the collection of IPTU (urban property tax)
 - iii) Calculation of the plan of land values for IPTU collection
 - iv) Every policy of urban land use and its supervision is based, among others, in the City Statute
 - v) The collection of the Rural Property Tax (ITR) from an agreement with the Federal Revenue. The collection of the ITR from the register of owners of rural properties will allow that 100% of its revenues to stay in the municipality²⁸.
- h) **Secretariat of the Brazilian Union Patrimony (SPU)** – Ministry of Planning - it is responsible for all of Union properties, including vacant land. It is responsible for the transfer of vacant lands to the INCRA to grant single registration. But, through the reports available, it has concentrated its activities in the

²⁷ The taxing of the ITR is the responsibility of the Federal Revenue (Law no. 9393 of 19/12/1996), but since 2006, based on Normative Instruction SRF No. 643 of April, 12, 2006, the Federal Revenue can forward the allocation to municipalities through agreements.

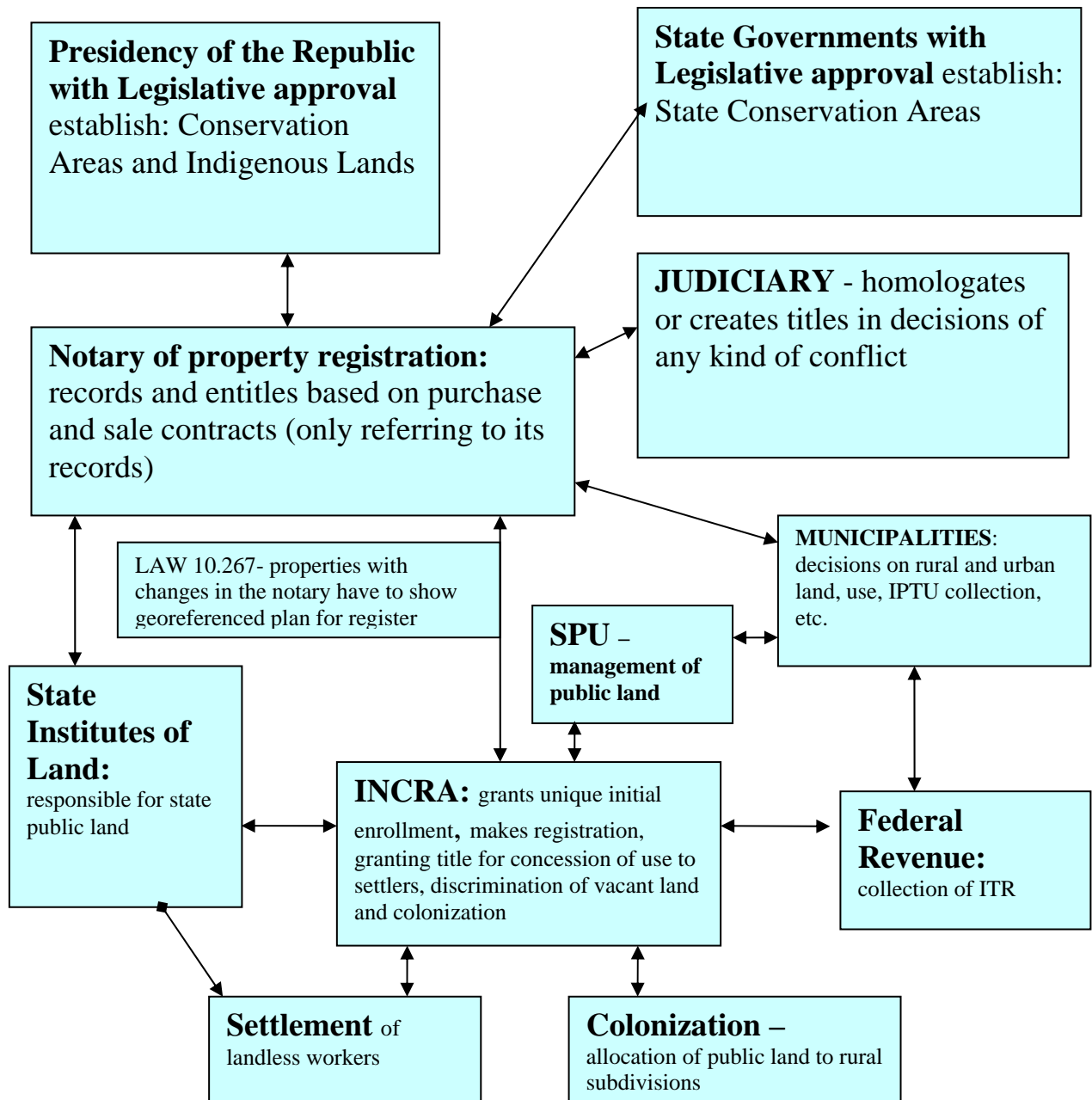
²⁸ In an ongoing study, it was estimated for the municipality of Jaboticabal the increase of the ITR collection in 300%.

