1. INTRODUCTION

In recent years, Brazil has gone through an important period of economic growth, with significant improvement in social indicators (VASQUEZ, 2016), however, the land situation, rural and urban, remains precarious. The land of the country is a serious problem since its occupation and is characterized by a high level of conflict and tension (REYDON, 2000).

The high concentration of land ownership remains, despite recent efforts towards democratization of land through land reform policy. This high concentration of land is one of the main sources of social and economic inequality in the country, and a significant part of its rural poverty (REYDON, 2011).

According to data of the agricultural census (IBGE, 2006), participating in a total area of 50% smaller agricultural establishments still in the range of 2.3%, while the 5% larger establishments totaled more than 69.3% of the total land, confirming the extremely high degree of concentration of land in the country, despite extensive land reform not modified the country's agrarian structure.

In this context, land reform appears not only as a social demand, but also as a fundamental instrument for the development of the country, since it is closely related to a set of social, economic, environmental conditions and different policies.

The agricultural settlements are designed as alternatives for fixing the man in the field, in addition to potential promoters of rural development. It is clear that the quantity and quality of rural settlements by the agrarian reform are still far from ideal, however, research shows that families have settled an improvement, albeit slight, in their living conditions (SOUZA, 2008). The problems are many, ranging from the quality and location of lands, lack of infrastructure, to the absence of a proper agricultural policy, to strengthen family agriculture in the settlements,
supporting mainly the issues of financing, organization of production and environmental sustainability (SOUZA, 2008).

From the data of INCRA, we observe that the Amazon is the main region of the country with regard to agrarian reform efforts, both in terms of the number of families settled as of area occupied, but the projects deployed little fit economically and environmentally to Amazon (TOURNEAU; BURSZTYN, 2010). The importance of the Amazon for humanity lies not only in the role for the global ecological balance, but is for your mass plant, its rivers, its fauna and houses a significant collection of indigenous and traditional populations that include rubber tappers, chestnut trees, bordering, quilombolas, babassu coconut breakers, among others, that give it notability in terms of cultural diversity. Draws attention to the need for regulation of soil in rural areas to promote the development of the families that there resides and continuity of populations in rural areas, which over time comes down.

Another important issue to this discussion are the demographic changes that have occurred in rural areas. The example of what had already occurred in urban areas, the population of the field comes systematically, both by lowering endogenous factors to family structure, as the decline in the fertility rate and the fragmentation of families (SAKAMOTO; MAIA, 2013), as by exogenous factors to family structure as the modernization of agriculture and the extreme territorial inequalities (MAIA, 2014). In addition, has taken place the masculinization and aging of this population, given the persistence of the rural exodus, now more strongly observed among women and young people (ABRAMOVAY; CAMARANO, 1999).

In this way, there is another problem, which is the continuity of production units for lack of successors, both by reducing the number of heirs and the departure of young people to the cities, since more, and more, the children leave the family business in search of better opportunities for income generation (SILVESTRO et alli, 2010). Thus, the objective of this article is to understand the land issue in Brazilian Amazonian settlements, emphasizing the determinants of migration of the rural population. The survey results show that migrants are predominantly young men and women, and suggest that the main reason among young people is the quest for better living conditions in the cities, linked to factors of better schooling, housing and income. Often, this search gives less willingness to change the field city and more to supplement the insufficient family income from work on Earth. In addition, for most of these people out of agriculture into urban areas.
The development of agricultural regions is essential for poverty reduction and economic and social development of the country (World Bank, 2008). It is concluded that the migration is inevitable while not taking to rural populations the same existing living conditions in the urban environment.

