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Ritaumaria Pereira • Paulo Barreto • Sara Baima

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About Imazon

The Amazon Institute of People and the Environment (Imazon) is a non-profit research institution founded in 1990 in Belém, Pará. Its mission is to promote conservation and sustainable development in the Amazon through studies, support for public policy formulation and widespread dissemination of information. Since 2006 Imazon has been categorized as a Civil Society Organization of Public Interest (Oscip), granted by the Brazilian Ministry of Justice. In 29 years of research in the Amazon, Imazon has published approximately 700 technical papers, almost one third of which have been published as articles in international scientific journals, as well as technical studies and strategic documents for public policy. To learn more about Imazon and access its publications, go to www.imazon.org.br.

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Acronyms

APP	Permanent Preservation Area
Cafir	Rural Property Registry
CAR	Rural Environmental Registry
CGITR	Management Committee for Rural Land Tax
CNM	National Confederation of Municipalities
DITR	Rural Land Tax Report
EaD	Long Distance Learning
Embrapa	Brazilian Agricultural Research Corporation
Enap	National Public Administration School
Esaf	EFarm Management Higher Education School
FAO	United Nations Food and Agriculture Organization
Famato	Mato Grosso State Agriculture and Cattle Ranching Federation
Fundeb	Fund for the Maintenance and Development of Basic Education and Valuing Education Professionals
GU	Level of land use
ICV	Center of Life Institute
Imaflora	Institute of Forestry and Agricultural Management and Certification Normative Ruling
IN	Normative Ruling
Incra	National Institute for Colonization and Agrarian Reform
Ipam	Amazon Environmental Research Institute
IPS	Social Progress Index
ISA	Socio Environmental Institute
ITBI	Property Transmission Tax
ITR	Rural LandTax
LAI	Information Access Law
Pasep	Civil Servant Heritage Training Program
PL	Draft Bill
RFB	Special Secretariat of the Brazilian Revenue Service
RL	Legal Reserve
Sefaz	State Finance Secretariat
SFB	Brazilian Forest Service
Sigef	Land Tenure Management System
SIPT	Land Price System
SNCI	National Property Certification System
TNC	The Nature Conservancy
UC	Conservation Unit
VTN	Bare Land Value
VTNt	Taxable Bare Land Value
WWF	World Wildlife Fund

Summary

In 2003, after many years of pressure, mayors obtained a federal government tax grant: the right to control the Rural Land Tax (ITR), which is levied on squatters and landowners. After the constitutional amendment is approved, the municipalities that participate in the control through an agreement with the Special Secretariat of the Brazilian Revenue Service (RFB) can keep 100% of the collected amount, while those without agreement will continue to receive only 50%.

In addition to serving as a means of collecting money for public services, the ITR was created to stimulate the best use of agricultural land. To do so, it expects large and low-yielding properties to pay higher rates. This rule is especially important in the Amazon where vast deforested areas are misused. For example, in 2014 there were 12 million hectares of degraded pastures in the Amazon biome, according to Embrapa and Inpe. In addition, the region's 2018 Social Progress Index (IPS), which relies on investments in utilities, was lower than in the rest of Brazil (respectively 56.5 and 67.2).

"In addition to serving as a means for collecting money for services, the ITR was created to stimulate the best use of agricultural land."

In this study we show that some mayors partially took advantage of the new rules and increased the collection of ITR in the Legal Amazon, following the trend of the rest of Brazil. The amount collected in the region jumped from BRL 17 million in 2000 to BRL 240 million in 2017. The increase occurred mainly after the municipalities were able to participate in the tax control. By 2018, however, only 38% of city governments in the region had signed control agreements. The sixty-two percent which did not subscribe missed the possibility of increasing revenues and investing in their various sectors in need, such as education, health and infrastructure.

Mato Grosso, where 93% of the municipalities, holding 95% of the taxable area, are affiliated, was the state with the most significant increase in tax collection. There, the value was multiplied by nine between 2007 (before the agreement) and 2017 (after the agreement). The main measure observed in that state to increase revenue was to update the Bare Land Value (VTN). To this end, some municipalities have hired consultants to assist in updating the VTN based on the land market price.

"...some mayors partially took advantage of the new rules and increased the collection of ITR in the Legal Amazon"

Despite this increase in ITR collection in the Amazon, we found that the collection is still below its potential. We estimate that the value could be four (BRL 986 million) to six times higher (BRL 1.5 billion) than the one collected in 2017 simply considering that the municipalities used the land market price as the basis for VTN, which is one of the bases of the ITR calculation. In our analysis we estimate that the average VTN declared by farmers corresponded to only 10.5% of the average land market value in 762 municipalities. In the agreed municipalities, the declared values corresponded, on average, to only 14% of the market, and in the ones without an agreement, to 6%.

Another factor that hinders a higher rate of ITR collection by municipalities is the fact that the federal government does not update the land productivity index, which is also used for tax calculation - The current index is based on 1985 data. Thus, even low productive areas reach the minimum degree of utilization.

This way they pay lower rates. For example, according to the index currently used, a property in the Amazon is considered productive if it has 0.5 head of cattle per hectare, which is below the region average of 1.9 head per hectare (Silva & Barreto, 2014; IBGE, 2018).

Intense pressure from rural groups against the ITR is the main factor that influences Brazilian presidents to not update productivity rates for the purposes of tax rate determination and mayors to not properly update their municipalities' VTN.

In 2009, then-President Lula promised to update productivity rates (obsolete since 1980) but was blocked by pressure from rural groups. No other president even mentioned updating the index. Our study also revealed that rural groups pressure mayors from member municipalities to

set VTN ceilings below market price, even when consultants are hired to research market values. One consultant stated that he does not propose an adjustment equal to market value because it would be a "shot in the foot", that is, his work would be discontinued because of pressure from rural groups.

In addition to the lobby by rural groups to not increase the ITR, the lack of better coordination between city halls and the RFB for data sharing, capacity building and establishment of procedures also undermines tax collection.

Finally, ITR is a minor tax on RFB's total revenue and little attention is given to it. Measures to improve revenue are sporadic and there has been little investment to empower municipalities. Judging irregularities is lengthy and penalties are rarely enforced or insufficient - for example, mayors are not condemned personally for not updating land values, which represents an informal tax waiver.

For ITR collection to be effective and promote rural development, technical and policy improvements will be required, including:

Transparency and filters to encourage the use of market land values. In order to curb undeclared land use value, it is necessary to promote the collection and sharing of market data. In addition to requiring municipalities to collect data, as has already been done, RFB could collect or acquire market data as a reference to check the values provided by municipalities and reported by taxpayers. The São Paulo State Department of Agriculture collects and disseminates bare land values for ITR purposes and has already identified that some municipalities in the state have given in to pressure from rural groups to reduce values.

Focus control on municipalities with signs of low productivity. The high rate of underutilized land, such as degraded pastures, can be used to prioritize enforcement over ITR. Among the champions of degraded pasture areas are registered municipalities. In addition to the large stock of misused land, some of these municipalities continue to be champions of deforestation, such as Altamira and São Félix do Xingu in Pará. Therefore, enforcement in these regions could help both to improve the use of already opened land and prevent further deforestation.

Use property maps for ITR control. The taxable area can be estimated by cross-linking satellite imagery of the areas with the property maps that are available in the Rural Environmental Registry (CAR). Currently, the legislation only requires the tax reporter to enter the registration number. RFB and municipalities could access CAR maps to intersect them with land use maps. The crossing of property maps (such as CAR) and other jurisdictions (land reform settlements, protected areas, indigenous lands) would also serve to assess the causes of the declining declared area that has been occurring. Although the CAR number is already being required in the Rural Land Tax Declaration (DITR), the RFB has not yet reached agreements with CAR managers to cross information.

Update the productivity index to establish the degree of land use. Incra, which is directly responsible for updating the index, could prioritize the updating of the indexes of the cattle, because it is the use that occupies the largest area and one of the most inefficient. To do so, it could use existing data. However, updating the index

would depend on whether the Presidency of the Republic understands the strategic importance of ITR and is committed to more sustainable and inclusive rural development. In addition, the presidency should be willing to overcome resistance from the rural sector - one way of doing this would be to show the most productive rural leaders that the increase would mainly affect landholders who use land speculatively.

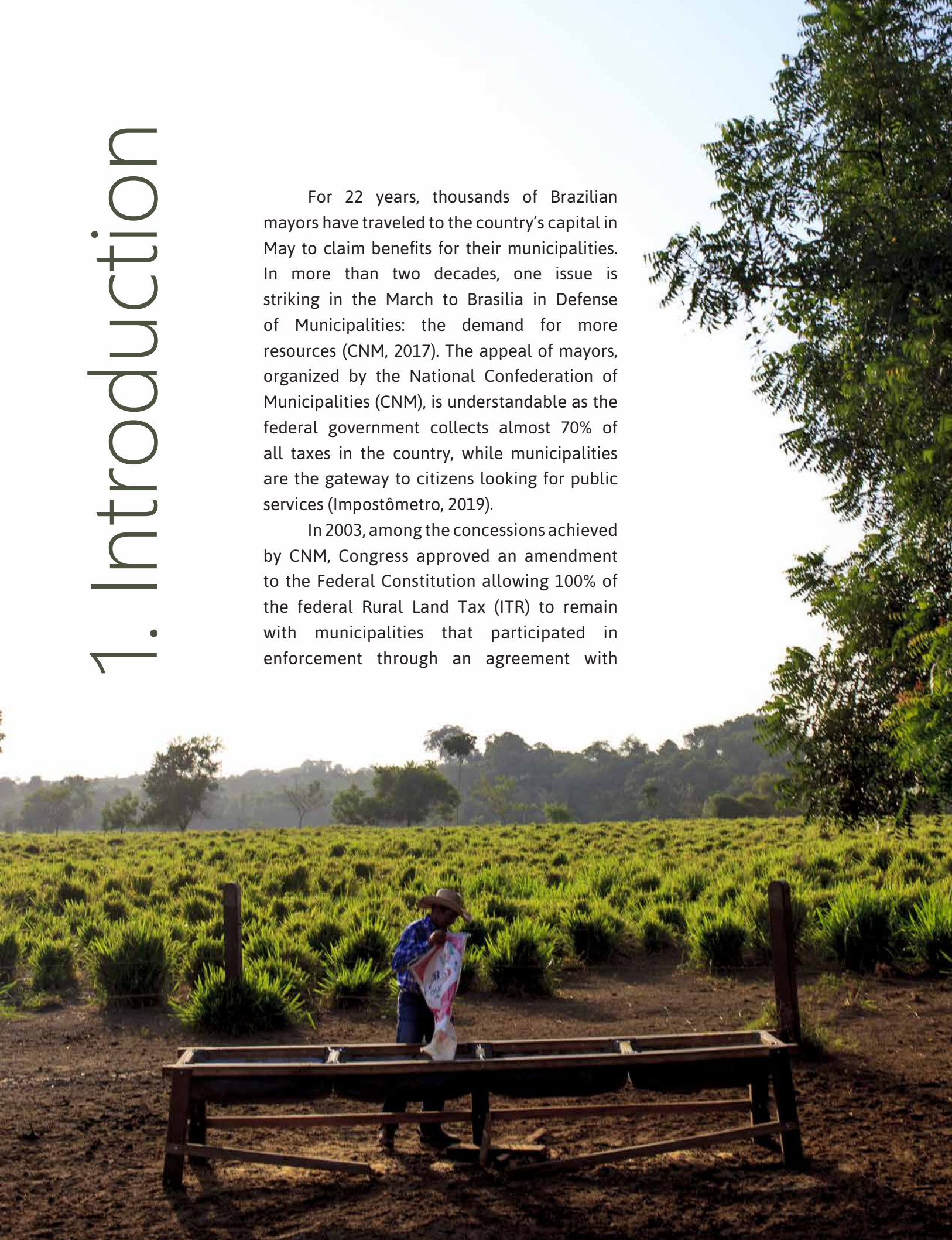
Control and hold public managers accountable. Mayors who do not use market data to charge the ITR and presidents who do not update productivity rates are abdicating their governing roles and informally granting tax waivers. In addition to being irregular, these waivers are not transparent and justified and contribute to aggravate fiscal and social injustice. For example, the reduction of public services affects the poor most significantly. For the collection to provide benefits to the poor, it is essential that the RFB and other agencies strengthen the oversight and punishment of municipalities that do not perform their duties. Loss of revenue is a problem for municipalities, but not necessarily for a mayor who is not committed to the well-being of the population - as he or she preferred to meet the demands of a limited group of landowners.

In addition, other investigative bodies such as the Courts of Auditors, City Councils and the Public Prosecution Service should monitor the performance of those responsible for the correct collection of the ITR. Punishments for those who do not comply with the rules must be personal as well as institutional.

1. Introduction

For 22 years, thousands of Brazilian mayors have traveled to the country's capital in May to claim benefits for their municipalities. In more than two decades, one issue is striking in the March to Brasilia in Defense of Municipalities: the demand for more resources (CNM, 2017). The appeal of mayors, organized by the National Confederation of Municipalities (CNM), is understandable as the federal government collects almost 70% of all taxes in the country, while municipalities are the gateway to citizens looking for public services (Impostômetro, 2019).

In 2003, among the concessions achieved by CNM, Congress approved an amendment to the Federal Constitution allowing 100% of the federal Rural Land Tax (ITR) to remain with municipalities that participated in enforcement through an agreement with



the Brazilian Revenue Service (RFB). Since its inception, ITR has been one of the most evaded taxes in the country. One of CNM's complaints was that the federal government was lenient in charging ITR for representing a tiny portion of the total collected taxes (0.09% of the total in 2018). The argument of those who proposed the full transfer of the tax to the municipalities is that the municipalities would be more interested in charging the ITR as it would represent a more expressive volume in municipal revenues. In addition, municipalization would increase their ability to control with thousands of additional inspectors.

Improving the collection of ITR, in addition to providing resources for municipalities, could stimulate the other original objectives of the tax, namely, to promote better land distribution and increase the efficiency of agricultural land use. Effective enforcement would contribute to these purposes as larger and less productive properties must pay higher ITR rates. Thus, to reduce the amount of ITR paid, rural property owners would seek to improve land productivity and thus reduce the rate that is partly related to the level of use of the property (See Methodology). Actual collection of ITR would also result in other environmental and social gains, as shown in table 1.

Despite the potential benefits of ITR, some studies show that its revenue has been below potential. For example, Silva & Barreto (2014) showed that collection in the state of Pará reached only 10% of its potential in 2011. They found that, to increase the area that is exempt from tax, landholders usually declare a below-market land value and the possession of an area of native vegetation larger than the existing one. In addition, enforcement is generally fragile. By 2018, only 38% of the municipalities of the Legal Amazon had joined RFB to assist with enforcement.

However, due to the worsening of the crisis in the public budget, since 2015 it is plausible that government officials have sought to improve the effectiveness of tax collection to provide the public services for which they were elected. In this publication, we evaluated whether Amazonian municipalities seized the opportunity to raise more ITR. The study focuses on the Legal Amazon, where the problems associated with unproductive large properties are significant: land grabbing and land tenure conflicts, high deforestation and low efficiency rates of municipal governments.

Did municipalities improve the collection of ITR? What practices have been used to improve their revenue? What are the barriers to more efficient ITR collection? What can be done to eliminate or reduce these barriers?

To answer these questions, we first compiled data on the amount collected from ITR from 2000 to 2017. We also interviewed RFB employees, independent consultants, CNM representatives and public managers; and we reviewed documents and studies to learn what was done to improve revenue. We then evaluated the tax collection potential considering the land market values. Finally,

we recommend what can be done to improve revenue based on current rules. This study is complementary to another study by Instituto Escolhas (2019) which assessed how to improve ITR collection by suggesting changes in tax collection rules[1].

Box 1.

How Rural Land Tax would improve the quality of rural development

Effective collection of ITR and, consequently, more efficient use of rural land could have a broad effect on local development. By encouraging more productive use of land, the tax would stimulate increased production, income, jobs, and taxes for local governments. Land use would be more concentrated rather than occupying large tracts of land. This would facilitate the concentration of the population and, consequently, investments in infrastructure (roads, energy distribution) and services (education, health care).

Low productivity and dispersion of the population makes the governments of states and municipalities whose economies are more dependent on agriculture less efficient, according to the ranking published by Folha de São Paulo (Canzian, 2019; Folha, 2019).

Large landholdings and land misuse are also associated with environmental, health and social problems. Low productivity implies that increased production requires the opening (deforestation) of new areas. The search for new land is often associated with criminal occupation of public land (land grabbing). Land grabbing and land concentration on these occupation frontiers, especially livestock, are associated with very high homicide rates (Souza et al., 2015). Fires associated with deforestation causes debilitating and/or fatal respiratory diseases and causes the birth of premature and underweight children (Greenpeace, Imaflora, Imazon, ICV, ISA, Ipam, TNC and WWF, 2017). Excessive deforestation leads to reduced rainfall in deforested areas, as has been shown in Rondônia (Khanna et al., 2017).

[1] Rural Territorial Tax: Tax Law and Tax Incentives. Available at: : http://www.escolhas.org/wp-content/uploads/2019/05/ITR_relatorio_final_FINAL.pdf

2. How is the ITR **calculated**?

The ITR amount payable is calculated by multiplying the Taxable Bare Land Value (VTNt) by a tax rate.

$$ITR = VTNt \times Tax\ Rate$$

VTNt is defined by the value of bare land (VTN) multiplied by the ratio of taxable area to total property area.

$$VTNt = VTN \times \frac{\text{taxable area}}{\text{total area}}$$

VTN (Bare Land Value). The market value of the soil with its surface, including natural forests, native forests and natural pastures. The VTN must therefore subtract the value of the following components from the

value of a property: (i) buildings, facilities and improvements; ii) permanent and temporary crops; iii) cultivated and improved pastures; and iv) planted forests. The associated municipalities are obliged to inform reference VTNs to the RFB for the purpose of monitoring the taxpayer's declaration and ITR transfer. Land authorities, such as Incra, publish reference VTNs and states and secretariats disclose these values to municipalities, although they are well below market levels.

Taxable area. The area subject to agricultural, livestock, farm, aquaculture or forestry exploitation and is equivalent to the usable area of the property. In order to estimate the exploitable area, the total area of the property should be subtracted from areas of environmental interest required by law (Legal Reserve and Permanent Preservation Area) or voluntarily established, covered by native, primary or secondary forest at a mid or advanced stage of regeneration, and areas impossible to use. Areas set aside for land rest are considered to be used provided that they are under the recommendation of a technical report. Secondary forest areas in the mid and advanced stages of regeneration (commonly referred to as *juquira* or *capoeira* in the Amazon) are not considered used and, therefore, are exempt from ITR payment.

Tax rate. The rate is determined according to the size and degree of use of the property. The rate varies from 0.03% for a property up to 50 hectares with a utilization rate greater than 80% up to 20% for properties larger than five thousand hectares with a utilization rate of up to 30% (Figure 1).

The level of land use (GU) is the proportion of the property that is effectively used by the rural activity in relation to the usable area of the rural property.

The usable area of the rural property is the taxable area, minus the areas where useful and necessary improvements are built (Instituto Escolhas, 2019).

The area actually used is the portion of the usable area of the property that in the year prior to the ITR declaration was used for cultivation, logging, aquaculture and ranching or served as pasture. To be considered effectively used, the area must reach minimum yields that are estimated by the federal government and vary according to crop type and region (RFB, 2002). The producer must report on the average productivity of open areas (in head/hectare for livestock and tons/hectare for agriculture) and the government should compare them with the yield index provided by the National Institute of Colonization and Agrarian Reform (Incra) for the region.