regularization of land for urban use and localized cases of regularization of rural properties.

- i) **Federal Revenue** - Ministry of Finance - it is responsible for collecting various direct taxes, being the main the income tax. It received the assignment to collect the Rural Territorial Tax (ITR) in the first government of Fernando Henrique Cardoso (1986). It utilizes the INCRA register as basis for tax collection. The collection of the Rural Land Tax (ITR)²⁹ has been well below the planned, as the enforcement efforts are small.

²⁹ Reydon *et al.* (2006) shows that there is a sub-statement both in land value and volume of taxable land. The value of land for the purpose of ITR has every condition to be solved by the Federal Revenue, if it had the interest, as it could cross the information on land value in the ITR with the value stated in the Individual Income Tax.

Chart 4. Current Situation of the Agrarian Administration in



Source: current legislation and Reydon (2006)

5. 5. The recent agrarian policies to address the Brazilian agrarian issue

Deininger (2003) and Reydon and Plata (1996) among others, propose that, to solve the serious Brazilian agrarian issue and, among others, to democratize the access to land, it is necessary to implement the combination of the following policies related to land ownership:

- a. Modernization of the property records systems
- b. Registration of private and public properties
- c. Entitling of land squatters
- d. Taxation of land
- e. Colonization of disturbed areas
- f. Financing of land acquisition
- g. Agrarian reform

The first three policies are needed to:

- i) Create the land record to perform all types of policies related to land ownership, particularly regulating its use and access;
- ii) Ensure property rights and transparency in the land market, which contribute to economic dynamism;
- iii) Collect and manage the public lands of the Brazilian Government. According to current legislation, there is the need to register all private lands to obtain, by excluding them, the public lands, and thus have some control over land ownership in Brazil.

The taxation of land is necessary to regulate its use and to reduce the chances of obtaining large speculative gains with the land. Particularly in Brazil, where speculation of land is recurrent and is part of the economic activities of virtually the entire population, from the poorest social classes to the elite of the country.

The colonization of public lands will only be possible with the registration and obtaining of public lands. These can be sold to interested groups, contrary to what happens today, which is that the simple possession of public lands³⁰.

The last two are the policies of democratization of land and the funding for land acquisition, and the agrarian reform is the policy of expropriation and settlement of the landless workers. Policies that are absolutely necessary for the continued decrease in the concentration of land ownership, as well as for the decrease in rural and urban poverty.

But the central argument is that, to address the agrarian issue, it is necessary a set of policies, created and executed in a coordinated manner and with the basic objective of facing the agrarian issue.

Next, we will examine some of the policies that presented advances in the XXI century in the direction proposed, showing that the main bottleneck to address the Brazilian agrarian issue is the problem of the agrarian regulation/governance.

³⁰ See Reydon and Monteiro(2006), where we show the case of occupation of land in the cerrado of Piauí by large groups of soybean farmers across the country, without any rational policy for allocation of public land.

5.1. Registration and entitling of squatters

The main contribution in this sphere was the creation of Law 10.267/2001, which proposes an agrarian redevelopment through the National Registration of Rural Property (CNIR) and is regulated by Decree No. 4.449 (30/10/2002). It results from the previous activities of INCRA especially the notifications issued by ordinances: a) No. 558/1999, which aims at re-registration using notifications for properties with a total area equal to or greater than 10,000 ha for the entire country; and b) No. 596/2001, which aims at re-registration also using notifications for properties with a total area greater than or equal to 5,000 ha and up to 9999.9 ha, in 68 counties.