2. BRAZIL: LAND GOVERNANCE CHAOS AND THE NEED TO IMPROVE IT

2.1. Land concentration, land speculation and illegal land grabbing of public land (“grilagem”)

The Brazilian agrarian question manifests itself in the high historical land concentration. According to Reydon (2011b), Brazil is one of the countries with the highest land concentration in the world\(^1\), where the area of the 50% smallest agricultural establishments is 2,3% of the total sum of all establishments’ areas, and the area of the 5% larger establishments sum up about 69,3% of the total area, as Table 1 shows.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of establishments (millions)</th>
<th>Total area (millions of hectares)</th>
<th>Mean area (hectares)</th>
<th>Gini Index</th>
<th>Area of the smaller 50% (%)</th>
<th>Area of the larger 5% (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>5.0</td>
<td>323.9</td>
<td>64.9</td>
<td>0.9</td>
<td>2.5</td>
<td>68.7</td>
</tr>
<tr>
<td>1985</td>
<td>5.7</td>
<td>369.6</td>
<td>71.7</td>
<td>0.9</td>
<td>2.4</td>
<td>69.7</td>
</tr>
<tr>
<td>1995/6</td>
<td>4.8</td>
<td>353.6</td>
<td>72.8</td>
<td>0.9</td>
<td>2.3</td>
<td>68.8</td>
</tr>
<tr>
<td>2006</td>
<td>4.9</td>
<td>294.0</td>
<td>67.1</td>
<td>0.9</td>
<td>2.3</td>
<td>69.3</td>
</tr>
</tbody>
</table>

Table 1. Brazilian agricultural establishments land structure.

Source: Censos Agropecuários, IBGE. In: REYDON, 2011.

In a capitalist economy the production factors (land, capital, labor, technology and natural resources) are essential to the productive process. The land market is strongly inserted in this process because it is in the land that the production processes and human living happen. Moreover, this asset has three important characteristics: it is scarce, not mobile and it is durable (Reydon, 2006).

\(^{1}\) According to FAO (2011), the Brazil has the 9th higher Gini index for land concentration (0.85), only being lower than Peru (0.86), Spain (0.86), Bahamas (0.87), Panama (0.87), Virgin Islands (USA) (0.87), Guam (0.88), Paraguay (0.93) and Barbados (0.94) – which is even more dreadful if we take the Brazilian vast continental territory into account.
According to Plata (2001), the emergence of the land market in Europe happened as a mean to overcome the feudal ties and enrich the bourgeois class that, from then on, would have a distinctive control over the economic relations. In Brazil, the land market was only consolidated after the abolishment of slavery, when also begins the formation of labor, products and credit markets (Plata, 2001). On this, Reydon and Plata (2000:10) bring forth the thoughts of Karl Polanyi (1980:84-85):

“The crucial point is as follows: labor, land and money are essential elements to industry. They also have to be organized in markets and, of course, these markets make up an absolutely vital part of the economic system. Nevertheless, labor, land and money are not commodities. […] The labor, land a money markets are, without doubt, essentials to a market economy.” (Reydon e Plata, 2000:10, free translation from Portuguese)

The land market studies in Reydon (1992), Reydon and Cornélio (2006) assert that the most common ways that economic agents profit with land, especially in the Amazon, is through fiscal incentives, subsidized credit policies and land speculation. Thus, the speculation with land was historically considered as the most profitable activity for the landowners. This raised questions point to the need of debating about the urgent need of land governance instruments in Brazil.

According to Reydon (2006), in the period of 1500 to 1850, all the rules involving land uses were given by the powers of the king, the church and the political and physical power of those who were occupying the land. Plata (2001) and Reydon (2006) indicate that the land market begun to exist from 1850 on, with the Land Law, and from there on, the notaries and governmental institutions begun to formulate rules for the land occupation. This law aimed to occupy free lands and give the property to particulars. By doing so, it was instituted the regularization of existing lands and the transmission by means of buying and selling, private lands would be registered and, by exclusion, the unregistered lands would be the free lands that belonged to the State (“terras devolutas”) (Reydon, 2007).