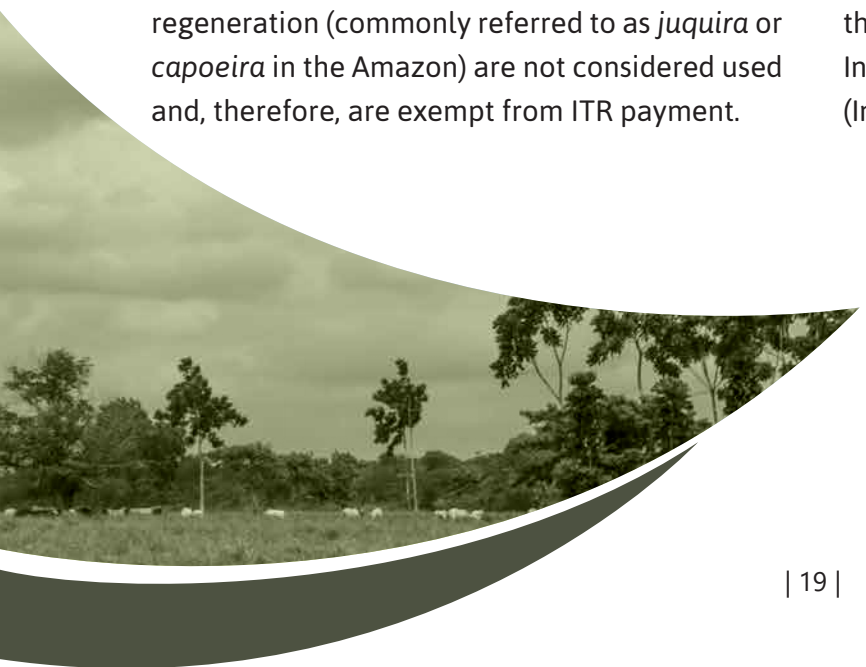
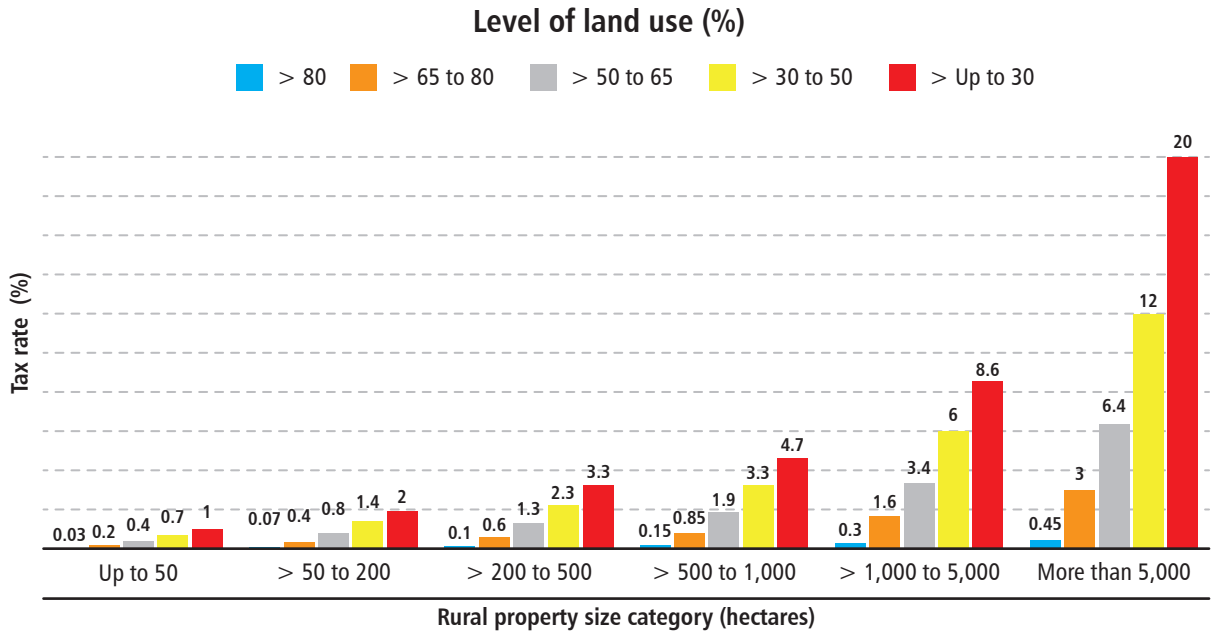


Figure 1. Territorial property tax rates according to land use and rural property size categories



Small rural properties are exempt from ITR [2]; as are properties in agrarian reform settlements; areas officially recognized as quilombolas and exploited by community members; rural properties of the same owner that together do not exceed the defined limits and are exploited by the owner alone or with his or her family; property belonging to the Union, the State, the Federal District and the municipalities; property owned by municipalities and public foundations; and the rural property of nonprofit education and social assistance institutions that are linked and developing their essential purposes (Brasil, 1996).

[2] For ITR purposes, smallholding in the Amazon is defined according to Art. 2 of Law No. 9,393/1996 (Brazil, 1996) as those smaller than 100 hectares if located in municipalities of the Western Amazon or less than 50 hectares if located in the Eastern Amazon. According to Decree-Law No. 291/1967, Amazonas, Acre, Rondônia and Roraima make up the Western Amazon, while Eastern Amazonia is composed of Pará, Maranhão, Amapá, Tocantins and Mato Grosso.

3. Methodology

3.1. Amount of ITR collected in the Legal Amazon

We identified the total amount of ITR collected by municipality between 2000 and 2017 from the National Treasury through a request based on the Law on Access to Information (LAI). The available values did not present all data of the municipalities for reasons of fiscal secrecy. The RFB did not inform how much of the total value per municipality was omitted, but we assumed it would be a small value, as we compared the data available from some municipalities and observed a small difference in values. Data omission exists when there is the possibility of breach of tax secrecy [3] and, in cases of ITR declaration, occurs mainly when there is only one declarant per municipality.

3.1.1. Factors that influence ITR collection

To understand the factors that have influenced the collection of ITR over time, we have compiled rule and operational changes through document consultations and interviews with consultants, RFB staff and city halls. In addition, we evaluated the effect of municipal control by comparing the collection between municipalities

[3] Law No. 5,172/1966. Article 198. Notwithstanding the provisions of criminal law, the disclosure by the Public Treasury or its servants of information obtained through an official document on the economic or financial situation of the taxpayer or third parties and on the nature the state of his or her business or activities is prohibited.

with and without agreements with the RFB and verified the variation in ITR collection and the prices of bare land used by municipalities based on the date of the agreement. .

Revenue collected from the collection of ITR may return to the municipality with different amounts: 100% of the total collected returns to the registered municipalities and 50% to those who have not yet opted for the agreement. In both cases, there is a deduction of 1% for the fulfillment of the obligation on net current revenue for the Public Servant Heritage Formation Program (Pasep) and 20% for the Basic Education Maintenance and Development Fund to Value Education Professionals (Fundeb) (Law No. 11.494/2007)[4].

3.2. Estimate of the potential for ITR collection

In this study, we compared the total amount of tax collected with the estimated collection potential. The estimate of the total collection potential of ITR in the municipalities of the Legal Amazon was made in three stages:

1. We estimated the collection potential of each property for which we obtained public information from the property map (CAR, Land Management System (Sigef) and Terra Legal Program). We used property maps overlaid with land use maps to determine the taxable area of each property. We considered that all rural properties reach the minimum level of use and therefore would pay the lowest rate (utilization rate higher than 80% in Figure 1) for their size categories. This assumption is plausible because the minimum level of productivity required is very low since it has not been updated by the federal government since the 1980s
2. We added the estimated ITR due from all mapped properties. In each state, the sum of taxable properties was lower than the total area potentially taxable (areas deforested for agricultural use), since according to what we can see from satellite images there is information missing on rural properties in areas that are in use
3. We extrapolated the collection potential from the estimated area to the total potentially taxable area. For example, in Mato Grosso, we were able to estimate the collection potential in 76% of the potentially taxable territory with property maps. We then extrapolated the average land collection for the remaining 24% of the potentially taxable state (deforested and in agricultural use) for which we did not find property maps. We assumed that the mapped territory would have similar characteristics of size and degree of use to taxable territories, but without property maps.

[4] The order of deductions is as follows: first, Fundeb, then Pasep. For example, for each gross BRL 100.00 to be passed on, BRL 20.00 is retained for Fundeb, 1% x (100-20) = BRL 0.80 is discounted for Pasep, leaving the agreed municipality with a net BRL79.20 of ITR (Santana, SD).

3.2.1. Estimated taxable area of properties

We consider the taxable area as part of the rural property in agricultural use [5] and with deforestation in the Amazon and Cerrado biomes of the Legal Amazon (Table 1). To identify taxable areas, we mapped rural property maps with land cover and land use and deforestation maps, as illustrated in Figure 2.

Of the 110 million hectares deforested and in agricultural use in the region, we found about 93 million potentially taxable hectares. Of these, we were able to map approximately 58 million hectares of rural property - 62% of the total taxable area. The remaining area, over 35 million hectares, has characteristics of potentially taxable areas (deforested for agricultural use and reforestation), but without maps of rural properties (Figure 3). These deforested and agricultural use areas appear in our analyzes within Conservation Units (CUs) and areas where there is no property map.

Areas excluded from the collection estimate included both rural properties that are exempt by law and part of taxable properties that are exempt because of vegetation cover (such as native and secondary forest), as well as rural settlement areas, urban areas with water bodies or destined for infrastructure (transportation), indigenous lands, military areas, quilombos and community territories.

Exempt properties (Law No. 9,393/1996) included those with an area equal to or less than: i) 100 hectares, if located in municipalities of the Western Amazon or in the Mato Grosso Pantanal region; and ii) 50 hectares if located in the Eastern Amazon.

One of the limitations on the exclusion of properties is related to the lack of specific information about owners, preventing the identification of those who own more than one property. Owning more than one property would remove immunity or exemption from properties classified as small. This limitation may explain the fact that in all evaluated states there were fewer properties than the number of ITR statements sent to RFB in 2016 (Table 2).

Deforestation in CUs was considered to be related to speculation, or land grabbing. Some speculators declare ITR for proof of ownership. Perhaps this factor also explains the lower number of properties evaluated in this study compared to the number of declarations submitted to RFB in 2016. Areas without use identification are those where we did not identify classification limits (CUs, settlements, rural properties, etc.). In our database there is a total of approximately 69 million hectares lacking property maps or other use.

[5] In the Amazon biome we consider areas in agricultural use those identified with agriculture, pasture and reforestation, while in the Cerrado biome we consider annual and perennial agriculture, pasture, mosaic of occupations, forestry and exposed soil.

Table 1. Data sources used to estimate the taxable area of rural properties in the Amazon and Cerrado Legal Amazon biomes

Data	Type of data	Year of data	Original source of data	Comments
Individual map of private rural property (Freitas et al., 2018)	Rural Environmental Registry (CAR)	2018	Brazilian Forest Service (SFB)	O Imaflora (Freitas et al., 2018) validated the geometry of buildings with the transformation of all polygons into a valid unified geometry. In the existence of duplicate records, the largest polygon was kept. Portions of records that were not in Brazilian territory were removed. When the Incra and CAR databases were overlapped, properties originating from the Incra database were prioritized because they are certified by Institute technicians while CAR is self-declared. Properties that lost more than 50% of their original area were classified as uncharacterized and excluded from the databases.
	Land Tenure Management System (Sigef)	2018	Incra	Imaflora excluded duplicate polygons that had the same geometry as the properties registered with Sigef and the National Property Certification System (SNCI), and the property records were maintained with the most recent approval date. Property that lost more than 50% of the area after clearing overlaps were excluded.
	Titled *Terra Legal* Program	2015	Incra	
Individual map of public rural property (Freitas et al., 2018)	Untitled *Terra Legal* Program	2015	Incra	
	Property in non-designated areas	2001	Incra	
Land use maps	Area deforested for agriculture	Cumulative up to 2017	Inpe/Prodes,2018; Inpe/TerraBrasilis 2018	We excluded areas under regeneration, with secondary forest (exempt from taxation under Law No. 9,393/1996 [6]) and urban area from the total deforested area.
	Annual agriculture, perennial agriculture, occupation mosaic, grassland, forestry and exposed soil	Cerrado - 2013 Amazon - 2014	TerraClass Amazônia 2018; Cerrado 2015	We identified areas with these uses and overlapped deforested areas to identify potentially taxable areas by property.

[6] According to Law No. 9,393/1996 (Brazil, 1996), areas with secondary or advanced regeneration secondary forests are exempt from taxation. As we had no information on secondary forest stages, we excluded all areas identified in this classification.

Figure 2. Data crossing to estimate the taxable area of rural properties in the Legal Amazon

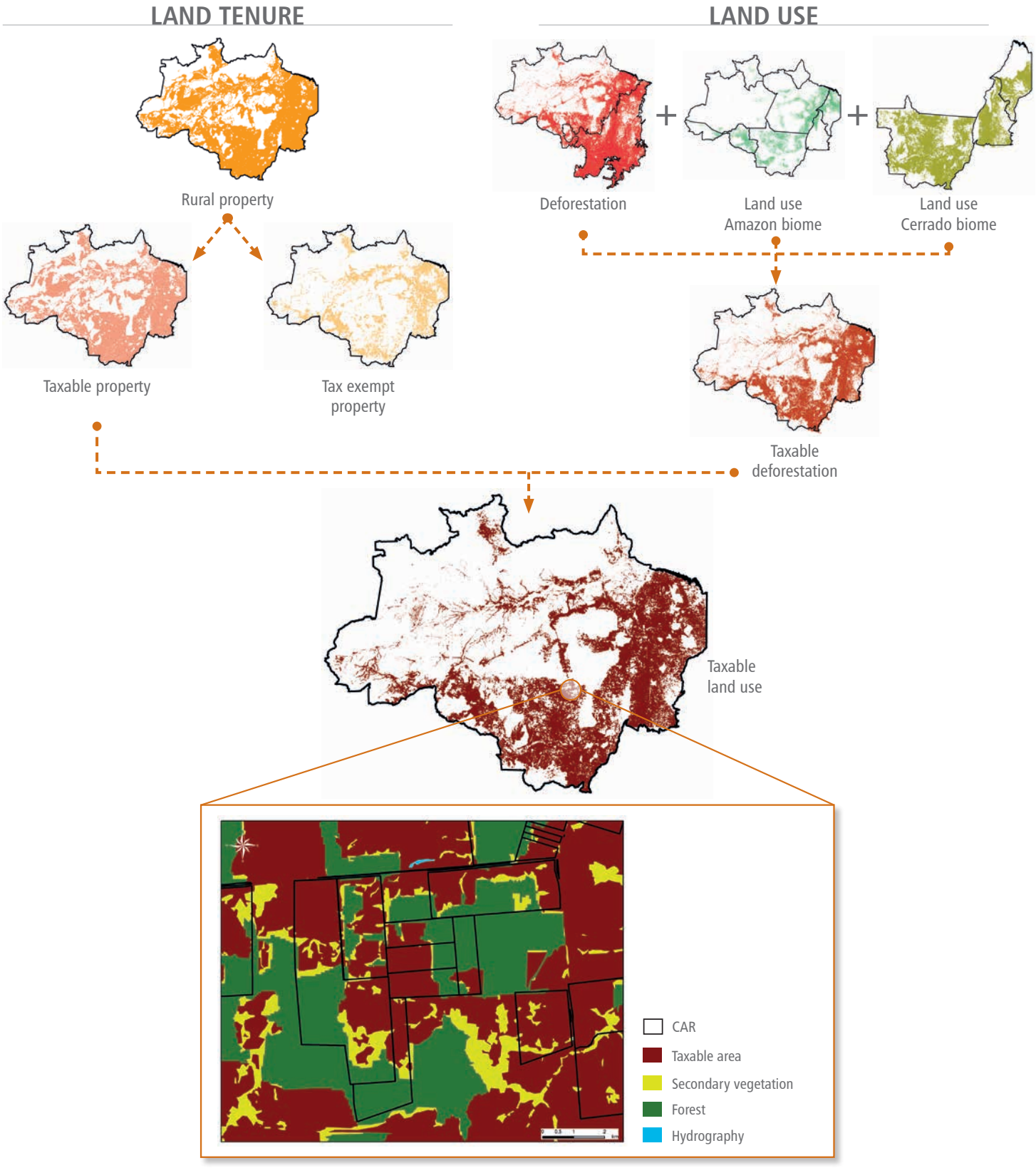
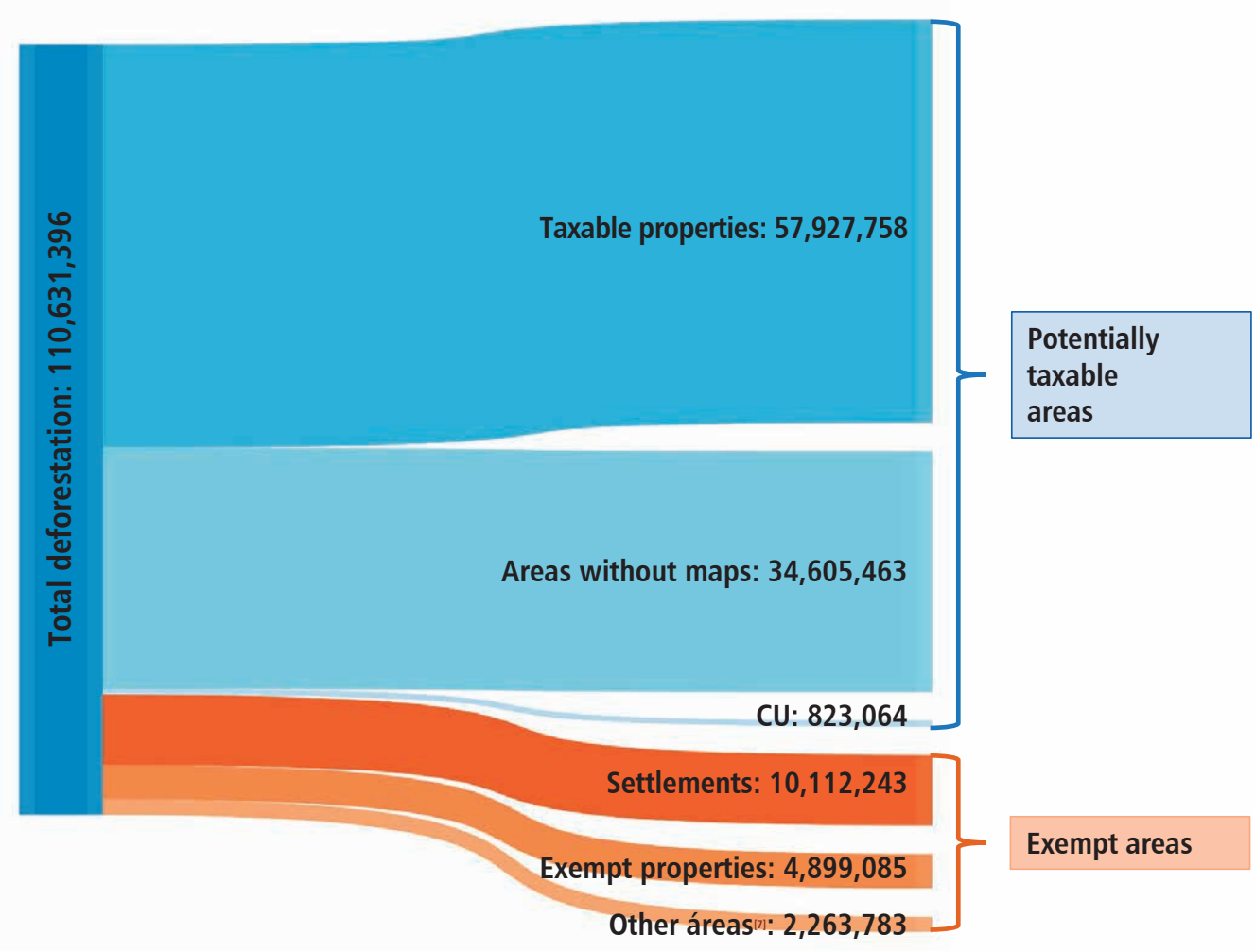


Figure 3. Classification of potentially taxable (blue) and non-taxable (orange) deforested and agricultural areas in hectares in the Legal Amazon in 2018



[7] Other areas include: urban area, water, transportation, indigenous lands, military area, *quilombos* and community territories.

Table 2, Number and area of properties mapped and analyzed, and number of tax reports sent to the Brazilian Revenue Service (RFB) in the Legal Amazon in 2016

State	Total properties mapped	Total taxable properties mapped	Number of exempt properties mapped (#)	Tax reports sent to the RFB in 2016 (#)
Acre	15,183	3,068	12,115	16,204
Amapá	5,635	2,707	2,928	2,280
Rondônia	94,942	18,187	76,755	110,098
Amazonas	48,336	9,474	38,862	32,065
Roraima	10,850	4,736	6,474	16,222
Mato Grosso	105,211	70,046	35,165	128,847
Tocantins	68,406	38,884	29,522	63,618
Pará	145,149	69,268	75,881	111,772
Maranhao	66,490	31,524	34,966	93,815
Legal Amazon	**560,202**	**247,894**	**312,668**	**574,921**

3.2.2. Collection potential scenarios according to the bare land value

We use two bare land value scenarios to estimate the ITR collection potential: market and Incra's benchmark.

Incra (2017) establishes minimum, medium and maximum reference prices for the purposes of titling settlement projects and land tenure regularization. We used Incra's average value for the calculation (See appendix 1).