The general character of Law 10267 is that any change in the registry of the property at the Notary (alienation, sale, lease, mortgage) requires the notary to send a georeferenced plan of the property. It is based on this information that INCRA planned to update the register of the survey of state of rural properties. From this survey it would be possible to solve problems with the entitlements of rural lands described above and to recover the vacant lands to propose land policies, and, among them, the agrarian reform. The notary offices have, according to information available, required big owners to submit their plans updated and they have made them available to INCRA³¹. Incra has not been processing this information just as it has not been registering the properties of up to 400 ha, which would be its obligation, probably due to the high costs.

Therefore, once again the country has elaborated a legislation of the utmost importance and with very interesting proposals, but did not create the conditions for its implementation, probably because the last governments had interests more closely linked to agrarian reform projects in the country.

With regard to the entitling of squatters, some effort was undertaken as, according to INCRA, between 2003 and 2010, 167,000 families received their property titles.

5.3. Taxation of land

The ITR, which should be a major instrument to reduce land speculation and enable a regulation on land ownership, had some changes in its legislation still in the 90s. But this did not achieve its goals, to the extent that the collection, which should be around R\$ 4.2 billion in 2004, according to Oliveira (2010), is around R\$ 250 to 500 million. As shown in Reydon and Oliveira (2011:3): "In many other countries, the issue on land taxation has already been resolved, allowing a significant collection of taxes on the property. Following are some examples of revenue in relation to GDP, for the period 2002 to 2005³²: United States: 3.09%; Canada: 3.05%; Argentina: 0.82%, while, in Brazil, this tax is 0.46%."

According to a study by IPEA (2008:278): "The tax on vehicle property is 41 times greater and the Urban Property Tax (IPTU), 30 times [the Rural Property Tax]. Even

³¹ According to a study by Reydon and Costa (2011), the rules, particularly the type of equipment for georeferencing, make the system unworkable because of the cost. In this study, it was estimated that the re-registration of all Brazilian agricultural area would cost around R\$ 11 billion.

³² In Argentina, the percentage calculated was related to the period 2002 to 2004. Source: IPEA (2008), apud Lincoln Institute of Land Policy, apud A Study of European Land Tax System (Second Year Report), Global Property Guide & Government Finance Statistics (IMF).

the patrimony transfers are able to exceed the amount collected with the Rural Property Tax."

According to Reydon and Plata (2006: 174) the very low collection of ITR results both from the under-declaration of the land value for tax purposes and the under-declaration of taxable area. According to IPEA (2008:278): "The high percentage of avoidance combined with the lack of supervision and control of the territory by the Government show that the problem of the ITR is not necessarily about the tax, but tax evasion consented by the Government."

The Law 11.250/2005 proposed that the municipalities that registered with the Federal Revenue and had the administrative conditions to, among others, generate an adequate record could make the collection of the tax and retain 100% of the revenue³³. This innovation brought the possibility of a significant change in the ITR, as the municipalities are, certainly, more competent to make this collection³⁴. Besides, to make the collection, they will have to create a record of land properties, which would allow the beginning of the process of formation of a field favorable to effective governance of land.

This argument that the absence of collection of ITR reduces the capacity to regulate land is confirmed by IPEA (2008:278), which states that: "From this results the increasing disarray over the territory and the precariousness of public records on property, especially on public lands. Thus, there is no way to accurately calculate the values that were not collected over the years, as well as the possible impact on the agrarian structure."

5.4. Financing of land acquisition

The biggest innovation in the programs of democratization of land is the National Program of Agrarian Credit (PNCF) that was created in November 2003 through the merger of existing programs of similar scope that had been implemented and modified since 1997. The PNCF, which is also called the market agrarian reform, has two main forms:

- i) Rural Poverty Alleviation (CPR), directed to poor rural workers, and
- ii) Consolidation of Family Farming (CAF), focused on family farmers without or with little land.

The PNCF provides funding according to the needs of each community or association, whether for land acquisition, investments in community projects, training, advisory services or technical support.

Table 4 shows the number of PNCF projects and beneficiaries, between 2002 and 2009, by Major Regions. During this period, in Brazil 27,164 financing projects were employed with 70,690 beneficiary families. The South region was the one with the most contracted projects (18,090), but the largest number of beneficiaries is in the Northeast (41,951). The South region has 66% of total projects and 26.4% of total beneficiaries, however, the Northeast has 15% of projects and 59.3% of total

³³ Without the agreement using law 11.250/2005, municipalities get 50% of what the Federal Revenue collects in its jurisdiction.