Observing the studies of Silva (1997), Reydon (2006) traces a timeline of the Brazilian land regulation history, revealing that changes in the political and institutional framework were rarely translated in a real improvement of the regulation and effective enforcement of land property rights – from the slavery abolishment, the Republic proclamation, creation of the Civil Code in 1916, the promulgation of 1822 and 1988’s Constitutions, the creation of the Land
Statute (Estatuto da Terra) and to the creation of some government organizations. Within the study, what could be perceived throughout the Brazilian land regulation history was the constant struggle between the State, trying to define, restrict and enforce regulations, and the enormous resistance of the large land property owners who objected any restrictions to the private property (Reydon, 2006). For this author, the large capital always took advantage and, in seeking its interests to obtain financial advantages, never respected the social and environmental land uses.

The Brazilian agrarian question is yet to be solved and is still a major hindrance to the country’s development (Table 2). The violence in land conflicts in the first decade of the 21st reveal that, between 2002 and 2010, there were more than 5 million individuals involved in a total of 13 thousand episodes of land conflict, resulting in an average of 1,448 cases per year (Reydon, 2011b:7).

<table>
<thead>
<tr>
<th>Year</th>
<th>Num. of conflicts</th>
<th>Num. of persons involved</th>
<th>Conflicts in area (hectares)</th>
<th>Num. of murders</th>
<th>Num. of murder attempts</th>
<th>Num. of death threats</th>
<th>Num. of persons arrested</th>
<th>Num. of aggression</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>925</td>
<td>425.780</td>
<td>3.066.436</td>
<td>43</td>
<td>36</td>
<td>244</td>
<td>158</td>
<td>18</td>
</tr>
<tr>
<td>2003</td>
<td>1690</td>
<td>1.127.205</td>
<td>3.831.405</td>
<td>73</td>
<td>64</td>
<td>266</td>
<td>380</td>
<td>48</td>
</tr>
<tr>
<td>2004</td>
<td>1801</td>
<td>965.710</td>
<td>5.069.399</td>
<td>39</td>
<td>99</td>
<td>284</td>
<td>421</td>
<td>335</td>
</tr>
<tr>
<td>2005</td>
<td>1881</td>
<td>803.850</td>
<td>11.487.072</td>
<td>38</td>
<td>56</td>
<td>266</td>
<td>261</td>
<td>166</td>
</tr>
<tr>
<td>2006</td>
<td>1657</td>
<td>703.250</td>
<td>5.051.348</td>
<td>39</td>
<td>72</td>
<td>207</td>
<td>917</td>
<td>749</td>
</tr>
<tr>
<td>2007</td>
<td>1538</td>
<td>612.000</td>
<td>8.420.083</td>
<td>28</td>
<td>66</td>
<td>259</td>
<td>428</td>
<td>443</td>
</tr>
<tr>
<td>2009</td>
<td>1184</td>
<td>415.290</td>
<td>15.116.590</td>
<td>25</td>
<td>62</td>
<td>143</td>
<td>204</td>
<td>277</td>
</tr>
<tr>
<td>2010</td>
<td>1186</td>
<td>315.935</td>
<td>13.312.343</td>
<td>34</td>
<td>55</td>
<td>125</td>
<td>88</td>
<td>90</td>
</tr>
</tbody>
</table>

Source: Comissão Pastoral da Terra (CPT) in REYDON, 2011b, adapted.

Another problem created by the lack of land governance is the intense deforestation in the Amazon. A recent study of Reydon (2011a), inspired in Margulis (2000), reveal the complexity of the variables and causes of the Amazonian deforestation. These studies show that once the fiscal incentives and government development projects were the main inducers of deforestation. In verifying Margulis’ (2000, 2003) arguments it can be noted that beyond these massive fiscal incentives the deforestation is also motivated by the large profits obtained through land speculation via irregular appropriation of public unregistered lands (terras devolutas), opening of new areas for pasture, wood logging and other activities that cause more social and environmental losses for the population than economic gains.
Currently, when analyzing the irregular appropriation of public unregistered lands (terras devolutas) in the Legal Amazon (Amazônia Legal) it is possible to see clearly the crescent expansion of the agricultural frontier – be it deforestation to open lands for pasture, for illegal logging of trees, mineral extraction or for large scale cultivation of soy, corn, castor beans, etc., to produce biofuels or for other purposes. For authors like Barreto, Pinto, Brito and Hayashi (2008), the lack of clear and reliable land regularization, the existence of innumerous falsified land titles or the occurrence of informal land possessions engender major difficulties to the elaboration and implementation of economic development or environmental governance projects in the Legal Amazon (Amazônia Legal). These lacks of regulation problems accompany the Brazilian land regulation history since as early as the Land Law of 1850 and reveal the fragility of the formal institutions relative to the demarcation, registry and property rights regulation (Reydon, Bueno and Tiozo, 2006). The uncertainty with property rights hampers economic and social development projects in the Amazon, creates numerous class conflicts, as well as creates serious difficulties for the State in the promotion of essential policies for the reduction of deforestation, such as command and control2 and economic incentives3 (Barreto, Pinto, Brito e Hayashi, 2008; Reydon, 2011a).