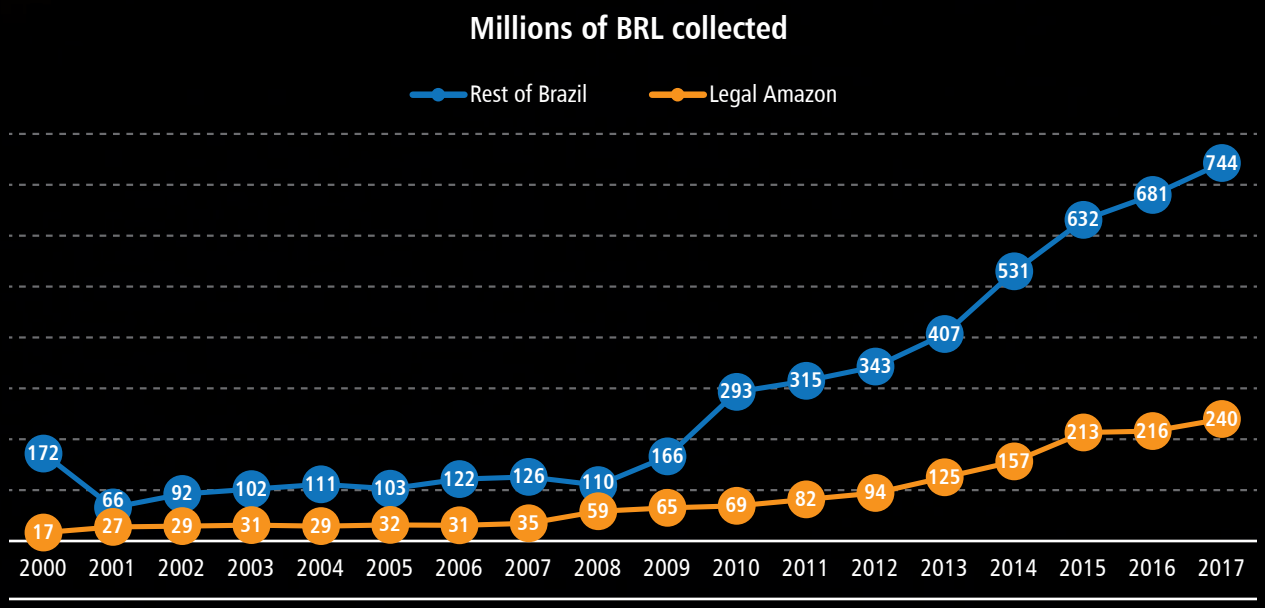
As a market price reference, we used data from the IEG/FNP consultancy (2016). IEG/FNP has divided Brazil into 133 homogeneous regions, based on the most important municipal headquarters in each region and considering common characteristics by area type (See Appendix 1). In the case of municipalities that were not mentioned as the most relevant headquarters, we used the average of the region where the municipality is inserted. Since the ITR does not affect forested areas, we excluded values for forested land prices.

4. Results and discussion

4.1. Increase in ITR collection

Between 2000 and 2017, the collection of ITR in the Legal Amazon jumped from BRL 17 million to BRL 240 million, following the same upward trend as the rest of Brazil (Figure 4). This nearly 15-fiold increase in tax collection in the region was due to changes in rules as of 2003 and legal procedures in the following years, as we will see below. In some cases, CNM pressured the federal government to improve conditions for collection, while in other cases the federal government pressured municipalities to comply with the rules.

Figure 4. Amount of rural land tax collected on rural property in the Legal Amazon and the rest of Brazil between 2000 and 2017



Source: RFB, 2018

2003 – National Congress establishes the optional municipalization of the collection of ITR. In 2003, Constitutional Amendment No. 42/2003 enabled the optional municipalization of the collection of the ITR, which since 1964 has been the exclusive competence of the Union. The municipalization requires an agreement of the municipalities with the Union through the Special Secretariat of the Brazilian Revenue Service (RFB), which will also grant them the right to receive 100% of tax revenues after discounts of up to 20% of the value. The transfer occurs as long as there is no omission of the information transferred, tax reduction or any other form of tax waiver. The municipalities without agreements continue to receive 50% of the revenues collected by the federal government.

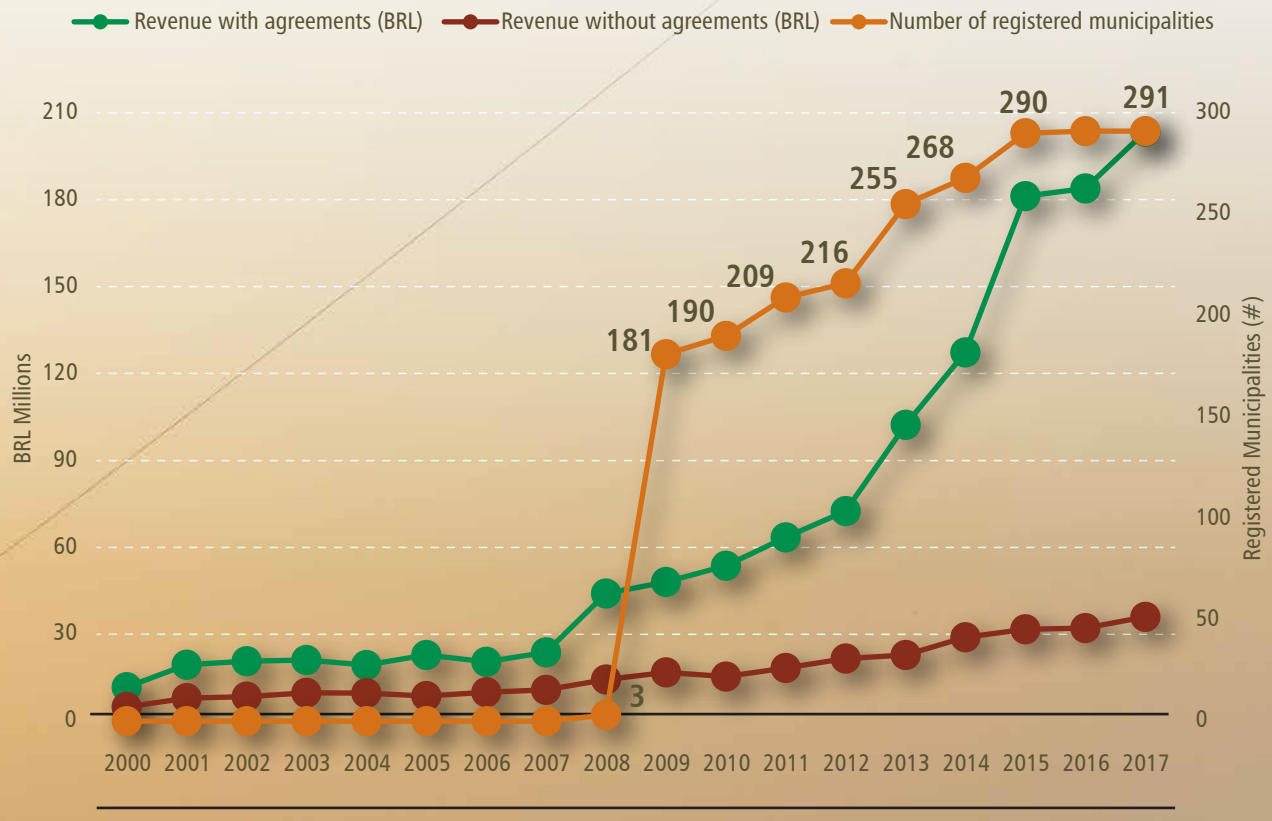
2005 – National Congress regulates municipalization. The initial model of agreements displeased the municipalities and it took two years for the federal government to create an acceptable model involving representatives of the Union and municipal entities.

2008 – IRS creates committee to sign agreements for municipalization. Following pressure from CNM, the federal government created the Rural Land Tax Steering Committee (CGITR [8] - Decree No. 6.433/2008), which was responsible for approving the registration option and the steps for its establishment with the municipalities. Under these agreements, accredited municipal servants could access the ITR control systems, tax reports, payments, administrative collection system and the Rural Property Register (CAFIR), which are controlled by the RFB.

2009 – Rules boost the amount of agreements and revenue. With the rules defined, the number of agreements jumped from three in 2008 to 181 in 2009, reaching 291 municipalities in 2018 (Figures 5 and 6; Appendix 1). Between 2008 and 2017, the total tax revenue of the registered municipalities increased nine-fold, while that of the municipalities without agreements was only three times (Figure 5). The average collection of ITR three years after the agreements increased 68% compared to the three years prior to the agreements (Figure 7).

[8] The committee is composed of three representatives of the federal tax administration and three representatives of the municipalities or the Federal District

Figure 5. Amount collected from rural land tax per year in municipalities with and without agreements and total number of municipalities in the Legal Amazon between 2000 and 2017



Source: RFB, 2018; RFB, 2018a

Figure 6. Municipalities of the Legal Amazon registered with the Brazilian Federal Revenue, per year of agreement, between 2008 and 2016

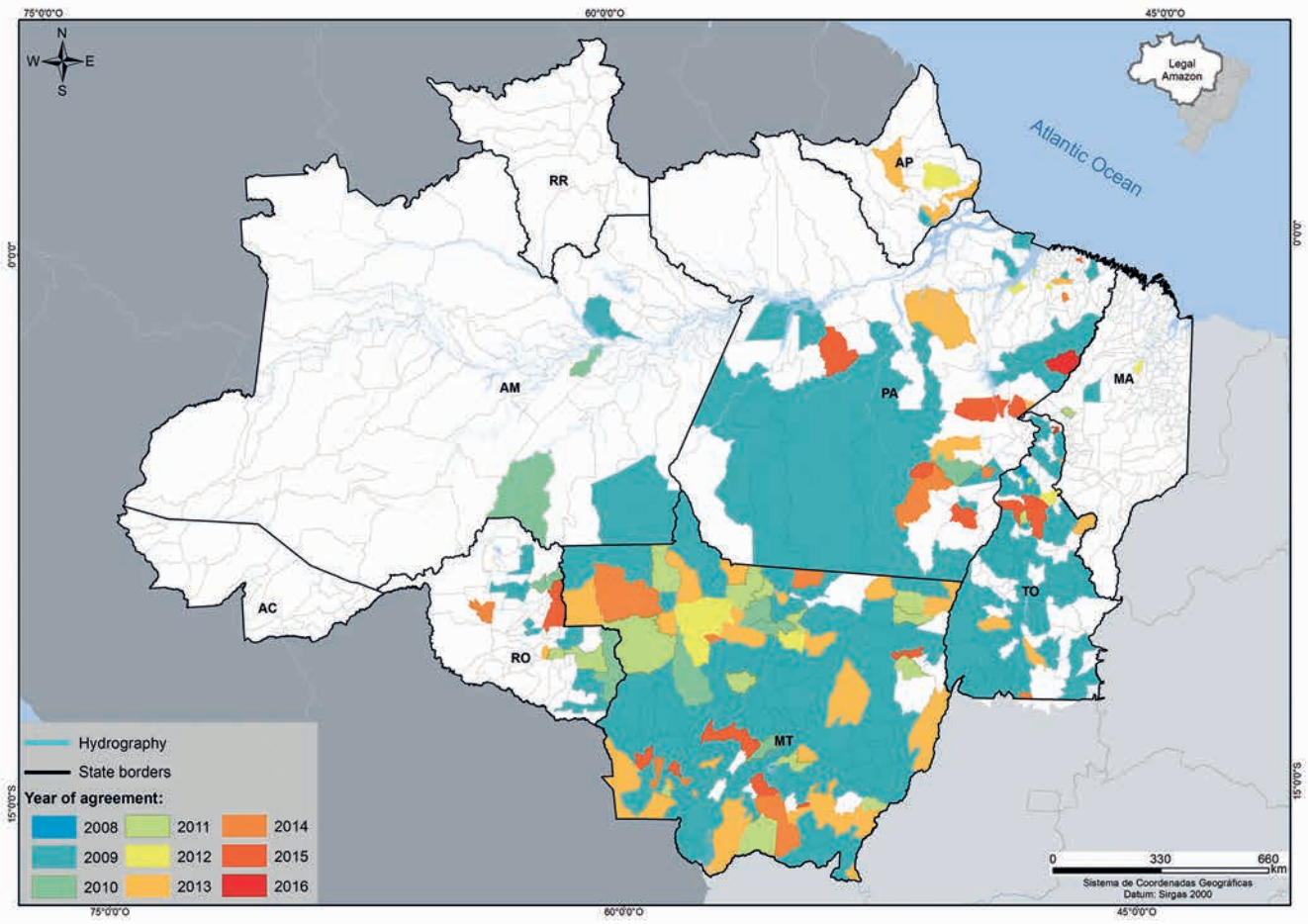
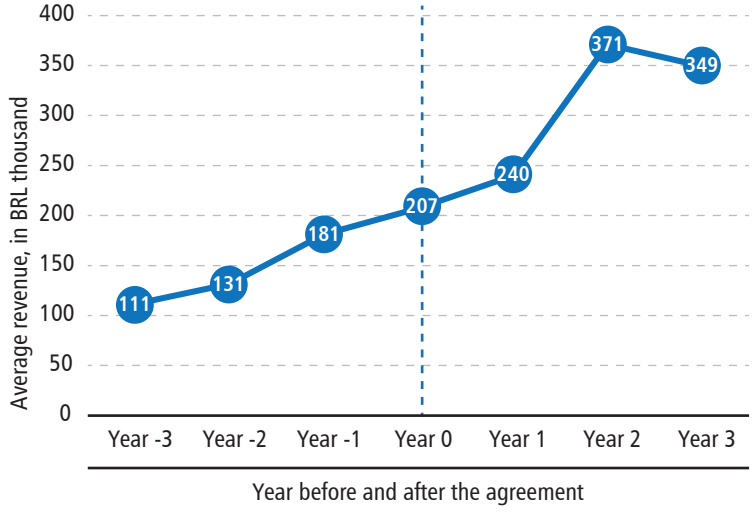


Figure 7. Average amount of rural land tax collected in the registered municipalities in the three years before and after the beginning of the agreement (year 0 corresponds to the year of agreement) in the Legal Amazon



Mato Grosso was the state with the largest number of registered municipalities (93% of the municipalities and 95% of the taxable area registered - Figures 8 and 9) and the most advanced in the collection of ITR, which increased nine-fold between 2007 (before the agreement) and 2017. In the Legal Amazon, the registered municipalities amount to 65% of the total taxable area.

Some municipalities of Mato Grosso hired consultants to help update the VTN (Box 2), increasing their revenue. For example, in Paranaíta (MT), the average VTN in the agreement year (2013) was BRL 880/ha and increased to BRL 2,200/ha in 2016. As a result, ITR revenue in the municipality more than tripled in three years, from BRL 150 thousand to BRL 463 thousand.

Continuity of this consultancy can increase revenue for several years. In a municipality with a consultant for nine years, revenues increased by 430%. In the meantime, municipalities with agreement, but that did not hire consultants, had an average increase in revenues of 150% between the agreement date and 2017, the last year of our analysis.

Figure 8. Taxable area (in hectares) with and without agreement and percentage of taxable area with agreement in the states of Legal Amazon in 2017

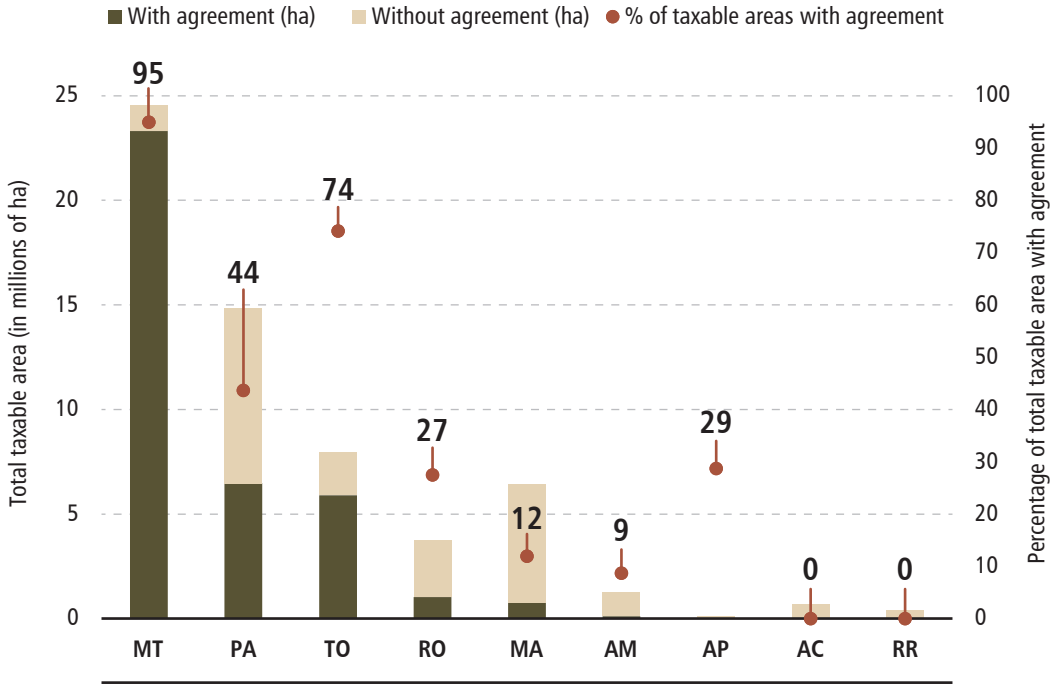
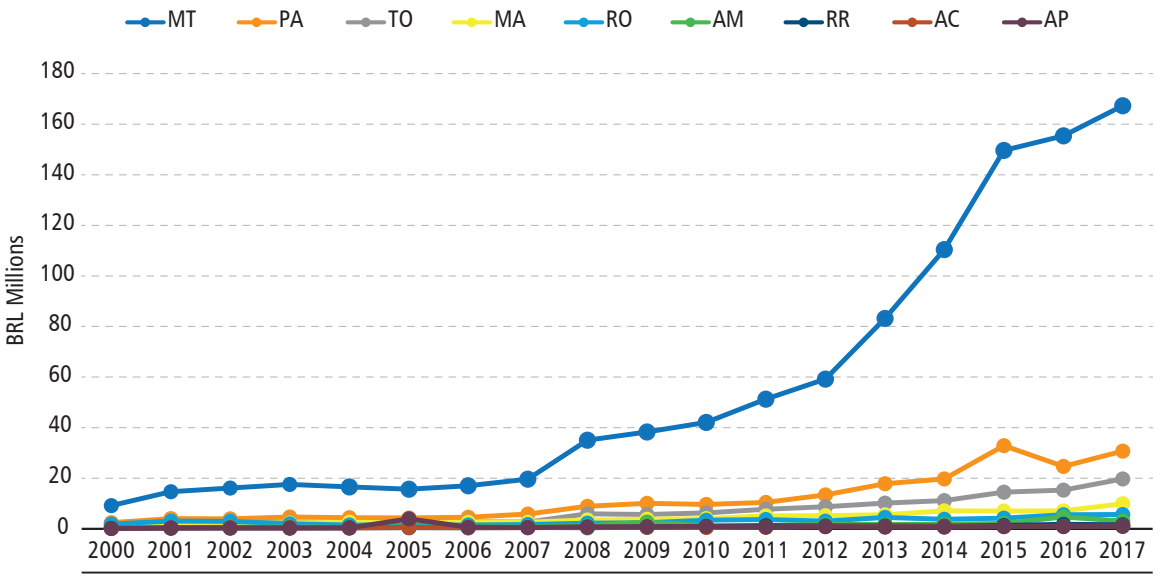


Figure 9. Amount of rural land tax on rural property collected per state of the Legal Amazon between 2000 and 2017



Source: RFB, 2018

Box 2.

Reviewing the value of bare land through consultants in some municipalities of Mato Grosso

In some municipalities of Mato Grosso consultants analyzed whether the VTN is in line with market values and proposed adjustments. Consultants charge a fixed annual fee to assist in the municipal management of ITR, the Tax Code and other municipal taxes.

The city that decides to accept the consultant's recommendations informs the new VTNs to the registered accountants with the State Secretariat of Finance (Sefaz), who in turn inform the rural property holders. Following the provisions of Normative Ruling (IN) No. 1,652/2015, municipalities fill out a letter and send it to RFB with land values adjusted according to the type of use [9] (See example in Appendix 2). In addition, the city publicizes the new values in the local press and via the internet (see example in appendix 3). The RFB can use the VTN reported by the municipalities to verify the declarations (tax audit by the RFB) and notify those who have reported amounts below market values.

[9] Types of use are: crop with good suitability, crop with regular suitability, crop with restricted suitability, planted pasture, forestry or natural pasture and the preservation of fauna or flora.

2013 – Brazilian Revenue Service qualifies municipal tax. RFB created the ITR Portal, which provides a list of registered municipalities and document templates for use by municipal inspectors. Also in 2013, the School of Farm Management (Esaf) [10] trained the first class of municipal inspectors. With this technical and administrative guidance for municipal public servants, there was a sharp increase in the average VTN of municipalities with agreements established that year, as well as in their collection.

2014 – RFB frees access to the list of taxpayers who have been selected for the RFB tax audit over the previous five years, enabling municipalities to cover such debts (Box 3).

Box 3.