³⁴ In Reydon and Oliveira (2011), it was estimated, for the Jaboticabal region, an increase in the ITR revenue of more than 1000% with the decentralization of the tax, with the same average rates.

beneficiaries. This is explained by the individual nature of the projects benefited in the South and by the community nature in the Northeast. The Central-West and Southeast have a low PNCF participation; together they represent 5.6% of contracted projects and 8% of beneficiary families.

Table 5. Number of projects and beneficiaries contracted by PNCF, between 2002 and 2009, by Major Regions.

Region	Projects contracted		No. of beneficiaries	
	No.	%	No.	%
South	18,090	66.6	18,633	26.4
Northeast	4,083	15.0	41,951	59.3
Central-West	3,446	12.7	4,438	6.3
Southeast	1,044	3.8	3,518	5.0
North	501	1.8	2,150	3.0
Total	27,164	100.0	70,690	100.0

Source: SAC List (01/Sep/2009), provided by MDA.

Note: Considering only those projects in Contracted Situation.

Undeniably, this is a program that has enabled access to land in a less costly way to the Government, when compared to the traditional agrarian reform, because of the legal costs of the latter³⁵, but there is evidence that the beneficiaries have difficulties to afford the payment for the land.

5.5. Agrarian reform

Undeniably, the main agrarian policy that the country implemented over the past governments was the expropriation and resettlement of landless workers, not only by the will of the Government, but primarily as a result of the political pressure exerted by social movements, particularly the MST. Table 6 below shows that the results of the Agrarian Reform program until 1994 were insignificant against the size of the agrarian problem in which millions of families without or with little land live in conditions ranging from poverty to misery. According to Gasques and Conceição (1999), the potential demand for land for the Brazilian Agrarian Reform would be around 4,515,810 families. Until 1994, around 300,000 families benefited from the Federal government and the land state agencies in projects for the Agrarian Reform and colonization.

The agrarian situation after 1994 became very delicate, both because of the occupation (and later expropriations by INCRA), which characterize the lack of process control by the Government, and because of the pressure from owners to maintain their privileges. This combination made the idea of intervention in the land market, which was an unacceptable proposal, to take shape in INCRA, as well as in the population concerned. But since 1994, there were favorable political conditions to accomplish major changes to increase the efficiency of land markets, thanks to the effective commitment of the Executive branch to intervene in this reality, largely a result of strong social pressure that was consolidated in "March of the Landless Workers" in April 1997.

³⁵ Reydon and Plata (2000) show, based on studies for the states of Paraná, Santa Catarina, Mato Grosso and Rio Grande do Norte, that it is the court proceedings what significantly increases compensations. The valuations of properties expropriated by the administrative sphere reach values close to the market.

Table 6. Figures from the Brazilian Agrarian Reform

Periods	Hectares	Families	Settlement projects
1964-1994	16,439,506	161,348	936
1995-2002	18,785,743	382,654	3,898
2002-2009	49,101,063	362,874	3,728
Overall Total	84,326,312	906,876	8,562

Source: INCRA. Year 2009 based on INCRA special publication of March 2010

The Agrarian Reform figures show that, since the creation of the Land Statute in 1964 until 2009, 909,949 families were settled in an area of 84,326,312 hectares (9.9% of the area in Brazil and 25.5% of the area that occupy the establishments according to the Agriculture Census of 2006. Demonstrating that there was an intense agrarian reform in the country. But the information contained in Tables 1 and 2 show that there is still room for agrarian reform as well as other policies for the democratization of access to land.

6. Proposals and Perspectives: development of an Agrarian System of Governance based in the municipality

After nearly 20 years of democratic governments committed to disadvantaged populations and that carried out one of the major agrarian reforms in the world, the agrarian issue remains one of the main bottlenecks of the Brazilian reality, both urban and rural.

We still have landless works wanting land, landowners seizing vacant lands, deforestation occurring in the Amazon, many squatters without guarantees of their lands, the notary recording nonexistent properties, foreigners acquiring lands without control, among other problems.

Simultaneously, the Brazilian agriculture presents an exemplary performance, with growth on food production, energy and currencies, greater international visibility, among others. But the assurance associated with land ownership remains a major problem, both in rural and urban areas. Its solution requires an appropriate agrarian³⁶ governance, according to FAO (2007) and Doelinger (2010), among others.