The land regularization is vital for the sustainable development promotion in the Legal Amazon. This statement is reinforced by the study of Maciel (2003) which highlights that the greatest Amazonian challenge is to implement public policies aiming at improving social justice, containing the deforestation and the rational utilization of the environment with actions seeking its conservation. Due to the lack of a cadastre and effective land property regulation in Brazil, the most common practice is the land possession, especially in the Amazon. The data in Figure 1 reveal that only 4% of the private areas (20 million hectares) have their registers validated by INCRA4. There is more than 158 million hectares (32%) of land supposedly private without register validated by INCRA. Yet there is the remainder 21% which were not in neither of the above categories and are, therefore, technically considered public lands without

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2 "The main Command and Control Policies, direct State interventions that modify the behavior of the deforesters, were the operations: a) Curupira (2005) and Arc of Fire (Arco de Fogo) (2008) that fought the illegal wood logging; b) decree 6321/07 which restricts the credit grants from the banks and compel the land property owners in the municipalities with higher deforestation rates to re-register their properties; c) the creation of protected areas (Unidades de Conservação) summing up more than 20 million hectares to the existing 80 million, for a total of 273 protected areas; d) homologation of 87 Indigenous Territories (Terras Indígenas) with almost 18 million hectares; e) restrictions on the agricultural products from properties of the municipalities with the highest deforestation rates." (Reydon, 2011a:1, free translation from Portuguese)

3 "The economic incentives policies which use economic strategies (prices and others) to encourage or inhibit economic agents to lower the deforestation were the following ones: a) operation Green Arc (Arco Verde) (2008); b) Special credit line under FNO, FNE and FCO (Constitutional Financing Funds for the Northwest region, FNO; for the Northeast region, FNE; and for the Central-western region, FCO) for deforested areas recovery, reforestation, and environmental regularization in the Legal Amazon.” (Reydon, 2011a:1, free translation from Portuguese)

4 Brazilian National Institute for Colonization and Agrarian Reform (Instituto Nacional de Colonização e Reforma Agrária).
allocation. Thus, the lack of land regulation in the Amazon significantly corroborates to the
generation of the economic, social and environmental problems, with emphasis to the
deforestation.

Figure 1. Juridical condition of land in the Amazon (% of area)


Based on satellite imagery, the annual deforestation in the Legal Amazon in the last years
was around 6.4 and 7.4 million hectares, meaning a substantive improvement when compared
to previous periods, but despite this reduction, the deforestation rates are still very high for a
biome with the characteristics of the Amazonian.
Analyzing the data on land prices in the states of the Legal Amazon, it can be perceived that the deforestation always increases significantly the property price, as the hectare values paid for forested areas are lower than in pasture areas. This occurs because the land prices are fundamentally determined by the expected productive gains from livestock farming linked to the land, as the land productive utilization in the deforested lands can begin immediately and without capital expending in the deforestation activity. The forested land prices are inferior and this stimulate speculative agents into buying them for a low price and, after the deforestation process, selling it with a higher price as pastureland. This way the speculator also can obtain profits with (not always legal) tree logging, besides the value increase in the transformation to pasture later. In the Acre, the land price of a hectare can be increased as high as 14 times, while in the state of Amazonas the price can be increased as high as 10 times. Few investments have high paybacks as these (Figure 3). In this case, there is no doubt that the lack of land regulation, especially in large territorial extension states like those of Legal Amazon, is one of the major setbacks for the promotion of regional sustainable development.
The lack of a clear definition over land property rights in the Legal Amazon opens precedents for the occurrence of all the above-cited problems and creates difficulties to the sustainable development projects and policies for the region. Adapting Cavalcanti’s (2002) idea to the Amazonian context and to the objectives of this study, the definition of sustainability comes from a relation between the human being and the natural environment – the forest – in such a way that man could use natural resources, but in such a way that it would not be harmful to the environment or to the next generations’ welfare, guaranteeing economic efficiency, social justice and ecological prudence. It is the opinion of the present study that sustainability also involves a clear definition on property rights and effective land regularization.