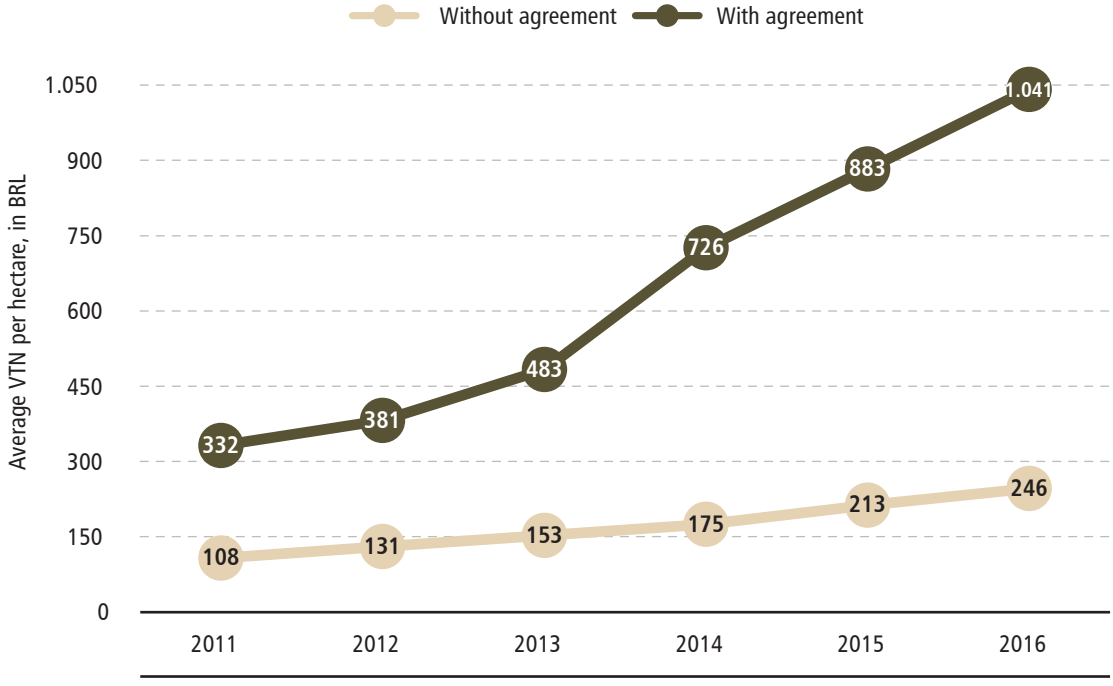
How the Brazilian Revenue Service oversees the collection of land tax on rural property

RFB has a tax auditing system that compares reported information each year. This system consists of the electronic cross-checking of information available in the Environmental Declaratory Act (ADA) provided by tax reporters with declared non-taxable areas. There is also declared VTN verification. In addition, the system is capable of comparing VTN information and declared productivity rates. When there are discrepancies in the information, the municipalities of the registered municipalities are informed for inspection. When the owner questions the municipal inspection, the RFB should provide verification. The recommendation is that RFB should forward the inspection request to employees who are not usually responsible for ITR matters. At this point, according to a source at RFB (personal contact), the control process gets stuck as this is not a significant tax compared to the sums of other taxes under RFB's responsibility. When there is confirmation of the evasion of ITR, the tax is recalculated, and the difference is charged with a fine and interest.

[10] Currently, the National School of Public Administration (Enap) is responsible for managing the ITR Long Distance Learning course for registered municipalities.

2015 – IRS requires municipalities to update the VTN. In 2015, RFB required partner municipalities to update their published VTNs to reflect market value on January 1st of the current year (IN RFB No. 1,562/2015). The landowner who declares less than the disclosed value can be notified by the RFB, having to prove the declared values. RFB data show that in 2016, the average VTN of the registered municipalities was four times higher than in non-registered municipalities (Figure 10). The RFB may cancel the agreements of municipalities that do not update the VTN.

Figure 10. Average Bare Land Value (BRL/ha) in municipalities of the Legal Amazon without and with agreement used by the Brazilian Internal Revenue Service for territorial property tax from 2011 to 2016



Source: RFB, 2018

2016 – IRS enforces compliance with registered municipalities. In 2016, the RFB established that the registered municipalities should: i) have the appropriate technological structure and a law on the duties of the municipal inspector, who must be selected through a government standard examination and should be trained and qualified by the RFB to have access to the control system (IN no. 1,640/2016); ii) annually inform the VTN per hectare, for the purpose of updating the Land Price System (SIPT); and iii) comply with minimum inspection targets observed in CGITR resolutions. One of the goals is to control and supervise those who have not submitted the tax reports, which is part of the Program for Rural Territorial Tax Declaration Omissions, created in 2012.

This measure made it possible for existing agreements to be revised and new agreements to be established following a unified standard.

From then on, there was pressure from the municipalities to offer a new Esaf course to the participating municipalities that had not yet participated, in order to adapt to the new rules. The last course took place in 2015. In September 2018, Esaf announced eight hundred new openings for the course, held from October to December 2018 [11].

These new rules may explain the increase in revenue from 2016.

Municipalities that have not met the specifications by October 31, 2017 [12] may suffer termination of agreement, loss of revenue, and audits performed by Courts of Auditors and Public Prosecutors

4.2. ITR tax evasion

Despite the increase in the collection of ITR in the Amazonian municipalities, there is evidence of high tax evasion. According to Fagnani (2018) the vast majority of tax reports contain smaller taxable areas and a higher degree of land use. In addition, there are a number of contributors who fail to declare, underreport bare land values, inflate land investment values (and thus reduce the VTN) and report larger exempt areas than they actually are (e.g. a non-taxable area of forest larger than actually contained on the property).

Although the lack of access to each property's declaration data made it impossible for us to make an accurate estimate, we were able to infer evasion by assessing the difference between the VTNs declared to the RFB for ITR purposes and the value of land on the market and the number and total area of properties declared per state.

4.2.1. Declaring land value below market price

We estimate that the average VTN declared by property owners accounted for only 10.5% of the average land market value in 762 municipalities. In the registered municipalities, the declared values corresponded, on average, to only 14% of the market, and in those without agreement, to 6%. Some examples illustrate the difference even in registered municipalities. In Paragominas (PA), the declared average VTN (BRL 101/ha) was less than 2% of the average land value (BRL 6,000/ha). A similar situation occurred in Lagoa do Tocantins (TO), with VTN declared to RFB (BRL 123/ha) equivalent to 1.7% of the average land value (BRL 7,075/ha); and Ponte Branca (MT), with a declared VTN of BRL 813.09, equivalent to 7.6% of the average land value (BRL 10,727/ha).

[11] May 2019, Enap opened 450 vacancies for ITR EaD courses for registered municipalities. (https://www.enap.gov.br/index.php/pt/noticias/inscricoes-abertas-curso-imposto-territorial-rural-para-municipios-conveniados).
[12] Normative Ruling IN RFB No. 1,739/2017 changed the due date to comply with the standards from 3/31/2017 to 10/31/2017. In December 2018, 1,094 municipalities (141 of them in the Legal Amazon) were reported for not meeting the requirements of IN 1,640/2016. Since January 2019, the municipalities reported have ceased to receive the full tax. Those who have lost their status as registered and wish to resume the agreement must follow all procedures again, including retraining their employees.

The difference between stated values and market values is wide in most municipalities (Figure 11). In 58% of them, the declared average value was below 25% of the average market value, including a large number of registered municipalities in Tocantins, Pará and Mato Grosso. In only 23 municipalities (3%), the declared average value was greater than 50% of the market value. Even in Mato Grosso, the state that advanced most in the collection, the declared average land value corresponded to only 22% of the market value (Figure 12). See Appendix 1 for the ranking of municipalities for the discrepancy between the stated average value and the market value.

Considering the amount of hectares declared taxable for the RFB in 2016 and the amount collected in the Legal Amazon, we found that, on average, the amount paid for ITR was only BRL 0.87 per taxable hectare per year. The collection was higher in Mato Grosso (BRL 3.90/ taxable hectare/year) while in the other states it was lower than BRL 1.00/taxable hectare/year) (Figure 13).

Figure 11. . Ratio between the average Bare Land Value declared in the land tax on rural property and the market value of the land in the municipalities of the Legal Amazon. The lower the ratio, the greater the evidence of evasion

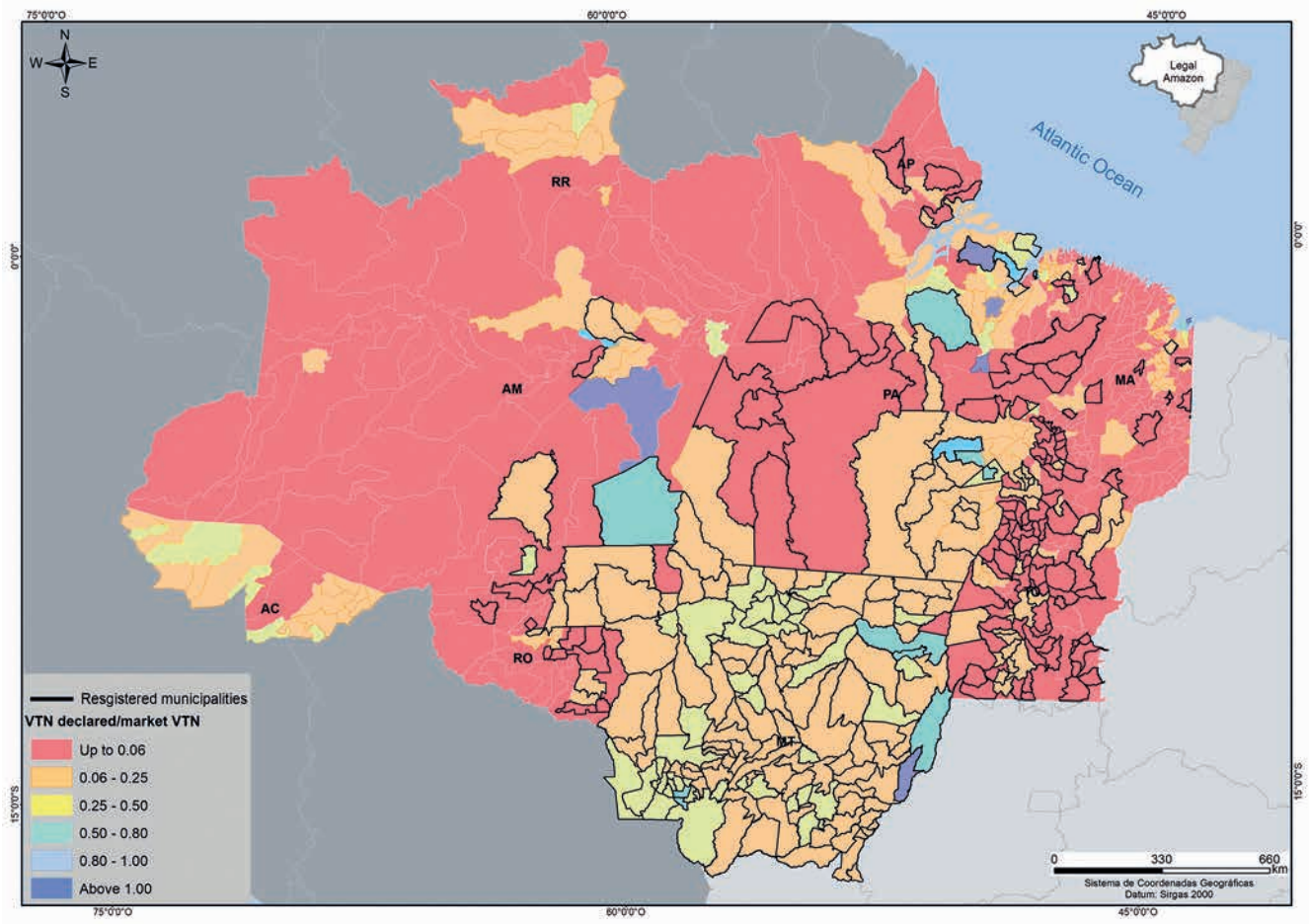


Figure 12. How much does the declared average bare land value represent (%) in relation to the average market value in all municipalities and in those with and without agreement, per State of the Legal Amazon?

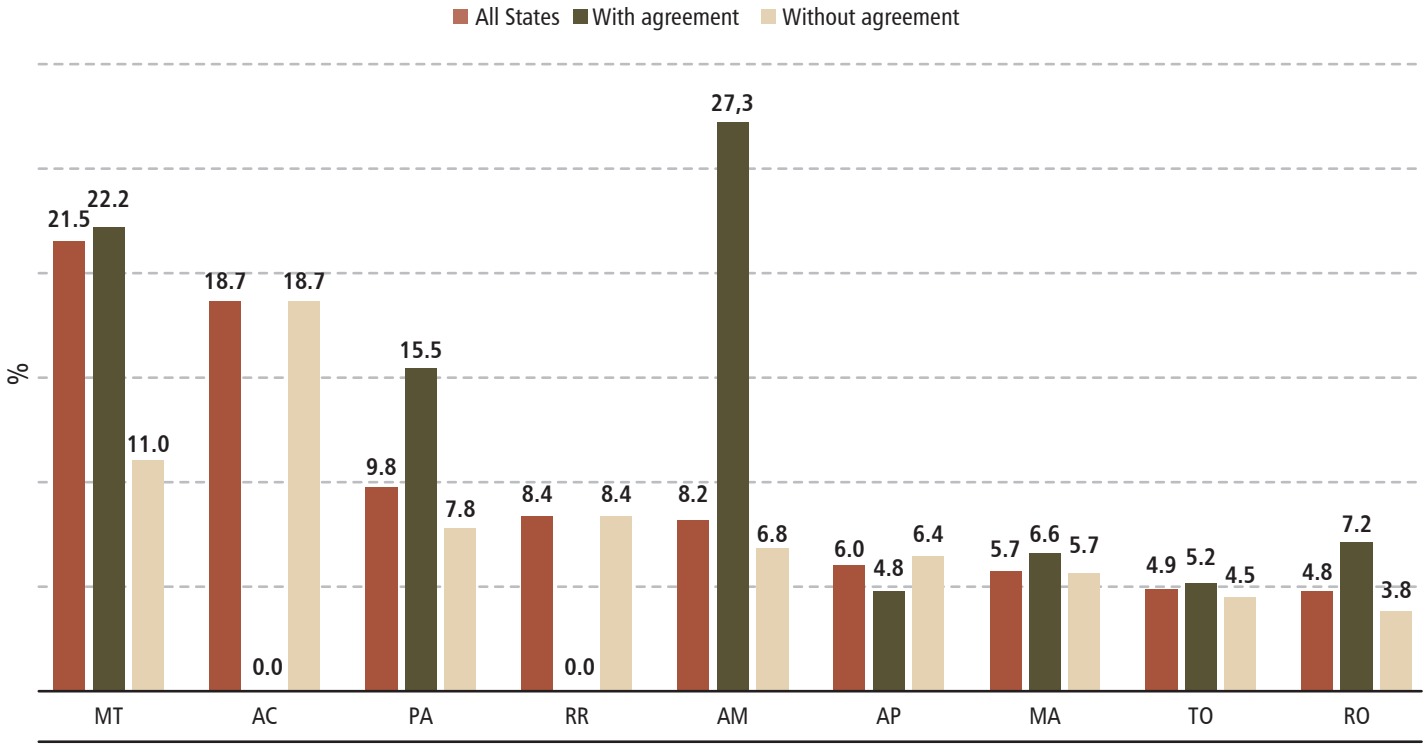
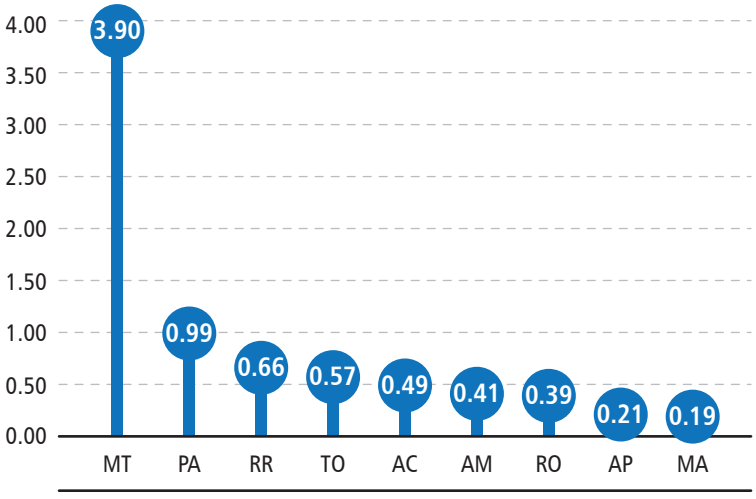


Figure 13. Amount of rural land tax paid per taxable hectare in the states of Legal Amazon in 2016



4.2.2. Decrease in the amount of ITR tax reporting

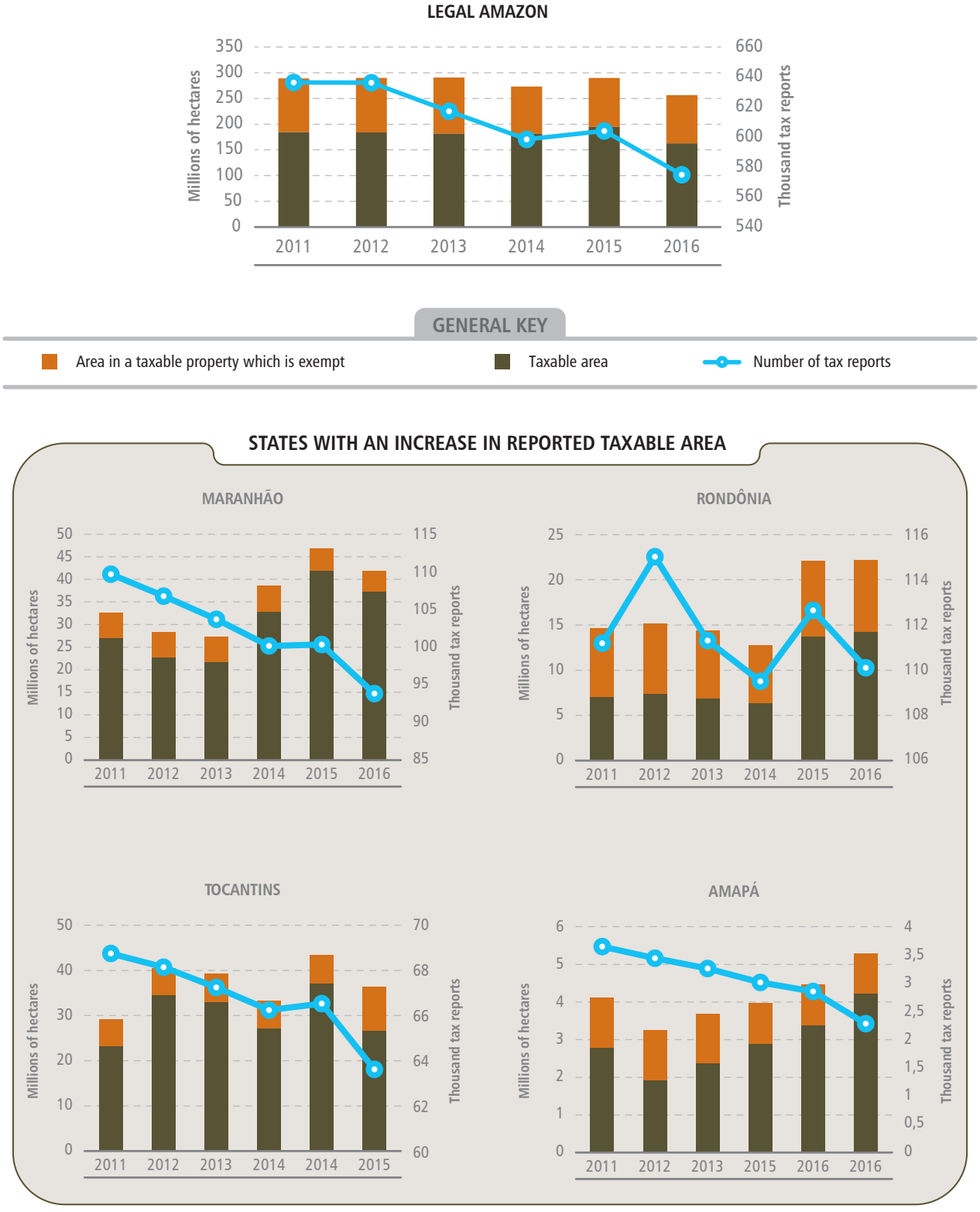
Between 2011 and 2016 there was a reduction of 61,000 ITR tax reports, which totaled 22 million hectares in the Amazon states (Figure 14). The reduction in tax reports was greater in Pará and Mato Grosso, respectively minus 20 million and 10 million of taxable hectares declared. There was an increase in declared areas in Maranhão, Rondônia, Tocantins and Amapá. There is a legitimate reason for the 20% decrease in the taxable areas declared to the RFB during this period in the region: previously taxable areas were transformed into ITR-free land categories, including the creation of protected areas, land reform settlements and the flooding of hydroelectric reservoirs [13].

[13] Between 2011 and 2016, 590,000 hectares of land were obtained for the creation of new settlements, about 400,000 hectares for wetlands and 3.4 million hectares for conservation units (except Environmental Protection Area- APA), totaling 20% of the reduction observed in the taxable areas declared in the period.

However, attempting to evade ITR may also explain part of this reduction in tax reporting. In 2015 RFB required municipalities to update the VTN, and the increase in value may have spurred the decline in tax reporting, which was most significant after this date. Another indirect reason for declining tax reporting would be amnesty for part of illegal deforestation - especially for small rural properties - established by the new 2012 Forest Code (ISA, 2014). Rural landowners and squatters had an incentive to subdivide real estate for forgiveness of environmental crimes. Thus, smaller properties would have the double benefit of amnesty of illegal deforestation and exemption from ITR, which would explain part of the decline in tax reporting as of 2013.

The drastic reduction in ITR tax reporting in Pará and Mato Grosso may also have been related to the increased risk of paying ITR to formalize illegal occupation of public land, as explained in Box 4.