³⁶ FAO (2008:9) works with a suitable definition of agrarian governance:

Adoptaremos como punto de partida la definición conceptual propuesta por FAO en sus recientes análisis de este tema: *“Gobernanza is the system of values, policies, and institutions by which a society manages its economic, political and social affairs through interactions within and among the state, civil society and private sector. Land governance concerns the rules, processes and organizations through which decisions are made about access to land and its use, the manner in which the decisions are implemented, and the way that competing interest in land are managed”*.¹⁴

The benefits to be obtained from an adequate system of land management depend on the clear identification of properties that are registered and a simple and effective mechanism for obtaining and updating their information. This process needs to start without being subject to information of securities or other forms of formal documents, which can be used whenever there are conflicts over property. We must start with an entitling process that conciliate property information from satellites³⁷ with a survey of properties along the legitimate owners and squatters. The effective participation of owners and squatters consists of, according to a study by Gesso (2009), a real knowledge and thus "empowerment" of landowners, especially small³⁸.

Only with effective governance over land, particularly the creation of a modern and self-powered record, we can:

- a) Ensure the rights of private property for different purposes: business, leasing, guarantees in obtaining credit, granting of payments for environmental services, among others;
- b) Identify public lands and ensure their proper use for: creation of reserves, settlements or colonization;
- c) Establish more securely the other land policies: agrarian reform, land credit, taxation on the land;
- d) Regulate procedures for land purchases to: limit access to foreigners, to owners with many lands or to other owners;
- e) Zone land use: establish and regulate by placing limits, through Zoning, the agricultural and livestock production in specific regions;
- f) Regulate procedures for conversion of agricultural land into urban areas and thus also have an record of updated IPTU;
- g) Have an updated record to enable proper and effective collection of ITR;

Almost all countries have systems for the identification of property, but most systems are based on historical information recorded using traditional technologies such as handwritten maps and documents. They must adapt to the new electronic technologies, but these adjustments are difficult and costly, as they require reengineering of current practice and the conversion of records produced manually.

But the changes are necessary to accommodate the requirements of the 21st century to process data electronically. These technology innovations also enable a breakthrough that will revolutionize the system of property record that consists in the use of the three dimensions. Additionally, the property rights are becoming more complex as a result of the increased flow of information and the greater volume of economic interests associated with the property, such as some rights and restrictions, especially those relating to environmental protection, which sometimes apply to all properties and sometimes just a few.

Information about zoning, environmental protection, soil, vegetation, agricultural production, land use, among others, may be available using computer technologies (in the WEB, using SIG), to compare information from different sources, and they can be made available in the form of map layers with the required information. This option is

³⁷ Technological innovations to capture information via satellite, according to DOELINGER (2010), allow advances that could revolutionize the record system of existing properties.