3. RURAL SETTLEMENTS

The processes of rural settlements even following a law, acquire its own characteristics in each country and in each region within the country, as the culture or the economic interests. In the Amazon, considered as a storehouse of natural resources, with enormous riches to be
exploited, occupation and exploitation policies vary according to the countries, following their own interests (ARAGÓN, 2013).

The settlements of INCRA in Amazon continue outperforming those of other regions (TOURNEAU, BURSZTIN, 2010). 9,272 registered at INCRA settlements’ till 2015, 3,448 are in Legal Amazon, corresponding to 37.2% of settlements and 63% of the total number of families settled (table 3).

Table 3. Rural Settlements in the *Amazônia Legal*

<table>
<thead>
<tr>
<th>Local</th>
<th>Settlers in the <em>Amazônia Legal</em></th>
<th>Families Settled in <em>Amazônia Legal</em></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>∆ %</td>
</tr>
<tr>
<td>SR-01/PA</td>
<td>400</td>
<td>4.3</td>
</tr>
<tr>
<td>SR-12/MA</td>
<td>805</td>
<td>8.7</td>
</tr>
<tr>
<td>SR-13/MT</td>
<td>549</td>
<td>5.9</td>
</tr>
<tr>
<td>SR-14/AC</td>
<td>161</td>
<td>1.7</td>
</tr>
<tr>
<td>SR-15/AM</td>
<td>146</td>
<td>1.6</td>
</tr>
<tr>
<td>SR-17/RO</td>
<td>221</td>
<td>2.4</td>
</tr>
<tr>
<td>SR-21/AP</td>
<td>54</td>
<td>0.6</td>
</tr>
<tr>
<td>SR-25/RR</td>
<td>67</td>
<td>0.7</td>
</tr>
<tr>
<td>SR-26/TO</td>
<td>378</td>
<td>4.1</td>
</tr>
<tr>
<td>SR-27/MB</td>
<td>511</td>
<td>5.5</td>
</tr>
<tr>
<td>SR-30/STM</td>
<td>156</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,448</strong></td>
<td><strong>37.2</strong></td>
</tr>
</tbody>
</table>

Source: INCRA

To TOURNEAU and BURSZTIN (2010), the settled areas had become one of the main elements of the rural world in Legal Amazon, representing almost a third of the land used and almost 74 percent of rural establishments. However, according to the authors, not all of these lots if effect resource as an agricultural establishment, mainly because of the difficulties faced by these families to develop any economic activity is due to the lack of infrastructure, quality of land, access to financing or support policies, resulting in the abandonment of the land and, consequently, contributing to the process of land concentration. However, the overcoming of these difficulties, basic transformation of the rural settlement in an agricultural establishment, does not remove the threat to the continuity of the production units. In recent years has significantly increasing the problem of lack of successors in these rural settlements, generating another risk factor.
It is important to highlight that, young people are the ones that come to the countryside and leaving, among these, is the leading participation of women (CAMARANO; ABRAMOVAY, 1999). Schooling is also preponderant in the definition of the employment prospects of urban areas and fulfills an important role in increasing the chances of migration of rural residents. As consequences of selective migration from rural areas (i.e., the predominant flow of young people more educated and female), has to accelerate the aging process and the masculinization of the rural population, compromising the reproduction of households and rural society (MAIA, 2014). Another important aspect of demography of the family is the aging population that also occurs in rural areas, and the significant growth of the average number of people with income of retirement and pensions. In rural areas, almost doubled the average number of retirees or pensioners (of 0.25 Member for entering in 1991).