Figure 14. Taxable Areas Declared to the Brazilian Internal Revenue Service in the Legal Amazon and per Amazon State from 2011 to 2016



Continuation of Figure 14

Box 4.

Increased risk of land grabbing between 2014 and 2016

Landowners must pay the ITR. Therefore, illegal occupants of public land pay the ITR to show an official bond to the area and the good faith of the occupation by paying a derisory tax. However, the risk of land grabbing increased when the government carried out operations against illegal deforestation and occupation of public lands in Pará in 2014 (Castanheira) and 2016 (Rios Voadores) (Federal Police, 2014; Tinoco & Isensee e Sá, 2016). These operations, which reached people from Pará, Mato Grosso, São Paulo and Paraná, were partnered by the Federal Public Prosecution Service, Federal Police and Federal Revenue. In both cases, the accused were arrested pre-emptively, and although they have already been released, they risk being sentenced to long prison terms, in addition to fines for income tax evasion and environmental crimes. These cases may have led other land grabbers to fail to declare the public land ITR to avoid disclosing information leading to investigations of environmental and tax crimes.

It is relevant to note that in December 2016, the then President Temer complied with a request from the rural caucus to extend the period of regularization of public land holdings (Brito, 2017; OC, 2017). This indicates that the industry has acted again to minimize the risk of grabbing public lands.

4.3. ITR collection potential

Considering the evidence of tax evasion, we infer that there is potential to increase the collection of ITR in the municipalities of the Amazon Region. We were able to estimate this potential in 62% of taxable areas using the market land value and minimum rates for each size of property - i.e., considering that they all reached the maximum level of use. We then extrapolated this value to the total taxable area, assuming that the area we mapped would have similar characteristics to the total area.

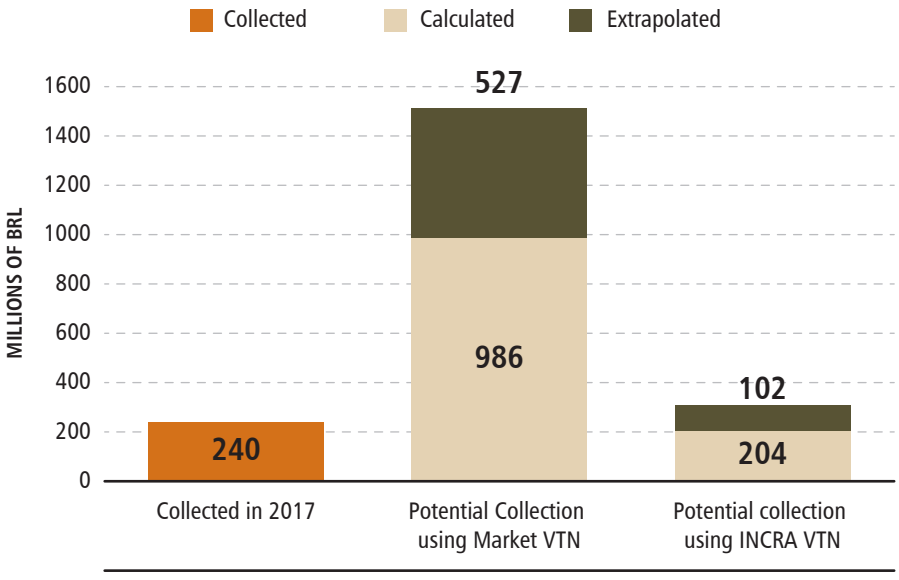
We estimate that the collection of ITR in the Legal Amazon could reach approximately BRL 1.5 billion, or six times more than what was collected in 2017, if market land values were considered as reference and 100% of the estimated and extrapolated area. Considering only the estimated area (excluding deforested areas without property map and in protected areas), the potential reached 986 million, equivalent to more than four times what was collected in 2017 (Figure 15).

The analyzes indicate that even in the states with the highest revenues, such as

Mato Grosso, Pará and Tocantins, there is potential to increase these values. Maranhão and Rondônia are the states with the largest differences between the collected values and the potential value using the market VTN (Figure 16). Rondônia could multiply its current collection by 26, while Maranhão has the potential to multiply the collection by 15. Both states have low adherence of municipalities to agreements and, consequently, there is low inspection and low declared land values. The average VTN reported to RFB corresponds to 5% (Rondônia) and 6% (Maranhão) of the market value used as reference in this report.

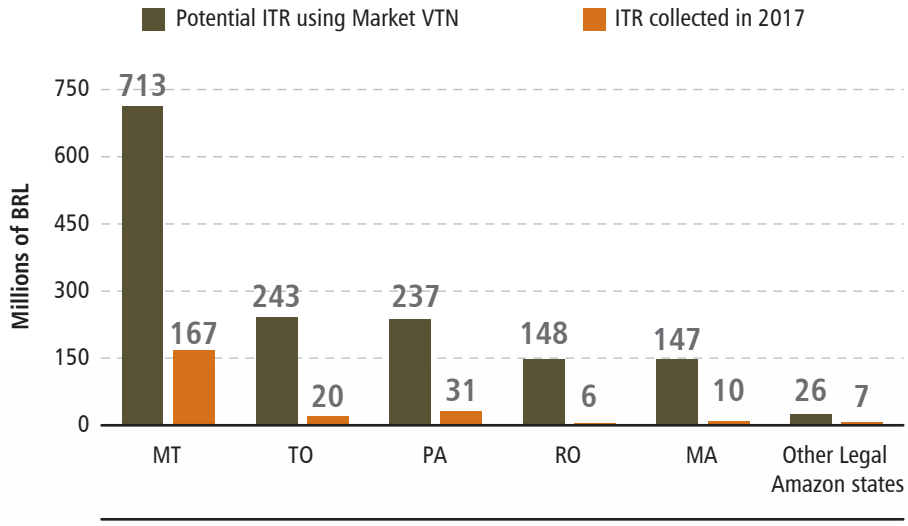
In addition, we estimate that using Incra's VTN as a basis for estimating ITR, as still occurs in some municipalities [14], would result in a collection of one fifth of the potential revenue using market VTN. According to Incra, the bare land values should be used for titling areas intended for rural settlements and should not be a reference for any other purpose.

Figure 15. Rural Land Tax collected (BRL million) per state of the Legal Amazon and estimated collection using market VTN in 2017



[14] Data from the Mato Grosso State Agriculture and Livestock Federation (Famato, 2018) show that at least ten municipalities in Mato Grosso use Incra's VTN as maximum land reference values. In addition, a letter received by a city council states that average values of Incra were used to meet the obligation to adjust the VTN stipulated by Normative Ruling IN No. 1,562/2015. Incra's VTN was four times lower than the market VTN.

Figure 16. Total Rural Land Tax collected in the Legal Amazon (BRL million) and the potential for collection calculated and extrapolated with the market and Incra land values in 2017



4.4. Obstacles for charging ITR

Despite the increase in ITR tax collection, mistakes made by public managers at different levels contribute to revenue below potential, as summarized in table 3. Pressure from the rural sector against ITR tax is a key factor (Box 5). Over the years, pressure from rural groups has influenced presidents who did not update productivity rates for the purposes of tax rate determination as well as mayors who do not adequately update their municipalities' VTN. There is also a lack of better coordination between city halls and RFB for data sharing, capacity building and establishment of procedures.

Table 3. Mistakes leading to low tax collection on rural property

Roles	Mistakes in implementing these roles
Establish rules	**President of the Republic** gives in to pressure from rural groups and has not updated minimum productivity rates since 1980.[i] According to the index currently used, for example, a property in the Amazon is considered productive if it has 0.5 head of cattle per hectare, which is below the region average of 1.9 head per hectare (Silva and Barreto, 2014; IBGE, 2018). [15]
Law Enforcement	**Some mayors** give in to pressure from rural groups to not verify the values declared or do not update those values based on the market[ii]. **Many mayors** are also squatters or landowners and, by conflict of interest, may be lenient with the collection of ITR if not supervised by other public authorities[iii]. **Some municipalities** do not hire inspectors, or when they do, they do not train them.iv Even with Esaf offering the course in 2018, some municipalities have missed the deadline and will continue to have no access to the ITR portal and enforcement duties.
	Brazilian Revenue Service. The RFB does not prioritize ITR enforcement, which represents a small percentage of its revenue. In addition, according to city representatives and consultants, RFB failed to collaborate with municipalities, including: (i) it took too long to set up systems for sharing information and providing city council inspector training courses; ii) submits insufficient information about debtors – e.g., they don't specify the type of evasion, if related to the size of the property and its degree of use v; iii) delay in sending the results of tax audits [vi] to municipalities; and iv) limits access to suspicious statement information even to registered municipalities (Silva & Bento, 2009) [vii]. There is a lack of coordination of federal agencies that use disconnected cartographic bases, which makes it impossible or difficult to verify data. According to Fagnani (2018) there are three federal rural property listings (Cir/Incra, Cafir/RFB and CAR/Ibama).
Rule on noncompliance	Once evidence of evasion is identified, the prosecution of cases is slow or not conducted by the responsible bodies, either the RFB or the city halls.
Apply sanctions	The sanctions against those who break the rules are nonexistent, slow or mild. For example, presidents of the Republic who do not update productivity rates have never been punished for adopting an informal tax exemption. In addition, mayors who do not use land market data are not personally punished. City halls no longer receive the funds raised, but this penalty may be irrelevant to mayors who are uncommitted to the welfare of their municipality. Tax evaders are liable to pay the recalculated amount due plus interest and penalty; but failures to enforce lead to impunity in many cases.

[14]

i) Productivity indices used as a basis for calculating tax rates are outdated - based on the 1975 Agricultural Census and Incra for ITR calculation purposes in 1980 (Leão and Frias, 2016; Instituto Escolhas, 2019).

ii) Rural sector representatives resist effective collection of ITR. Our interviews revealed that rural groups pressure mayors to set VTN ceilings below market price, even when consultants are hired to revise the values. In these cases, the established values are between the Incra value and the market value. One consultant stated that he does not propose an adjustment equal to market value because it would be a "shot in the foot", that is, his work would be discontinued because of pressure from rural groups.

Indeed, we find reports that unions of farmers and councilors are pushing for the discontinuation of tax consultants. In a municipality in western Pará, revenue fell by 13% within six years after the agreement and without the aid of a tax consultant. One year after hiring the consultancy, revenue rose 43%. However, the city discontinued the consultancy after pressure from councilors and the president of the farmers' union. As a result, the following year (2017), revenues were stagnant, despite the potential for growth.

iii) Castilho (2012) showed that politicians elected in 2008 and 2010 owned more than three million hectares of land in Brazil and that many of them are from other regions and own land in northern Brazil, mainly in the state of Pará. In total, more than one million hectares were owned by mayors. For example, more than 50% of the mayors elected in 2008 in Mato Grosso, Tocantins and Rondônia were landowners. According to one consultant interviewed, a municipality in Mato Grosso exemplifies the potential conflict. The municipality, whose mayor is a farmer, is one of nine in the state without an agreement. In 2017, the city raised BRL 422 thousand in ITR, but could have raised about BRL 1 million with simple adjustments in VTN. In 2016, the average VTN reported to RFB (BRL 832/ha) was three times lower than the average land value of Incra (BRL 2,162) and nine times lower than the average market land value (BRL 7,400/ha).

iv) Some municipalities did not hire inspectors, as we found in a municipality in northeastern Pará that, despite being a member since 2009, had not yet hired an employee in 2018. This municipality has never updated the VTN nor has it overseen the statements.

v) An example of the lack of transparency of the RFB is noticeable in the collected values. Municipalities receive very high ITR allocations in one year and the following year they receive lower values, but the RFB does not explain the variation. For example, in 2015, Paranaíta (MT) received a transfer of almost BRL 4 million, 16 times higher than the previous year and almost 10 times higher than the following year, but no one responsible for the finance sector in the municipality has been able to explain this variation. In response to our request made through the Law on Access to Information (LAI), a representative of the Paranaíta prefecture reported that he had consulted with RFB about the difference in amounts passed on and that he had been told that it was not possible to pass information to the municipalities on the grounds of variation. The representative also informed us that he supposes that the high collection amount passed on in 2015 corresponds to the payment of indemnities from the flooded areas arising from the implementation of the Teles Pires Hydroelectric Power Plant, which generated payment of the ITR of the last five years of the flooded areas (Memorandum 024/2018/GAB, sent on 2/7/2018). However, there is no mapping to justify this variation.

vi) For example, it was not until 2018 that RFB sent information of the 2013 and 2014 tax audits to the municipalities.

vii) By mapping the reporting properties, overlaid with land cover data, it would be possible to identify environmental and taxable areas. However, in the municipalities we visited, all with agreement, we were informed that the RFB does not give access to the number of declarants and there is no mapping for the inspection to be conducted efficiently by the municipality. Esaf-trained municipal inspectors receive only a list of indications of statements that may have evaded information in sporadic years. With this information, the inspectors should verify the self-declared values.

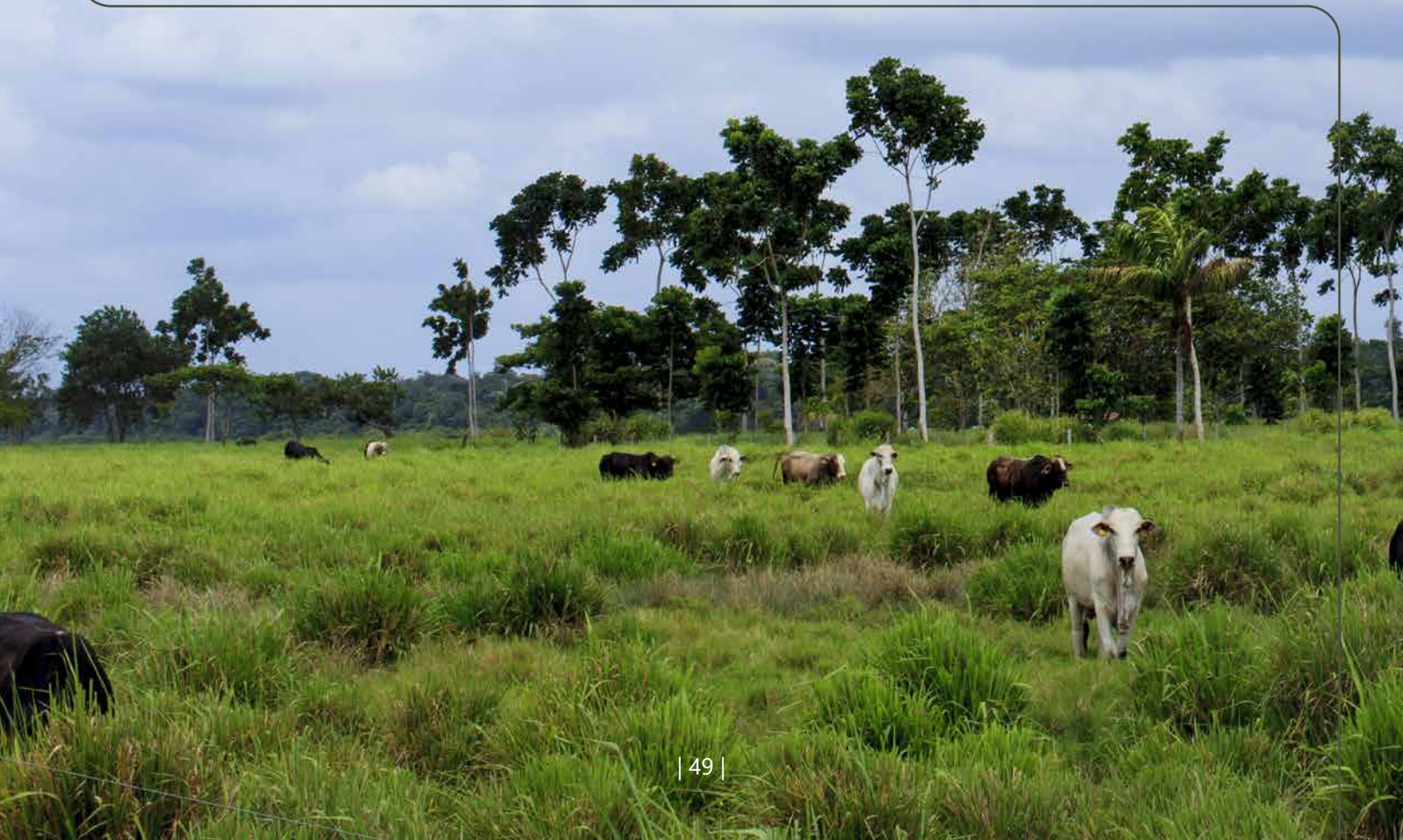
Box 5.

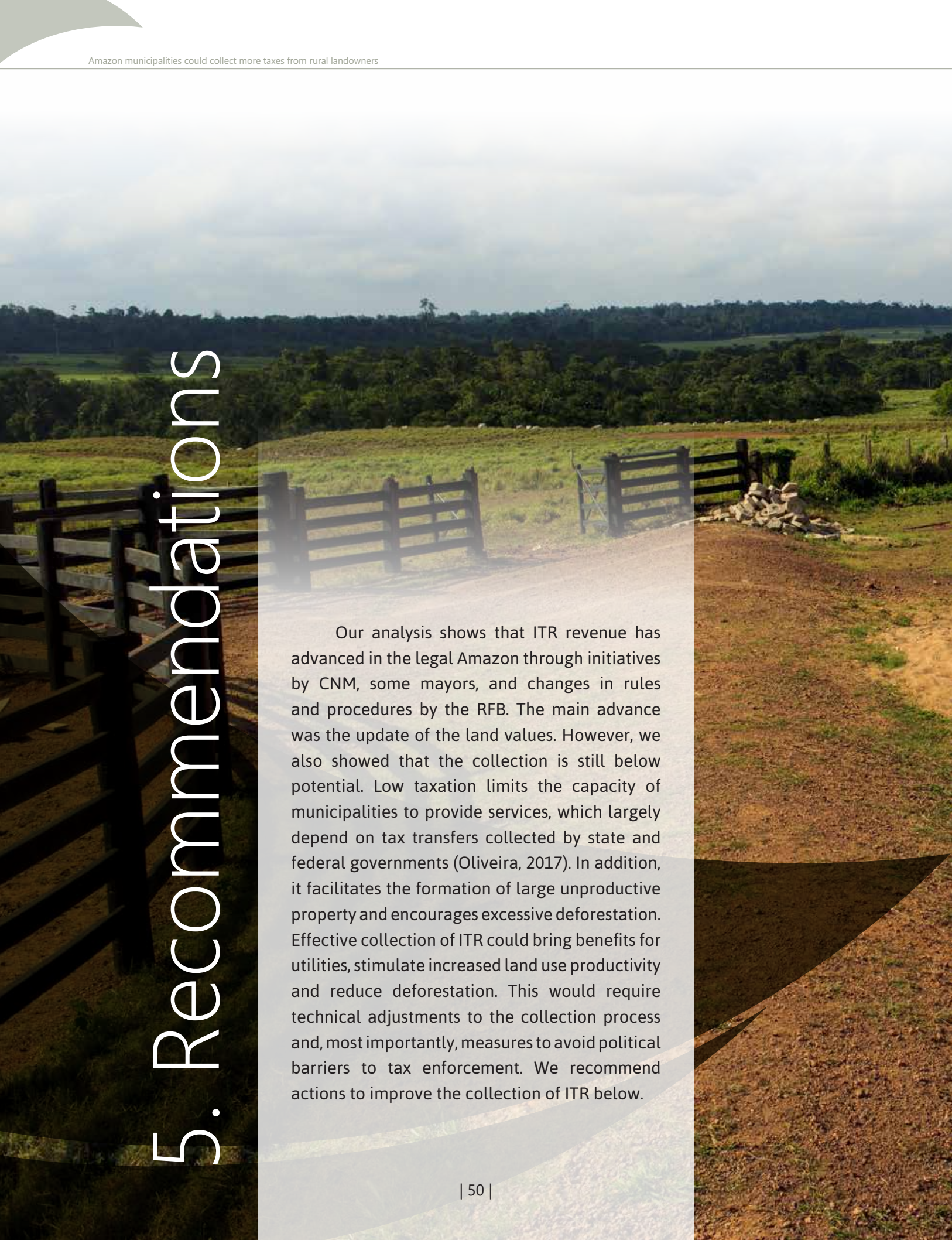
Rural caucus drafts laws to reduce and exempt ITR collection

The collection of ITR is still precarious, but improvements in recent years have encouraged parliamentarians to propose its reduction and even exemption. For example, Draft Bill (PL) No 730/2003 exempts seniors from the payment of ITR and PL no. 5,473/2016 exempts planted forest areas. Draft Bill No. 7,250/2014 that was restated in 2019 (Bill No. 3,488/2019) reduces, exempts and charges the tax according to the percentage of productive area of the properties as listed below. Note that the encumbrance would only be for properties with productive area below 30% of the property.

- From 90.01% a 100% - ITR Free
- From 70.01% a 90% - 75% ITR Discount
- From 50.01% a 70% - 50% ITR Discount
- From 30.01% a 50% - Full ITR Value
- Below 30% + 100% of ITR value

Thus, if PL 3488/2019 is approved, the collection of ITR would tend to be even lower and further reduce the tax contribution of landowners to municipalities already facing a severe fiscal crisis.