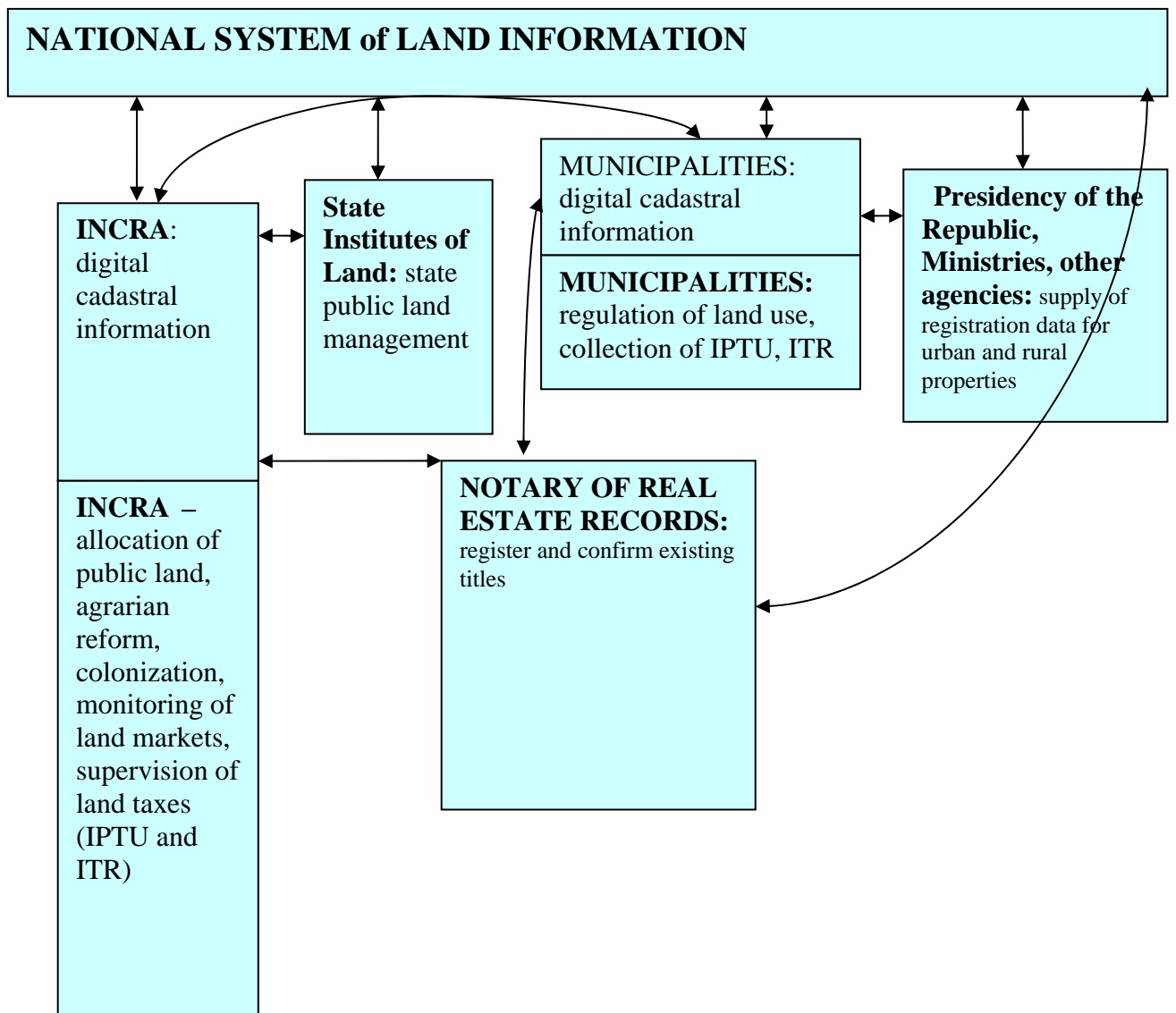
³⁸ Based on a study by GESSA, S.D.(2008), who suggests that the participatory mapping is an important tool to ensure property rights and create empowerment of less privileged populations

preferable to the current practice of trying to store and update all information for the property in the record, which, because of the volume of properties and information, becomes impossible to perform.

The ideal situation is a total integration of all major institutions associated with land. The paths to this integration are from a political and management nature and must be defined along the way. Institutions may stay the same, but the information must necessarily be integrated and shared. Surely, it will take some time to achieve full integration, and the need for improvement is immediate. Therefore, Chart 5 shows how the institutions should work in the long term, based on the current situation and their improvements. The five institutions must operate in an integrated way and the information system must automatically update itself. Certainly the notary of real estate records will continue with its role directly linked to the Judiciary. The record should initially be a joint activity, and as it is consolidated it should be passed to the municipalities that were qualified for this purpose.

The idea is that the municipalities, as they have more resources, more structure and more trained staff, will gradually assume the records and all other activities on use and adjustment of the soil, and, among these activities, the collection of the IPTU and the ITR.