### 4. RURAL EMPLOYMENT AND MIGRATION IN THE AMAZON

Fundamental part of the question of succession in the settlements, in particular, and on family agriculture, in General, is that the children of farmers, traditionally considered as stocks of labor available to the production increasingly seek other non-agricultural activities outside the property. Add to that the profound transformations of productive agricultural sector, resulting in greatly increased productivity and drastic reduction of agricultural jobs. Thus, increasing the transfer of rural workers to the cities. As shown in the Census, between 2000 and 2010, there is a relative reduction of the persons employed in agricultural work, particularly in the traditionally agricultural regions.
In summary, despite the reason that drives people to seek opportunities outside of the family, in addition to the significant reduction in the number of rural residents has decreased substantially the share of those who perform agricultural activities (MAIA, 2014) according to the Censo Demográfico of 2010, the Brazilian Amazon had a population of 25,474,365 people in 2010. Of these, 2,094,017 were Brazilian recent migrants, were foreign migrants recent 9,853 (natural from other countries) and 323,810 were migrants with less than 5 years of age, in the period 2005-2010. Already the period accounted for migrants not 20,935,610 with 5 years or more of age and 2,110,671 non-migrants under 5 years of age (JAKOB, 2016). According to ARAGÓN (2013), the internal migration patterns in the Amazon have been modified over the years, intensifying the intraregional mobility and urban destination. In this sense, migration represents the destruction of the possibility of continuity.

<table>
<thead>
<tr>
<th>Region</th>
<th>2000</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Urban</td>
</tr>
<tr>
<td>Brasil</td>
<td>81,5</td>
<td>93,5</td>
</tr>
<tr>
<td>Norte</td>
<td>72,0</td>
<td>90,8</td>
</tr>
<tr>
<td>Nordeste</td>
<td>68,6</td>
<td>89,0</td>
</tr>
<tr>
<td>Sudeste</td>
<td>90,2</td>
<td>95,5</td>
</tr>
<tr>
<td>Sul</td>
<td>80,1</td>
<td>94,4</td>
</tr>
<tr>
<td>Centro-Oeste</td>
<td>84,8</td>
<td>92,6</td>
</tr>
</tbody>
</table>

Source: Censos Demográficos/ IBGE 2000 e 2010

Table 5 - Non Agricultural Employment - 2000 e 2010

In summary, despite the reason that drives people to seek opportunities outside of the family, in addition to the significant reduction in the number of rural residents has decreased substantially the share of those who perform agricultural activities (MAIA, 2014) according to the Censo Demográfico of 2010, the Brazilian Amazon had a population of 25,474,365 people in 2010. Of these, 2,094,017 were Brazilian recent migrants, were foreign migrants recent 9,853 (natural from other countries) and 323,810 were migrants with less than 5 years of age, in the period 2005-2010. Already the period accounted for migrants not 20,935,610 with 5 years or more of age and 2,110,671 non-migrants under 5 years of age (JAKOB, 2016). According to ARAGÓN (2013), the internal migration patterns in the Amazon have been modified over the years, intensifying the intraregional mobility and urban destination. In this sense, migration represents the destruction of the possibility of continuity.

5. CONCLUSION

The World Bank report (2008, p. 163), strongly condemns what it calls creating barriers against the mobility of workers, but our argument is that the improvement of public policies in order to secure the rural workers in the field, giving them decent living and working conditions would have a positive impact in reducing world poverty, since the migrants in most cases, are not only exercising their free choice of mobility, but forced to look for new opportunities to sell their work force in Exchange for supplying the basic needs of survival. In this sense, for these
young migrants to exit the House, would be the way out of poverty, which is not always come true.

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