5. Recommendations

Our analysis shows that ITR revenue has advanced in the legal Amazon through initiatives by CNM, some mayors, and changes in rules and procedures by the RFB. The main advance was the update of the land values. However, we also showed that the collection is still below potential. Low taxation limits the capacity of municipalities to provide services, which largely depend on tax transfers collected by state and federal governments (Oliveira, 2017). In addition, it facilitates the formation of large unproductive property and encourages excessive deforestation. Effective collection of ITR could bring benefits for utilities, stimulate increased land use productivity and reduce deforestation. This would require technical adjustments to the collection process and, most importantly, measures to avoid political barriers to tax enforcement. We recommend actions to improve the collection of ITR below.

5.1. Transparency and filters to stimulate the use of market land value

The declared values are below market values, either due to lack of data collection, political interference resulting from pressure from the rural sector and/or conflict of interest of municipal managers.

In order to curb undeclared land use value, it is necessary to promote the collection and sharing of market data. In addition to requiring municipalities to collect data, as has already been done, the RFB could collect or acquire market data as a reference to verify the values provided by municipalities and declared by taxpayers.

The São Paulo State Department of Agriculture collects and disseminates bare land values for ITR purposes and has identified that some municipalities in the state have given in to pressure from rural groups to reduce values (Camargo, 2016). Disclosure of the data would also help curb contrary cases in which municipalities may want to charge above market values - which was not recorded in the Amazon.

The RFB could also publish its land value database and annually pass on to the municipalities the suspicious data identified in its tax audit. Data transparency would be in line with the UN Food and Agriculture Organization (FAO) recommendation that public managers should prevent corruption in tax management through greater transparency of land value data. (FAO, 2012).

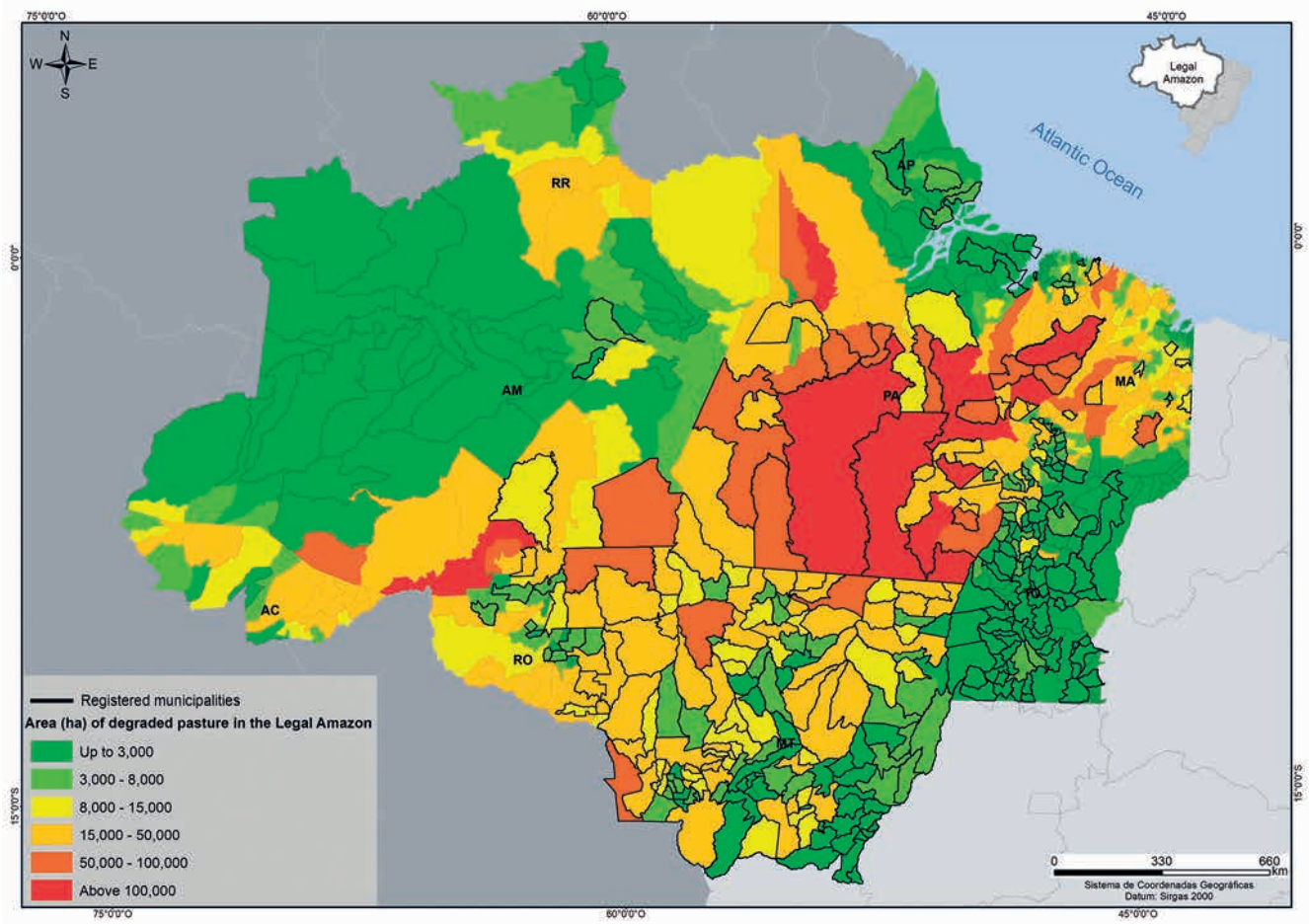
In addition, RFB could filter out-of-market price statements for taxation, blocking, in real time, those who wish to declare VTN ITRs far below market. The existing system (SIPT) could automatically filter, block and notify producers who are declaring values far below the values practiced in the region.

Fagnani (2018) also suggests that the Real Estate Transfer Tax (ITBI) can be used to confront declared values for ITR purposes. This could discourage taxpayers from underestimating values and for public managers to set below-market ceilings.

5.2. Focus enforcement in municipalities with signs of low productivity rates

The high rate of underutilized land, such as degraded pastures, can be used to prioritize enforcement of ITR collection. Among the champions of degraded pasture areas are partner municipalities (Figure 17; Appendix 1). In addition to the large stock of misused land, some of these municipalities, such as Altamira and São Felix do Xingu, in Pará, continue to be champions of deforestation. Therefore, enforcement in these regions could either help improve the use of already open land or prevent further deforestation.

Figure 17. Ranking of degraded pasture in the municipalities of the Amazon biome in 2014



5.3. Use property maps to enforce ITR

As we have shown in this paper, it is possible to use public maps to monitor the declared taxable area that is based on the definition of the ITR collection rate. The taxable area can be estimated by cross-linking satellite imagery of the areas with the property map that is available in CAR. Currently, the law only asks tax reporters to enter the registration number. RFB and municipalities could access CAR maps to intersect with land use maps. With CAR information overlaid with satellite imagery, it would be possible to verify the accuracy of declared information, such as areas of environmental interest (i.e. maintenance of native vegetation) that are exempt from ITR charges.

Crossing the property map with CAR and maps from other jurisdictions (land reform settlements, conservation units, indigenous lands) would also serve to assess the decrease in declared area in a municipality or state such as shown in section 4.2.2. For example, it would be possible to check whether an area is no longer declared due to tax evasion (an area that is still private and in use) or if the property has been transformed into a non-taxable area (land reform settlements, conservation units, Legal Reserve or Permanent Protection Area to comply with the Forest Code - Law No. 12,651/2012).

In addition, large areas that were no longer declared could indicate squatter areas whose occupants failed to declare ITR for fear of scrutiny of land grabbing and deforestation on public land. These areas could be the focus of integrated enforcement of environmental, fiscal and land crimes, as occurred in the Rio Voadores and Castanheira operations.

5.4. Update the productivity ratio

The minimum income ratios considered for ITR purposes are very low as they have not been updated since 1980 (Instituto Escolhas, 2019). Incra, which is directly responsible for updating them, could prioritize updating livestock rates, which occupy most taxable areas and are one of the least efficient land uses. For this update, Incra could use existing pasture stocking data (number of animals per hectare), for example from the most recent Agricultural Census (2017) or from agricultural defense agencies (municipal or property averages). We also recommend that this update occur every five years. However, the update of the productivity index is strongly resisted by large landowners who pressure presidents and Congress (Silva & Barrett, 2014). Updating the index would depend on whether the Presidency of the Republic understands the strategic importance of ITR and is committed to more sustainable and inclusive rural development. In addition, the presidency should be willing to overcome resistance from the rural sector - one way of doing this would be to show the most productive rural leaders that the increase would mainly affect landholders who use land speculatively.

5.5. Monitor and hold public administrators accountable

This and other studies indicate that the various agencies responsible for direct oversight of ITR collection have failed. Both mayors who do not use market data to charge ITR and presidents who do not update productivity rates are relinquishing their governance roles and informally granting tax waivers. In addition to being irregular, these waivers are not transparent and justified and contribute to aggravate fiscal and social injustice. For example, the reduction of public services affects the poor most significantly.

Therefore, it is essential that the RFB and other agencies strengthen the oversight and punishment of municipalities that do not perform their duties. For example, the RFB reported 1,135 defaulting Brazilian municipalities (of which 1,094 had their agreements suspended in January 2019) and as of January 1, 2019 will cease to allocate the full value of taxes collected. According to the RFB, the lack of a specific tax credit official was one of the main failures of the municipalities and many did not deliver the required documents in accordance with IN 1,640/2016 (CNM, 2018). Loss of revenue is a problem for the municipality, but not necessarily for a mayor who is not committed to the welfare of the population - as he/she preferred to meet the demands of a limited group of voters who own land and is often part of this interest group him/herself.

Other review and investigative bodies such as the Courts of Auditors, Chambers of Verifiers and the Public Prosecution Service should oversee the performance of those responsible for the correct collection of ITR. Punishments that do not comply with the rules must be personal as well as institutional - for example, the mayor who does not follow market prices should be punished.

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Appendixes

Appendix 1, Agreement year, average Incra land reference value, average market land reference value and value declared to RFB, ranking of discrepancy between market and declared values and degraded pasture area per municipality of the Legal Amazon[*,**]

State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
MA	Governador Nunes Freire	115 – Imperatriz		403	5,260	0	1	15,563	204
AM	Santo Antônio do Içá	128 – Boca do Acre		527	2,350	1	2	695	596
AM	Jutaí	128 – Boca do Acre		527	2,350	1	3	671	599
MA	Bom Jardim	115 – Imperatriz		403	5,260	5	4	54,612	37
RO	Monte Negro	125 – Porto Velho		2,210	7,187	7	5	4,693	406
AM	Itamarati	128 – Boca do Acre		631	2,350	2	6	455	632
AM	Eirunepé	128 – Boca do Acre		631	2,350	4	7	2,633	483
PA	Placas	119 – Santarém		895	4,038	9	8	57,034	33
AM	Maraã	128 – Boca do Acre		975	2,350	6	9	627	604
AM	Atalaia do Norte	128 – Boca do Acre		527	2,350	6	10	1,150	564
AM	Fonte Boa	128 – Boca do Acre		975	2,350	6	11	449	634
MA	São Miguel do Guaporé	124 – Cacoal		2,210	9,342	27	12	10,115	268
AM	Tonantins	128 – Boca do Acre		527	2,350	7	13	372	642
TO	São Salvador do Tocantins	76 – Gurupi	2009	1,102	8,416	27	14	0	754
MA	Presidente Vargas	118 – São Luís		213	1,292	4	15	155	672
PA	Curuá	119 – Santarém		798	3,650	13	16	2,609	486
TO	Natividade	76 – Gurupi	2009	552	8,416	30	17	0	730
RO	Machadinho D'Oeste	125 – Porto Velho		631	7,000	25	18	31,171	84
AM	Ipixuna	128 – Boca do Acre		213	2,350	9	19	4,303	420
AM	Anori	129 – Humaitá		631	1,932	7	20	53	685
MA	Miranda do Norte	118 – São Luís		213	1,292	5	21	8,045	310
PA	Faro	119 – Santarém		798	3,948	16	22	8,494	295
AM	Urucurituba	130 – Baixo Amazonas		975	578	2	23	470	628
AM	Tefé	129 – Humaitá		527	1,932	8	24	1,081	566
MA	Marajá do Sena	115 – Imperatriz		385	5,260	26	25	15,711	202

[*] TerraClass Amazônia. 2018. Projeto TerraClass 2014. Available at: http://www.inpe.br/cra/projetos_pesquisas/terraclass2014.php. Acesso em: 15/08/2018.
[**] TerraClass Cerrado. 2015. Projeto TerraClass Cerrado. Available at: http://www.dpi.inpe.br/tccerrado/dados/2013/mosaicos/. Acesso em: 30/08/2018.

Continuation of Appendix 1

State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
AM	Manaquiri	130 – Baixo Amazonas	2010	975	578	3	26	902	578
MA	Cândido Mendes	115 – Imperatriz		403	5,260	28	27	26,689	104
PA	Prainha	119 – Santarém		895	4,093	22	28	45,738	45
AM	Parintins	130 – Baixo Amazonas		975	600	3	29	12,385	237
MA	Bacuri	115 – Imperatriz		213	5,260	29	30	14,178	216
TO	Pindorama do Tocantins	77 – Palmas		552	7,075	39	31	0	741
MA	Nova Iorque	114 – Balsas		385	6,633	39	32	0	732
MA	Turiaçu	115 – Imperatriz		213	5,260	32	33	46,479	43
MA	Viana	118 – São Luís		213	1,292	8	34	11,510	251
TO	Almas	76 – Gurupi		552	8,416	52	35	535	618
TO	Santa Tereza do Tocantins	77 – Palmas		1,102	7,075	45	36	0	751
AM	São Paulo de Olivença	128 – Boca do Acre		527	2,350	16	37	1,648	532
AM	Japurá	128 – Boca do Acre		975	2,350	16	38	268	658
PA	Terra Santa	119 – Santarém		798	4,089	28	39	8,712	286
AP	Porto Grande	133 – Macapá		547	996	7	40	2,536	488
RO	Seringueiras	124 – Cacoal		2,210	9,342	66	41	10,797	261
MA	Cachoeira Grande	118 – São Luís		213	1,883	15	42	292	654
AM	Coari	129 – Humaitá		975	1,932	15	43	104	676
TO	Paraíso do Tocantins	77 – Palmas		1,102	7,075	56	44	0	739
AM	Presidente Figueiredo	130 – Baixo Amazonas		6,040	578	5	45	7,156	335
AM	Alvarães	129 – Humaitá		527	1,932	15	46	620	607
PA	Trairão	119 – Santarém	2009	895	4,080	33	47	23,202	125
MA	Alto Alegre do Pindaré	115 – Imperatriz		403	5,260	43	48	33,688	74
MA	Benedito Leite	114 – Balsas		590	6,633	56	49	344	648
AM	São Gabriel da Cachoeira	128 – Boca do Acre		975	2,350	20	50	1,832	522
MA	Tufilândia	115 – Imperatriz		403	5,260	46	51	7,539	323
PA	Tracuateua	123 – Belém		595	2,478	22	52	6,790	347
TO	Dianópolis	76 – Gurupi	2008	552	8,000	71	53	459	631
AM	Barcelos	128 – Boca do Acre		975	2,350	21	54	511	620
MA	Icatu	118 – São Luís		213	1,292	12	55	0	722
MA	Santa Inês	115 – Imperatriz	2012	403	5,260	48	56	8,494	294

Continuation of Appendix 1

State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
MA	Apicum-Açu	115 – Imperatriz		213	5,260	50	57	5,286	386
TO	Abreulândia	77 – Palmas	2009	1,102	7,075	67	58	609	610
RO	Mirante da Serra	124 – Cacoal		2,210	9,342	92	59	3,203	468
MA	Governador Newton Bello	115 – Imperatriz		403	5,260	52	60	18,673	164
MA	Centro do Guilherme	115 – Imperatriz		403	5,260	52	61	8,656	288
RR	Rorainópolis	131 – Caracaraí		975	1,400	14	62	23,238	123
MA	Pastos Bons	114 – Balsas		385	6,633	67	63	889	581
MA	São João do Carú	115 – Imperatriz		403	5,260	54	64	15,858	198
PA	Monte Alegre	119 – Santarém		798	1,563	16	65	105,389	11
MA	Presidente Médici	115 – Imperatriz		403	5,260	56	66	4,075	429
MA	Mirinzal	118 – São Luís		213	1,292	14	67	29,088	94
MA	Amapá do Maranhão	115 – Imperatriz		403	5,260	58	68	7,602	321
MA	Maranhãozinho	115 – Imperatriz		403	5,260	60	69	12,395	235
PA	Juruti	119 – Santarém		975	4,139	47	70	21,427	141
MA	Jenipapo dos Vieiras	116 – Bacabal		414	3,366	40	71	18,249	170
AM	Manacapuru	130 – Baixo Amazonas		975	578	7	72	3,410	458
PA	Belém	123 – Belém		595	2,481	30	73	87	678
TO	Nazaré	78 – Araguaína		499	8,300	102	74	3,471	457
MA	Santa Filomena do Maranhão	116 – Bacabal		385	3,366	42	75	1,858	520
TO	Recursolândia	78 – Araguaína		590	8,300	103	76	489	625
MA	Santa Luzia	115 – Imperatriz		403	3,850	48	77	44,318	47
PA	Aveiro	119 – Santarém		895	4,495	56	78	23,695	119
PA	Cachoeira do Piriá	121 – Paragominas		595	7,944	99	79	37,551	66
TO	Aparecida do Rio Negro	77 – Palmas	2009	1,102	7,075	89	80	45	688
AP	Macapá	133 – Macapá	2013	547	1,038	13	81	3,767	443
PA	Medicilândia	119 – Santarém		895	9,000	116	82	64,051	22
MA	Turilândia	115 – Imperatriz		213	5,260	68	83	27,312	101
PA	Itaituba	119 – Santarém	2009	895	4,289	56	84	83,718	17
MA	Nova Olinda do Maranhão	115 – Imperatriz		403	5,260	69	85	14,879	210
AM	São Sebastião do Uatumã	130 – Baixo Amazonas		975	578	8	86	1,592	534
MA	Santa Luzia do Paruá	115 – Imperatriz		403	5,260	71	87	23,322	122
TO	Jaú do Tocantins	76 – Gurupi	2009	1,102	8,416	116	88	0	724
MA	Guimarães	118 – São Luís		213	1,292	18	89	15,757	200

Continuation of Appendix 1

State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
MA	São Domingos do Maranhão	116 – Bacabal		385	6,633	93	90	17,056	184
PA	Rurópolis	119 – Santarém		895	4,114	58	91	60,484	28
AM	Nova Olinda do Norte	78 – Araguaína		895	578	8	92	1,160	562
MA	Itapecuru Mirim	118 – São Luís		213	1,292	19	93	8,478	297
PA	Nova Esperança do Piriá	121 – Paragominas		403	8,276	120	94	40,757	52
PA	Oriximiná	119 – Santarém		798	1,563	23	95	11,947	242
MA	Pindaré-Mirim	115 – Imperatriz		403	5,260	76	96	3,774	440
AM	Tapauá	129 – Humaitá		631	1,932	28	97	1,272	554
AM	Caapiranga	129 – Humaitá		975	1,932	28	98	993	570
TO	São Sebastião do Tocantins	78 – Araguaína		499	8,300	122	99	2,738	479
MA	Paraibano	114 – Balsas		385	6,633	98	100	0	738
RO	Campo Novo de Rondônia	125 – Porto Velho	2014	2,210	7,187	107	101	5,920	368
MA	Amarante do Maranhão	115 – Imperatriz		414	5,260	80	102	61,895	25
MA	Zé Doca	115 – Imperatriz		403	5,260	80	103	32,625	77
TO	Esperantina	78 – Araguaína		499	8,300	127	104	4,174	426
MA	Carutapera	115 – Imperatriz		403	5,260	81	105	17,067	183
MA	São José dos Basílios	116 – Bacabal		385	3,366	53	106	13,994	219
TO	Santa Maria do Tocantins	77 – Palmas		499	7,075	112	107	210	664
RO	Buritis	125 – Porto Velho		2,210	7,187	115	108	4,309	418
PA	Altamira	119 – Santarém	2009	895	4,592	74	109	120,394	10
MA	Luís Domingues	115 – Imperatriz		403	5,260	85	110	6,417	358
MA	Carolina	114 – Balsas		213	6,633	108	111	43	691
AM	Guajará	128 – Boca do Acre		213	2,350	38	112	8,540	291
TO	Rio da Conceição	76 – Gurupi	2009	552	8,416	138	113	712	594
TO	Taipas do Tocantins	76 – Gurupi	2009	552	8,416	139	114	0	756
MA	Presidente Juscelino	118 – São Luís		213	1,292	21	115	147	673
PA	Paragominas	121 – Paragominas	2009	595	6,000	101	116	102,399	12
MA	Altamira do Maranhão	115 – Imperatriz		403	5,260	89	117	13,776	222
MA	São João do Soter	117 – Codó	2011	385	6,633	113	118	28	693
TO	Conceição do Tocantins	76 – Gurupi		552	8,416	143	119	202	666
TO	Paranã	76 – Gurupi		1,102	8,416	146	120	467	630