Chart 5. Institutional Proposal of the Territorial Management System



7. Reference utilized

- AGRAFNP (2010) Anualpec. Relatório de Análise do Mercado de Terras. São Paulo.
- ALSTON, L. (1998) - A framework for understanding the New Institutional Economics. In: First Brazilian seminar of new institutional economics. São Paulo.
- BARRETO, P (2008) Quem é dono da Amazônia? Belém. AMAZON. [Internet: coletado em 18/05/11. <http://www.ibcperu.org/doc/isis/10458.pdf>]
- BELIK, W; REYDON, B.P., GUEDES, S. N R. (2006) Instituições, ambiente institucional e políticas agrícolas In: Dimensões do Agronegócio Brasileiro: Políticas, instituições e perspectivas. 1a. ed. Brasília: NEAD Estudos, 2007, v.1, p. 103-140
- BURKI, S.J.; PERRY, G.E. (1998) Beyond the Washington Consensus: institution matter. World Bank: Latin America and Caribbean Studies Viewpoint. WASHINGTON.
- DEININGER, K. (2003) Land Policies for Growth and Poverty Reduction. Washington: World Bank and Oxford University Press.
- DEININGER, K. et alli (2010) The land governance framework: methodology and early lessons from country pilots. In: Innovations in land rights recognition, administration and governance. Washington: World Bank, GLTN, FIG and FAO.
- ECHEVERRIA, (2003) Desarrollo Territorial rural en America Latina e el Caribe. BID. Washington. DC
- FAO Land Tenure and Managment Unit. 2007. "Buena gobernanza en la tenencia y la administración de tierras. Estudios sobre Tenencia de La Tierra no. 9. Rome: Food and Agricultural Organization of the UN.
- FAO Land Tenure and Managment Unit. 2009. "Towards voluntary guidelines on responsible governance of tenure of land and other natural resources." Land Tenure Working Paper 10. Rome: Food and Agricultural Organization of the UN.
- GESSA, S.D. (2008) Participatory Mapping as a tool for empowerment. In: International Land Coalition. Rome Italy.
- GONÇALVES, J. C. A Especulação Imobiliária na formação de loteamentos urbanos: um estudo de caso. Dissertação de Mestrado. IE/Unicamp: Campinas, 2002.
- HOLSTON, J. Legalizando o ilegal: propriedade e usuração no Brasil. Revista Brasileira Ciências Sociais n. 21 ano 8 fevereiro de 1993. São Paulo.
- INCRA (1999) Livro Branco da grilagem de terras no Brasil. Capturado da internet em 21/06/2011- http://www.incra.gov.br/portal/index.php?option=com_docman&Itemid=140
- KANDIR, A. A instabilidade do mercado habitacional. IE: UNICAMP, 1983. Dissertação de mestrado. Campinas.
- LIPTON, M. (2009) Land Reform in Developing Countries Property rights and wrongs. London and New York. Routledge. 456 p.
- MARGULIS, S (2003) Causas do Desmatamento da Amazônia Brasileira. Banco Mundial. Brasília. Julho de 2003. 100 p.
- MORETTI, R. S. ; ZANDONADE, P.; MORETTI, J.A ; D'ALESSANDRO, M. L. . Mecanismos de Transferência da Terra Pública para Uso Privado no Estado de

- São Paulo. In: XIII ENAnpur- Encontro Nacional da ANPUR, 2009, Florianópolis. XIII ENAnpur Encontro Nacional da Anpur Florianópolis. Florianópolis, 2009.
- LIMA (2002) Relatório das Correções Extraordinárias nos Registros de Terras Rurais no Estado do Amazonas. 440 p. Governo do Estado do Amazonas. Secretaria da Cultura do Estado do Amazonas (SEC) .
- OLIVEIRA, T. A. (2010) A descentralização do ITR. Dissertação de mestrado. IE.UNICAMP. Campinas
- POLANYI, K. (1980) A grande transformação: as origens da nossa época. 3.ed. Rio de Janeiro. Campus, 1980. 351p.
- PRODES (2011) Taxas De Desmatamento Da Amazônia Legal. Projeto PRODES. Ministério da Ciência e Tecnologia. IBAMA. Ministério do Meio Ambiente. INPE. [Internet: capturado em 18/05/11. http://www.obt.inpe.br/prodes/prodes_1988_2010.htm]
- REYDON, B.P. (2011) O desmatamento da floresta Amazônica: causas e soluções. In: Revista Política Ambiental. Especial Economia Verde. Conservation International. Brasília.
- REYDON, B. P. (2011) La Cuestión Agraria Brasileña necesita gobernanza de tierras. In: Land Tenure Journal. FAO. Rome. No. 1 –2011. p 127-147
- REYDON, B.P. (2007) A regulação institucional da propriedade da terra no Brasil: uma necessidade urgente. In: RAMOS, P. Dimensões do Agronegócio Brasileiro: Políticas, Instituições e Perspectivas. Brasília MDA (NEAD – Estudos 15), 2007
- REYDON, Bastiaan Philip, COSTA, Ânderson Simões. O custo da regularização das propriedades rurais brasileiras: uma estimativa. Revista de Política Agrícola, v.1, p.50 - 64, 2010
- REYDON, B.P. e OLIVEIRA, (2011) A descentralização fiscal do ITR e a gestão territorial integral nos municípios. In: Anais do VI Seminário Internacional: Dinâmica Territorial e Desenvolvimento Socioambiental: desafios contemporâneos. Salvador. 7-9 de setembro de 2011.
- REYDON, B. P.; ANÃNÃ, E.S.; KLOECKNER, G. O.; CORNÉLIO, F.N.M. (2006) ; Ativo terra agrícola em carteiras de investimento. In: REYDON, B. P. e CORNELIO, F. N. M. Mercados de Terras no Brasil: estrutura e dinâmica. Brasília: Ministério do Desenvolvimento Agrário (MDA) NEAD, 2006. pp. 181-206 (Nead Debate n. 7).
- REYDON, B. P.; BUENO, A. K. S.; TIOSO, C. (2006) Regulação da Propriedade da Terra no Brasil: lições dos primeiros passos. In: REYDON, B. P. e CORNELIO, F. N. M. Mercados de Terras no Brasil: estrutura e dinâmica. Brasília: Ministério do Desenvolvimento Agrário (MDA) NEAD, 2006. 444p. (Nead Debate n. 7).
- REYDON, B. P. e CORNELIO, F.N.M.(2006) Mercados de Terras no Brasil: estrutura e dinâmica. Brasília: Ministerio do Desenvolvimento Agrario (MDA) NEAD, 2006. 444 p. (Nead Debate n.7).
- REYDON, B. P.; GONÇALVES J. C. (2006). Mercado de terras e a produção de loteamentos urbanos, In: REYDON, B. P. e CORNELIO, F. N. M. Mercados de Terras no Brasil: estrutura e dinâmica. PP.95-122 Brasília: Ministério do Desenvolvimento Agrário (MDA) NEAD, 2006. pp.355-388 (Nead Debate n. 7).
- REYDON, B. P.; MONTEIRO, M. S. L. (2006) A ocupação do cerrado piauiense: um processo de valorização fundiária, In: REYDON, B. P. e CORNELIO, F. N. M.