Continuation of Appendix 1

State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
MA	Feira Nova do Maranhão	114 – Balsas		590	6,633	115	121	0	719
TO	Lagoa do Tocantins	77 – Palmas	2009	1,102	7,075	123	122	63	682
RO	Candeias do Jamari	125 – Porto Velho		2,210	7,187	126	123	56,881	34
PA	Dom Eliseu	121 – Paragominas	2009	595	9,500	167	124	73,539	21
RO	São Francisco do Guaporé	125 – Porto Velho		2,210	7,187	128	125	23,540	120
MA	São Domingos do Azeitão	114 – Balsas		590	6,633	119	126	993	569
MA	Governador Archer	116 – Bacabal		385	3,366	61	127	8,267	302
AP	Mazagão	133 – Macapá		547	995	18	128	630	602
AM	Carauari	128 – Boca do Acre		527	2,350	43	129	2,180	501
PA	Mojuí dos Campos	119 – Santarém		<Nulo>	5,267	98	130	20,969	147
MA	Codó	117 – Codó	2009	385	6,000	112	131	13,443	225
MA	Jatobá	116 – Bacabal		385	3,366	63	132	7,262	332
AC	Manoel Urbano	126 – Rio Branco		213	1,714	32	133	5,757	373
AM	Urucará	130 – Baixo Amazonas		975	578	11	134	1,642	533
TO	Ponte Alta do Bom Jesus	76 – Gurupi		552	8,416	167	135	0	704
AP	Calçoene	133 – Macapá		547	996	20	136	1,580	535
RO	Cerejeiras	124 – Cacoal	2009	2,210	8,500	172	137	9,041	281
MA	Lajeado Novo	115 – Imperatriz		414	6,000	122	138	8,383	300
PA	Alenquer	119 – Santarém		798	1,588	32	139	60,987	26
RO	Nova União	124 – Cacoal	2009	2,210	9,342	191	140	6,556	353
TO	São Bento do Tocantins	78 – Araguaína		499	8,300	171	141	4,598	409
PA	Senador José Porfírio	120 – Redenção		895	3,820	79	142	11,838	245
AP	Serra do Navio	133 – Macapá	2013	547	996	21	143	320	651
TO	Buriti do Tocantins	78 – Araguaína	2009	499	8,300	173	144	3,282	465
TO	Ponte Alta do Tocantins	77 – Palmas		552	7,075	148	145	0	742
RO	Guajará-Mirim	125 – Porto Velho		2,210	5,500	116	146	12,739	233
PA	Viseu	123 – Belém		595	2,478	53	147	95,837	13
RO	Alto Alegre dos Parecis	124 – Cacoal		2,210	9,342	198	148	17,553	178
MA	Pedreiras	116 – Bacabal	2009	385	3,366	72	149	5,165	388
RO	Nova Mamoré	125 – Porto Velho		2,210	7,187	154	150	19,908	152
PA	Óbidos	119 – Santarém		798	4,014	87	151	19,610	155

Continuation of Appendix 1

State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
MA	Cajari	118 – São Luís		213	1,292	28	152	3,621	449
PA	Santa Luzia do Pará	123 – Belém		595	8,333	183	153	33,037	75
AM	Canutama	129 – Humaitá		631	1,932	43	154	40,592	54
PA	Concórdia do Pará	123 – Belém		595	2,478	55	155	7,959	314
MA	Lagoa Grande do Maranhão	115 – Imperatriz		414	6,000	134	156	14,114	218
MA	Capinzal do Norte	117 – Codó		213	5,260	119	157	8,400	299
RR	Pacaraima	132 – Boa Vista		975	2,433	55	158	641	600
AM	Beruri	129 – Humaitá		631	1,932	44	159	59	683
MA	Campestre do Maranhão	114 – Balsas		499	6,633	154	160	7,953	315
RO	Vale do Paraíso	124 – Cacoal		2,210	9,342	218	161	2,769	478
PA	Goianésia do Pará	121 – Paragominas	2009	595	8,593	201	162	86,144	16
TO	Sítio Novo do Tocantins	78 – Araguaína	2016	499	8,300	195	163	3,536	453
MA	Godofredo Viana	115 – Imperatriz		403	5,260	125	164	7,527	325
PA	Santarém	119 – Santarém	2009	895	5,267	125	165	35,404	70
TO	Miracema do Tocantins	77 – Palmas	2009	1,102	7,075	169	166	0	728
MA	Boa Vista do Gurupi	115 – Imperatriz		403	5,260	127	167	4,873	400
RR	Caracaraí	131 – Caracaraí		975	1,400	34	168	17,642	176
MA	Morros	118 – São Luís		213	1,292	31	169	285	655
AM	Itacoatiara	130 – Baixo Amazonas		6,040	700	17	170	7,750	319
AM	Maués	130 – Baixo Amazonas		895	578	14	171	7,924	316
MA	Bom Jesus das Selvas	115 – Imperatriz	2009	414	5,260	128	172	22,735	130
MA	São João do Paraíso	114 – Balsas		414	6,633	162	173	7,373	329
TO	Novo Jardim	76 – Gurupi		552	8,416	206	174	728	593
AM	Boa Vista do Ramos	130 – Baixo Amazonas		975	578	14	175	3,179	470
TO	Dois Irmãos do Tocantins	77 – Palmas	2009	1,102	7,075	175	176	895	579
MA	Brejo de Areia	115 – Imperatriz		385	5,260	130	177	9,316	276
MA	Buritirana	115 – Imperatriz		499	5,260	130	178	24,373	114
TO	Bernardo Sayão	78 – Araguaína	2009	499	8,300	207	179	3,875	437
RO	Alta Floresta D'Oeste	124 – Cacoal		2,210	9,342	234	180	24,974	111
TO	Itacajá	78 – Araguaína		499	8,300	208	181	1,449	543
AP	Pracuúba	133 – Macapá		547	975	24	182	4,179	425

Continuation of Appendix 1

State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
MA	São Pedro dos Crentes	114 – Balsas		590	6,633	168	183	934	575
MA	Dom Pedro	116 – Bacabal		385	3,366	85	184	11,588	248
PA	Capitão Poço	123 – Belém		595	2,478	63	185	38,642	62
TO	Presidente Kennedy	78 – Araguaína		499	8,300	211	186	5,468	382
PA	Almeirim	119 – Santarém		798	4,216	108	187	37,799	65
RO	Teixeirópolis	124 – Cacoal		2,210	9,342	239	188	3,207	467
RO	Alto Paraíso	125 – Porto Velho		2,210	7,187	185	189	2,895	474
PA	Rondon do Pará	121 – Paragominas		1,274	8,386	216	190	157,482	4
RO	Jaru	124 – Cacoal		2,210	9,342	245	191	32,336	78
RO	Theobroma	124 – Cacoal		2,210	9,342	246	192	6,772	348
AM	Envira	128 – Boca do Acre		631	2,350	63	193	4,964	395
MA	Alto Alegre do Maranhão	117 – Codó		385	5,260	141	194	8,494	296
AM	Codajás	129 – Humaitá		975	1,932	52	195	42	692
RO	Rio Crespo	125 – Porto Velho		2,210	7,187	194	196	8,272	301
MA	Monção	118 – São Luís		403	1,292	35	197	30,625	88
MA	Timbiras	117 – Codó		385	3,623	98	198	628	603
MA	Lago da Pedra	115 – Imperatriz		385	5,260	143	199	18,564	166
TO	Itaporã do Tocantins	78 – Araguaína		499	8,300	227	200	2,821	475
TO	Taguatinga	76 – Gurupi	2009	552	8,416	231	201	499	623
MA	Formosa da Serra Negra	116 – Bacabal		590	6,633	182	202	481	626
MA	Governador Eugênio Barros	116 – Bacabal		385	3,366	93	203	9,021	282
RO	Ministro Andreazza	124 – Cacoal		2,210	9,342	259	204	1,391	546
TO	Colinas do Tocantins	78 – Araguaína	2011	499	8,300	236	205	2,429	492
PA	Bujaru	123 – Belém		595	2,478	71	206	1,183	561
TO	Araguatins	78 – Araguaína	2009	499	8,300	239	207	28,177	98
TO	Rio Sono	77 – Palmas	2009	1,102	7,075	204	208	702	595
PA	Quatipuru	123 – Belém		595	2,478	72	209	757	592
TO	Arraias	76 – Gurupi	2009	552	8,416	245	210	157	671
MA	Sucupira do Norte	114 – Balsas		385	6,633	194	211	18	696
TO	Itaguatins	78 – Araguaína	2009	499	8,300	243	212	4,975	393
TO	Babaçulândia	78 – Araguaína		499	8,300	243	213	308	652
PA	Ourém	123 – Belém		595	2,478	73	214	7,860	317
MA	Loreto	114 – Balsas		590	6,633	195	215	1,873	518

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State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
MA	Bernardo do Mearim	116 – Bacabal		385	3,366	99	216	4,025	432
AP	Amapá	133 – Macapá		547	975	29	217	2,079	505
PA	São Domingos do Capim	123 – Belém		595	2,478	73	218	16,375	192
RO	Espigão D'Oeste	124 – Cacoal		881	9,342	277	219	6,067	366
MA	Paulo Ramos	115 – Imperatriz		385	5,260	157	220	16,511	190
TO	Juarina	78 – Araguaína	2009	499	8,300	248	221	1,408	545
TO	São Félix do Tocantins	77 – Palmas	2009	552	7,075	211	222	0	752
PA	Ulianópolis	121 – Paragominas	2016	595	9,500	284	223	51,071	41
MA	Central do Maranhão	118 – São Luís		213	1,292	39	224	4,280	422
MA	Maracaçumé	115 – Imperatriz		403	5,260	158	225	5,077	391
MA	Itaipava do Grajaú	116 – Bacabal		414	2,304	70	226	14,947	209
RO	Pimenta Bueno	124 – Cacoal	2011	2,210	10,000	304	227	22,862	127
MA	Lago dos Rodrigues	116 – Bacabal		385	3,366	103	228	3,771	441
PA	Novo Repartimento	120 – Redenção		1,274	3,821	117	229	179,548	2
MA	Itinga do Maranhão	115 – Imperatriz		403	5,260	161	230	23,858	117
TO	Sampaio	78 – Araguaína		499	8,300	256	231	368	645
AM	Novo Aripuanã	129 – Humaitá		631	1,932	60	232	11,320	254
AM	Uarini	129 – Humaitá		527	1,932	60	233	370	643
RO	Pimenteiras do Oeste	124 – Cacoal		2,210	9,342	294	234	18,785	161
AM	Boca do Acre	128 – Boca do Acre		289	2,350	74	235	55,660	35
RO	Ariquemes	125 – Porto Velho	2009	2,210	10,250	325	236	4,969	394
MA	Vitorino Freire	115 – Imperatriz		385	5,260	167	237	24,724	113
PA	Pacajá	120 – Redenção		895	3,820	122	238	160,624	3
TO	Novo Acordo	77 – Palmas	2009	1,102	7,075	226	239	858	583
MA	Peritoró	117 – Codó		385	3,623	117	240	11,936	243
MA	Gonçalves Dias	116 – Bacabal		385	3,366	108	241	27,315	100
MA	Palmeirândia	118 – São Luís		213	1,292	42	242	3,531	454
TO	Formoso do Araguaia	76 – Gurupi	2009	1,102	11,500	374	243	975	572
MA	Fortaleza dos Nogueiras	114 – Balsas	2015	590	6,633	219	244	0	721
MA	Fortuna	116 – Bacabal		385	3,366	111	245	5,546	380
MA	Alto Parnaíba	114 – Balsas		552	6,633	219	246	0	707
TO	Centenário	77 – Palmas		499	7,075	236	247	283	656
TO	Aurora do Tocantins	76 – Gurupi		552	8,416	281	248	0	712

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State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
MA	São Raimundo do Doca Bezerra	116 – Bacabal		414	3,366	112	249	6,697	349
MA	Coroatá	117 – Codó		385	3,263	109	250	21,933	138
PA	Santarém Novo	123 – Belém		595	2,478	83	251	1,784	527
MA	Presidente Sarney	118 – São Luís		213	1,292	44	252	6,589	352
PA	Colares	123 – Belém		595	2,478	85	253	620	606
RO	Costa Marques	125 – Porto Velho		2,210	7,187	248	254	18,565	165
MA	Peri Mirim	118 – São Luís		213	1,292	45	255	2,239	499
AM	Nhamundá	130 – Baixo Amazonas		975	578	20	256	4,022	433
MA	Senador La Rocque	115 – Imperatriz		499	5,260	183	257	17,562	177
MA	Santa Helena	118 – São Luís		213	1,292	45	258	14,792	212
TO	Filadélfia	78 – Araguaína	2012	499	8,300	293	259	0	720
RO	Novo Horizonte do Oeste	124 – Cacoal	2013	2,210	9,342	331	260	4,918	398
PA	Jacundá	120 – Redenção		1,274	3,819	136	261	33,003	76
RO	Porto Velho	125 – Porto Velho		2,210	6,000	215	262	125,252	7
TO	Lizarda	77 – Palmas	2009	499	7,075	254	263	0	727
MA	Porto Franco	114 – Balsas		499	6,633	238	264	16,073	195
RO	Vale do Anari	125 – Porto Velho	2010	2,210	7,187	261	265	5,999	367
MA	Colinas	114 – Balsas		385	6,633	242	266	5,082	390
AM	Manicoré	129 – Humaitá		631	1,932	71	267	21,317	142
TO	Pau D'Arco	78 – Araguaína		499	8,300	304	268	21,554	140
MA	Joselândia	116 – Bacabal		385	3,366	123	269	22,287	133
TO	Pequizeiro	78 – Araguaína	2009	499	8,300	305	270	2,209	500
MA	Igarapé Grande	116 – Bacabal		385	3,366	124	271	6,353	359
PA	Augusto Corrêa	123 – Belém		595	2,450	91	272	15,774	199
MA	Cururupu	118 – São Luís		213	1,292	48	273	18,317	169
MA	São Francisco do Brejão	115 – Imperatriz	2011	499	5,260	196	274	12,392	236
PA	Tomé-Açu	121 – Paragominas		595	8,326	310	275	34,388	72
RO	Ouro Preto do Oeste	124 – Cacoal		2,210	8,000	298	276	11,875	244
PA	Uruará	119 – Santarém	2015	895	4,072	152	277	75,237	20
PA	Bragança	123 – Belém	2009	595	2,477	94	278	38,204	63
MA	Vargem Grande	118 – São Luís		213	1,883	71	279	926	576
MA	Lima Campos	116 – Bacabal		385	3,366	127	280	7,142	336
RO	Nova Brasilândia D'Oeste	124 – Cacoal		2,210	9,342	354	281	10,230	267

Continuation of Appendix 1

State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
PA	Brasil Novo	119 – Santarém	2009	895	3,852	147	282	75,982	19
MA	Tuntum	116 – Bacabal		385	3,366	129	283	35,576	69
RO	Governador Jorge Teixeira	124 – Cacoal		2,210	9,342	358	284	17,358	181
PA	Magalhães Barata	123 – Belém		595	2,478	95	285	1,818	525
TO	Mateiros	77 – Palmas		552	7,375	283	286	4,785	402
TO	Figueirópolis	76 – Gurupi	2009	1,102	9,000	350	287	891	580
MA	Fernando Falcão	116 – Bacabal		414	6,633	258	288	5,787	372
TO	Praia Norte	78 – Araguaína		499	8,300	325	289	1,464	540
AP	Tartarugalzinho	133 – Macapá	2012	547	996	39	290	5,572	379
TO	Bandeirantes do Tocantins	78 – Araguaína	2015	499	8,300	326	291	9,195	279
MA	Araguanã	115 – Imperatriz		403	5,260	206	292	0	711
MA	Buriticupu	115 – Imperatriz		414	4,350	172	293	22,953	126
AM	Benjamin Constant	128 – Boca do Acre		527	2,350	93	294	176	669
MA	Axixá	118 – São Luís		213	1,292	51	295	140	674
TO	Brasilândia do Tocantins	78 – Araguaína	2009	499	8,300	331	296	602	612
TO	Itapiratins	78 – Araguaína	2015	499	8,300	333	297	1,973	513
PA	Ipixuna do Pará	121 – Paragominas		595	8,290	334	298	31,630	82
TO	Xambioá	78 – Araguaína		499	8,300	335	299	7,412	328
MA	Poção de Pedras	116 – Bacabal		385	3,366	136	300	20,484	149
TO	Chapada da Natividade	76 – Gurupi	2009	1,102	8,416	343	301	0	715
TO	Ipueiras	77 – Palmas		1,102	7,075	289	302	109	675
TO	Bom Jesus do Tocantins	77 – Palmas	2015	499	7,075	295	303		762
MA	Trizidela do Vale	116 – Bacabal		385	3,366	140	304	5,703	375
TO	Cristalândia	77 – Palmas		1,102	7,075	296	305	693	597
AP	Cutias	133 – Macapá		547	1,003	42	306	3,934	436
TO	Lajeado	77 – Palmas	2009	1,102	7,075	298	307	0	725
MA	São Félix de Balsas	114 – Balsas		590	6,633	279	308	923	577
TO	Maurilândia do Tocantins	78 – Araguaína	2009	499	8,300	350	309	1,222	558
TO	Angico	78 – Araguaína	2009	499	8,300	351	310	1,900	515
TO	Pedro Afonso	77 – Palmas	2009	499	10,250	435	311	849	584
TO	Lavandeira	76 – Gurupi		552	8,416	357	312	0	726

Continuation of Appendix 1

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				Incra 2017	Market 2016	Declared to RFB 2016			
TO	Augustinópolis	78 – Araguaína	2009	499	8,300	352	313	3,524	455
TO	Arapoema	78 – Araguaína	2015	499	8,300	354	314	7,005	341
TO	Cachoeirinha	78 – Araguaína		499	8,300	355	315	1,462	541
TO	Araguaçu	76 – Gurupi	2009	1,102	8,416	361	316	0	705
TO	São Valério	76 – Gurupi	2013	552	8,416	362	317	3,190	469
TO	Santa Terezinha do Tocantins	78 – Araguaína		499	8,300	362	318	413	636
TO	Tocantínia	77 – Palmas		1,102	7,075	311	319	0	759
MA	São Roberto	116 – Bacabal		414	3,366	148	320	5,911	369
MA	Graça Aranha	116 – Bacabal		385	3,366	149	321	7,137	337
TO	Carrasco Bonito	78 – Araguaína		499	8,300	367	322	1,512	539
TO	Luzinópolis	78 – Araguaína		499	8,300	369	323	2,041	508
TO	Chapada de Areia	77 – Palmas		1,102	7,075	318	324	0	716
PA	Salinópolis	123 – Belém		595	2,478	111	325	294	653
MA	Matões do Norte	117 – Codó		385	1,883	85	326	19,392	158
TO	Fortaleza do Tabocão	77 – Palmas	2009	499	7,075	320	327	5,011	392
TO	Palmeirópolis	76 – Gurupi	2014	1,102	8,416	381	328	0	737
TO	Sandolândia	76 – Gurupi	2009	1,102	8,416	390	329	14	699
RO	Colorado do Oeste	124 – Cacoal	2009	2,210	9,342	433	330	16,071	196
TO	Araguacema	77 – Palmas	2009	1,102	7,075	329	331	2,433	491
MA	Arame	116 – Bacabal		414	2,304	108	332	42,426	51
RO	Parecis	124 – Cacoal		2,210	9,342	438	333	16,694	188
MA	Sambaíba	114 – Balsas		590	6,633	312	334	0	749
PA	Novo Progresso	119 – Santarém	2009	895	4,075	192	335	60,846	27
TO	Darcinópolis	78 – Araguaína	2009	499	8,300	396	336	1,791	526
TO	Couto Magalhães	78 – Araguaína	2009	499	8,300	400	337	3,523	456
TO	Porto Alegre do Tocantins	76 – Gurupi	2009	552	8,416	406	338	0	744
MA	Centro Novo do Maranhão	115 – Imperatriz		403	5,260	256	339	40,324	55
MA	Davinópolis	115 – Imperatriz		5,158	6,000	293	340	10,455	263
RO	Primavera de Rondônia	124 – Cacoal		2,210	9,342	462	341	958	574
PA	Itupiranga	120 – Redenção	2015	1,274	3,820	191	342	89,141	15
RR	São João da Baliza	131 – Caracaraí		975	1,400	70	343	11,443	252
PA	Barcarena	123 – Belém		595	2,471	124	344	497	624
AM	Pauini	128 – Boca do Acre		289	2,350	119	345	2,175	502