Mercados de Terras no Brasil: estrutura e dinâmica. PP.95-122 Brasília: Ministério do Desenvolvimento Agrário (MDA) NEAD, 2006. 444p. (Nead Debate n. 7).

REYDON, B. P. e RIBEIRO GUEDES, S.(2006) Regulação Institucional do acesso à terra e a organização da agroindústria canavieira: contraste dos casos do Brasil e da Austrália, In: REYDON, B. P. e CORNELIO, F. N. M. Mercados de Terras no Brasil: estrutura e dinâmica. Brasília: Ministério do Desenvolvimento Agrário (MDA) NEAD, 2006. pp. 73-94 (Nead Debate n. 7).

REYDON, B. P.; ROMEIRO, A. R.; PLATA, L. E. A.; SOARES, M; Preço elevado e o ITR, In: REYDON, B. P. e CORNELIO, F. N. M. Mercados de Terras no Brasil: estrutura e dinâmica. Brasília: Ministério do Desenvolvimento Agrário (MDA) NEAD, 2006. pp.125-154, (Nead Debate n. 7)

REYDON, B. P. e PLATA, L. O. Intervenção estatal no mercado de terras: a experiência recente no Brasil. Campinas: NEAD, 2000. 172p. (Estudos NEAD, n.3).

REYDON (1992). Mercados de terras agrícolas e determinantes de seus preços no Brasil: um estudo de casos. Campinas,SP: UNICAMP.IE. (Tese de Doutorado).

SABBATO, A. Perfil dos proprietários/detentores de grandes imóveis rurais que não atenderam à notificação da Portaria 558/99. [Internet : <http://www.incra.gov.br> — capturado 03.Ago.2003]

SILVA, L.O (1996) - Terras devolutas e latifúndio: efeitos da lei de 1850. Campinas: Editora da Unicamp, 373p.

SILVA, L. O. (1997) - As leis agrárias e o latifúndio improdutivo. São Paulo. São Paulo em Perspectiva. Vol. 11, n. 2, p. 15-25.

SHIKI, S. Proambiente. Payment for Ecosystem Services: from Local to Global. 2007. Disponível em: <<http://www.uvm.edu/giee/pes/en/people/>>. Acesso em: 29 set. 2007. [Links]

UN. (1996) Land Administration Guidelines. Committee on Human Settlements, ECE/HBP/96, Geneva and New York 1996