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				Incra 2017	Market 2016	Declared to RFB 2016			
TO	Tupiratins	78 – Araguaína	2015	499	8,300	419	346	987	571
RR	Caroebe	131 – Caracaraí		975	1,400	71	347	15,365	206
TO	Axixá do Tocantins	78 – Araguaína		499	8,300	424	348	1,306	551
TO	Barrolândia	77 – Palmas		1,102	7,075	362	349	0	713
MA	Estreito	114 – Balsas	2014	414	6,633	345	350	415	635
TO	Rio dos Bois	77 – Palmas	2009	499	7,075	368	351	522	619
RO	São Felipe D'Oeste	124 – Cacoal		2,210	8,500	444	352	1,283	552
RO	Cacaulândia	125 – Porto Velho		2,210	7,187	375	353	9,992	271
AM	Lábrea	129 – Humaitá		631	1,932	101	354	31,284	83
RO	Cacoal	124 – Cacoal	2009	881	9,000	473	355	4,398	416
MA	Nova Colinas	114 – Balsas		590	6,633	349	356	0	731
AC	Sena Madureira	126 – Rio Branco		289	1,714	91	357	24,057	116
PA	Mãe do Rio	123 – Belém	2014	595	2,478	132	358	2,006	510
MA	João Lisboa	115 – Imperatriz		499	5,260	280	359	18,556	167
TO	Guaraí	78 – Araguaína	2009	499	8,300	441	360	14,358	215
AM	Anamã	129 – Humaitá		975	1,932	103	361	88	677
TO	Novo Alegre	76 – Gurupi		552	8,416	451	362	0	734
TO	Palmeirante	78 – Araguaína	2015	499	8,300	445	363	1,309	550
TO	Combinado	76 – Gurupi		552	8,416	456	364	0	717
MA	Satubinha	116 – Bacabal		403	2,304	126	365	7,990	311
TO	Goianorte	77 – Palmas	2009	1,102	7,075	388	366	2,357	496
TO	São Miguel do Tocantins	78 – Araguaína		499	8,300	456	367	2,297	498
PA	Maracanã	123 – Belém		595	2,478	137	368	3,604	451
TO	Colméia	78 – Araguaína	2009	499	8,300	462	369	7,303	330
TO	Pium	77 – Palmas	2009	1,102	7,075	394	370	1,375	547
TO	Dueré	76 – Gurupi	2009	1,102	8,416	472	371	639	601
RO	Itapuã do Oeste	125 – Porto Velho		2,210	7,187	410	372	23,727	118
PA	São Miguel Do Guamá	123 – Belém	2013	595	2,478	142	373	7,066	338
MT	Luciara	68 – Vila Rica		1,738	4,030	232	374	797	588
MA	Serrano do Maranhão	118 – São Luís		213	1,292	75	375	29,203	92
PA	Belterra	119 – Santarém		895	5,267	305	376	5,641	377
MA	Governador Luiz Rocha	116 – Bacabal		385	3,366	196	377	4,456	411
TO	Monte Santo do Tocantins	77 – Palmas		1,102	7,075	411	378	0	729

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				Incra 2017	Market 2016	Declared to RFB 2016			
TO	Wanderlândia	78 – Araguaína		499	8,300	484	379	5,306	385
AM	Tabatinga	128 – Boca do Acre		527	2,350	138	380	843	585
RO	Cabixi	124 – Cacoal		2,210	9,500	558	381	9,926	272
MA	São Raimundo das Mangabeiras	114 – Balsas		590	6,633	393	382	0	753
TO	Goiatins	78 – Araguaína	2009	499	8,300	492	383	6,138	364
PA	Bonito	123 – Belém		595	2,479	147	384	6,177	363
TO	Riachinho	78 – Araguaína	2009	499	8,300	494	385	4,944	397
PA	São João de Pirabas	123 – Belém		595	2,478	148	386	2,770	477
RO	Vilhena	124 – Cacoal	2010	881	9,766	584	387	22,538	131
MT	Cotriguaçu	66 – Aripuanã	2011	3,039	5,040	302	388	22,187	134
TO	Monte do Carmo	77 – Palmas	2009	1,102	7,075	425	389	1,537	538
MA	Bequimão	118 – São Luís		213	1,292	78	390	4,709	405
PA	Peixe-Boi	123 – Belém		595	2,478	149	391	6,432	357
MA	São Mateus do Maranhão	116 – Bacabal		385	2,500	151	392	15,407	205
RO	Rolim de Moura	124 – Cacoal	2011	2,210	9,000	548	393	7,742	320
TO	Tocantinópolis	78 – Araguaína	2009	499	8,300	508	394	4,209	424
MA	Pedro do Rosário	118 – São Luís		213	1,292	79	395	17,315	182
AP	Oiapoque	133 – Macapá		547	996	61	396	3,736	445
PA	Breu Branco	121 – Paragominas		1,274	8,333	519	397	62,763	24
MA	Imperatriz	115 – Imperatriz		499	6,000	377	398	27,072	103
MA	Santo Antônio dos Lopes	116 – Bacabal		385	3,366	212	399	16,314	193
PA	Tailândia	121 – Paragominas		595	8,317	527	400	22,109	135
PA	Breves	122 – Ilhas		595	150	10	401	255	660
MA	Cidelândia	115 – Imperatriz		499	6,000	380	402	22,792	128
PA	São João da Ponta	123 – Belém		595	2,478	158	403	614	609
RO	Santa Luzia D'Oeste	124 – Cacoal		2,210	9,342	595	404	3,783	439
MA	Cajapió	118 – São Luís		213	1,292	82	405	2,509	489
PA	Marapanim	123 – Belém		595	2,478	158	406	4,304	419
TO	Santa Fé do Araguaia	78 – Araguaína	2009	499	8,300	530	407	4,912	399
PA	Nova Ipixuna	120 – Redenção	2015	1,274	3,820	244	408	27,371	99
TO	Santa Rita do Tocantins	76 – Gurupi	2013	1,102	8,416	540	409	1,275	553
MA	Mirador	114 – Balsas		385	6,633	426	410	14	698

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				Incra 2017	Market 2016	Declared to RFB 2016			
TO	Ananás	78 – Araguaína	2009	499	8,300	535	411	10,736	262
RR	Amajari	132 – Boa Vista		975	2,433	157	412	4,031	431
MA	Esperantinópolis	116 – Bacabal		385	3,366	219	413	20,147	150
AM	Juruá	128 – Boca do Acre		527	2,350	154	414	569	615
MA	Vila Nova dos Martírios	115 – Imperatriz		499	5,260	345	415	16,784	186
MA	Sítio Novo	116 – Bacabal		414	3,366	225	417	1,860	519
MA	Pio XII	116 – Bacabal		403	2,304	155	418	7,030	340
MA	Matinha	118 – São Luís		213	1,292	87	419	12,345	238
TO	Silvanópolis	77 – Palmas	2009	1,102	7,075	486	420	177	668
PA	Garrafão do Norte	123 – Belém		403	2,478	171	421	33,936	73
TO	Nova Rosalândia	77 – Palmas		1,102	7,075	489	422	0	733
MT	Araguainha	61 – Alto Araguaia	2013	2,162	10,727	756	423	0	710
TO	Campos Lindos	78 – Araguaína	2013	590	13,000	920	424	2	703
TO	Peixe	76 – Gurupi	2009	1,102	8,416	598	425	3,006	472
TO	Barra do Ouro	78 – Araguaína		499	8,300	590	426	2,030	509
TO	Tupirama	77 – Palmas	2009	499	7,075	504	427	4	702
RO	Corumbiara	124 – Cacoal		2,210	11,000	787	428	31,719	80
PA	Marabá	120 – Redenção		1,274	4,000	287	429	120,701	9
PA	Conceição do Araguaia	120 – Redenção		1,274	3,834	276	430	51,902	40
AM	Amaturá	128 – Boca do Acre		527	2,350	171	431	1,147	565
TO	Miranorte	77 – Palmas	2009	1,102	7,075	518	432	4,224	423
PA	Abel Figueiredo	120 – Redenção	2013	1,274	3,942	293	433	16,555	189
TO	Palmeiras do Tocantins	78 – Araguaína	2009	499	8,300	620	434	685	598
RR	Cantá	132 – Boa Vista		975	2,433	183	435	13,986	220
MT	Barão de Melgaço	59 – Cuiabá	2011	2,044	4,256	322	436	13,367	227
MA	Penalva	118 – São Luís		213	1,292	98	437	11,005	257
MT	Ponte Branca	61 – Alto Araguaia	2013	2,162	10,727	813	438	0	743
MA	Igarapé do Meio	118 – São Luís		403	1,292	99	439	7,491	327
TO	Crixás do Tocantins	76 – Gurupi	2009	1,102	8,416	644	440	553	617
TO	Sucupira	76 – Gurupi	2009	1,102	8,416	649	441	0	755
TO	Lagoa da Confusão	77 – Palmas	2009	1,102	7,075	547	442	1,824	524
RO	Chupinguaia	124 – Cacoal	2009	2,210	11,000	851	443	30,900	87
TO	Nova Olinda	78 – Araguaína	2015	499	8,300	642	444	5,693	376
AM	Careiro	130 – Baixo Amazonas		975	578	46	445	8,675	287
PA	Vigia	123 – Belém		595	2,478	195	446	1,151	563

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State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
AC	Cruzeiro do Sul	127 – Tarauacá		213	530	42	447	22,062	136
AP	Vitória do Jari	133 – Macapá		547	996	79	448	49	687
MA	Bacabal	116 – Bacabal		385	3,367	267	449	22,737	129
TO	Fátima	77 – Palmas	2009	1,102	7,075	565	450	0	718
MA	São Bento	118 – São Luís		213	1,292	103	451	3,713	448
RO	Presidente Médici	124 – Cacoal		2,210	9,342	761	452		763
MA	Açailândia	115 – Imperatriz		414	6,100	497	453	59,616	30
MA	Pirapemas	118 – São Luís		213	1,883	154	454	9,386	275
MA	Cedral	118 – São Luís		213	1,292	106	455	6,819	345
TO	Aragominas	78 – Araguaína	2009	499	8,300	680	456	8,243	306
RR	Alto Alegre	132 – Boa Vista		975	2,433	200	457	6,449	356
MA	Lago Verde	116 – Bacabal		385	2,304	189	458	8,242	307
AP	Itaubal	133 – Macapá		547	997	82	459	1,267	555
PA	Moju	123 – Belém		595	2,478	206	460	52,903	39
PA	Igarapé-Miri	123 – Belém		595	2,478	206	461	3,011	471
AC	Acrelândia	126 – Rio Branco		289	1,714	143	462	35,964	68
AC	Feijó	127 – Tarauacá		213	530	44	463	14,972	208
AP	Pedra Branca do Amapari	133 – Macapá		547	996	84	464	6,283	361
TO	Divinópolis do Tocantins	77 – Palmas		1,102	7,075	597	465	393	639
PA	São Caetano de Odivelas	123 – Belém		595	2,478	209	466	1,331	549
RR	Normandia	132 – Boa Vista		975	2,433	207	467	79	679
AP	Ferreira Gomes	133 – Macapá		547	991	85	468	1,250	556
PA	Floresta do Araguaia	120 – Redenção		1,274	3,823	326	469	15,928	197
AM	Autazes	130 – Baixo Amazonas		975	578	49	470	12,828	231
MA	Junco do Maranhão	115 – Imperatriz		403	5,260	450	471	5,252	387
TO	Aliança do Tocantins	76 – Gurupi	2009	1,102	8,416	726	472	205	665
MA	Grajaú	116 – Bacabal		414	2,304	200	473	18,681	163
MA	São Luís Gonzaga do Maranhão	116 – Bacabal		385	2,304	201	474	19,533	157
MA	Arari	118 – São Luís		213	1,292	113	475	14,391	214
TO	Piraquê	78 – Araguaína		499	8,300	733	476	8,994	283
PA	Aurora do Pará	123 – Belém		595	2,492	221	477	19,775	153
AM	Rio Preto da Eva	130 – Baixo Amazonas		975	578	51	478	2,428	493

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				Incra 2017	Market 2016	Declared to RFB 2016			
MA	Balsas	114 – Balsas	2015	590	6,633	593	479	386	640
MA	Pinheiro	118 – São Luís		213	700	63	480	10,817	260
PA	Mocajuba	123 – Belém		595	2,478	223	481	6,932	343
AM	Novo Airão	128 – Boca do Acre		975	2,350	212	482	578	613
MA	Governador Edison Lobão	115 – Imperatriz		499	6,000	542	483	7,988	312
RR	Mucajaí	132 – Boa Vista		975	2,433	221	484	7,531	324
MA	Porto Rico do Maranhão	118 – São Luís		213	1,292	117	485	5,537	381
RO	Urupá	124 – Cacoal	2009	2,210	9,342	854	486	2,646	482
PA	Redenção	120 – Redenção	2015	1,274	5,100	470	487	60,070	29
PA	Inhangapi	123 – Belém		595	2,478	230	488	1,194	560
MT	Colniza	66 – Aripuanã	2009	881	5,040	467	489	59,323	31
AC	Mâncio Lima	127 – Tarauacá		213	530	49	490	7,500	326
RO	Alvorada D'Oeste	124 – Cacoal		2,210	9,342	873	491	5,138	389
MA	Alcântara	118 – São Luís		213	1,292	121	492	6,803	346
MA	Anajatuba	118 – São Luís	2009	213	1,292	121	493	11,333	253
TO	Talismã	76 – Gurupi	2009	1,102	8,416	790	494	0	757
PA	Pau D'Arco	120 – Redenção	2009	1,274	3,820	365	495	0	740
TO	Cariri do Tocantins	76 – Gurupi	2009	1,102	8,416	803	496	0	714
MA	Bacurituba	118 – São Luís		213	1,292	124	497	363	646
MT	Ribeirão Cascalheira	65 – Barra Do Garças		1,738	8,033	773	498	5,402	383
PA	Nova Timboteua	123 – Belém		595	2,478	239	499	5,739	374
TO	Porto Nacional	77 – Palmas	2009	1,102	7,075	690	500	0	745
MA	Bom Lugar	116 – Bacabal		385	2,304	229	501	8,571	290
PA	São Domingos do Araguaia	120 – Redenção		1,274	3,820	381	502	22,010	137
PA	Gurupá	122 – Ilhas		595	225	23	503	764	591
MT	Nobres	64 – Sinop	2010	2,077	13,010	1,308	504	4,853	401
PA	Curuçá	123 – Belém		595	2,478	250	505	1,883	517
RR	Iracema	131 – Caracaraí		975	1,400	142	506	13,843	221
TO	Araguanã	78 – Araguaína	2008	499	8,300	843	507	4,078	428
AC	Jordão	127 – Tarauacá		213	530	54	508	2,090	504
PA	Curralinho	122 – Ilhas		595	150	15	509	59	684
MT	Itanhangá	64 – Sinop	2009	2,261	13,010	1,326	510	12,877	230
TO	Alvorada	76 – Gurupi	2009	1,102	9,000	931	511	819	587

Continuation of Appendix 1

State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
PA	Terra Alta	123 – Belém		595	2,478	258	512	966	573
MT	Nortelândia	63 – Tangará Da Serra	2009	2,077	10,143	1,059	513	12,332	240
TO	Muricilândia	78 – Araguaína		499	8,300	878	514	4,687	407
AM	Itapiranga	130 – Baixo Amazonas		975	578	61	515	619	608
MA	Olho D'Água das Cunhãs	116 – Bacabal		385	2,304	245	516	8,256	304
MA	Lago do Junco	116 – Bacabal		385	2,304	245	517	6,652	351
MT	Apiacás	67 – Alta Floresta	2009	3,039	5,667	604	518	15,699	203
PA	Brejo Grande do Araguaia	120 – Redenção		1,274	3,820	408	519	21,082	146
PA	Bannach	120 – Redenção		1,274	3,876	419	520	38,952	60
PA	Santa Bárbara do Pará	123 – Belém		595	2,478	271	521	255	659
MA	Santa Rita	118 – São Luís		213	1,292	142	522	3,282	466
RR	São Luiz	131 – Caracaraí		975	1,400	155	523	10,974	258
AC	Marechal Thaumaturgo	127 – Tarauacá		213	530	59	524	4,003	434
AC	Bujari	126 – Rio Branco		289	1,714	191	525	17,400	180
MA	Bacabeira	118 – São Luís		213	1,292	144	526	386	641
MT	Tesouro	61 – Alto Araguaia		2,162	7,400	832	527	348	647
RR	Bonfim	132 – Boa Vista		975	3,000	337	528	3,300	463
TO	Carmolândia	78 – Araguaína	2011	499	8,300	937	529	1,337	548
PA	São João do Araguaia	120 – Redenção		1,274	3,820	432	530	17,039	185
MT	Juruena	66 – Aripuanã	2009	3,039	5,040	571	531	8,572	289
MA	Conceição do Lago-Açu	118 – São Luís		385	1,292	147	532	10,452	264
TO	Marianópolis do Tocantins	77 – Palmas		1,102	7,075	807	533	1,988	512
AM	Humaitá	129 – Humaitá	2010	631	1,363	156	534	10,439	265
PA	Primavera	123 – Belém	2015	595	2,478	290	535	2,626	484
PA	São Francisco do Pará	123 – Belém		595	2,478	291	536	3,327	461
AC	Plácido de Castro	126 – Rio Branco		289	1,714	201	537	39,054	59
AP	Santana	133 – Macapá	2009	547	996	117	538	339	649
MT	Confresa	68 – Vila Rica	2011	1,738	6,400	760	539	24,743	112
MT	Alto Araguaia	61 – Alto Araguaia	2009	2,162	7,400	881	540	1,782	528
AM	Careiro da Várzea	130 – Baixo Amazonas		975	578	69	541	10,049	270
PA	Piçarra	120 – Redenção		1,274	3,820	456	542	35,125	71

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State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
PA	Bagre	122 – Ilhas		595	225	27	543	625	605
TO	Palmas	77 – Palmas	2009	1,102	3,600	433	544	0	736
MT	Poconé	59 – Cuiabá	2013	2,044	4,800	578	545	2,419	495
MA	São Vicente Ferrer	118 – São Luís		213	1,292	156	546	4,435	413
PA	Cumaru Do Norte	120 – Redenção		895	3,823	467	547	138,425	5
MT	Diamantino	64 – Sinop	2009	2,077	14,000	1,716	548	9,247	277
MT	Paranatinga	64 – Sinop	2009	2,261	5,433	668	549	28,250	97
PA	Ourilândia do Norte	120 – Redenção	2014	895	3,820	472	550	45,681	46
MT	Acorizal	59 – Cuiabá	2009	2,077	4,256	529	551	0	706
MT	General Carneiro	65 – Barra Do Garças	2013	2,162	12,000	1,497	552	165	670
MT	União do Sul	64 – Sinop	2013	2,261	13,010	1,632	553	5,345	384
PA	Tucumã	120 – Redenção	2015	895	4,000	502	554	38,911	61
TO	Aguiarnópolis	78 – Araguaína	2013	499	8,300	1,044	555	773	590
MT	Santa Cruz do Xingu	68 – Vila Rica	2013	1,738	4,030	509	556	9,239	278
PA	Porto de Moz	122 – Ilhas		895	225	29	557	17,686	174
MA	Buriti Bravo	114 – Balsas		385	1,883	242	558	1,029	568
MT	Novo São Joaquim	65 – Barra Do Garças	2009	2,162	9,000	1,171	559	336	650
MT	Ribeirãozinho	61 – Alto Araguaia	2013	2,162	10,727	1,396	560	0	748
PA	Palestina do Pará	120 – Redenção		1,274	3,820	499	561	7,191	333
PA	São Geraldo do Araguaia	120 – Redenção		1,274	3,820	507	562	18,736	162
MT	Guarantã do Norte	67 – Alta Floresta	2009	895	6,750	903	563	30,409	89
PA	Rio Maria	120 – Redenção		1,274	3,820	513	564	40,000	58
PA	Santa Maria das Barreiras	120 – Redenção		1,274	3,820	517	565	95,409	14
PA	Jacareacanga	119 – Santarém		895	4,149	562	566	21,226	144
PA	Afuá	122 – Ilhas		595	225	31	567	44	689
RO	Castanheiras	124 – Cacoal		2,210	9,342	1,291	568	1,668	531
MT	Denise	63 – Tangará Da Serra	2013	2,077	10,143	1,406	569	13,758	223
AC	Brasiléia	126 – Rio Branco		289	1,714	239	570	11,126	255
PA	Capanema	123 – Belém		595	2,478	345	571	11,050	256
PA	Eldorado do Carajás	120 – Redenção		1,274	3,817	532	572	29,147	93
MT	Nova Bandeirantes	67 – Alta Floresta	2013	3,039	5,000	709	573	14,547	213
TO	Oliveira de Fátima	77 – Palmas		1,102	7,075	1,005	574	0	735
AM	Silves	130 – Baixo Amazonas		975	578	82	575	1,753	530

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State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
MT	Torixoréu	61 – Alto Araguaia	2013	2,162	10,727	1,535	576	0	760
PA	Igarapé-Açu	123 – Belém		595	2,478	357	577	9,586	274
MA	Pugmil	77 – Palmas	2009	1,102	7,075	1,021	578	0	746
MT	Nova Xavantina	65 – Barra Do Garças	2009	2,162	9,250	1,338	579	7,269	331
MT	Nova Olímpia	63 – Tangará Da Serra	2013	2,077	12,500	1,813	580	19,955	151
MT	Alto Taquari	61 – Alto Araguaia	2013	2,162	22,500	3,302	581	0	708
MT	Campinápolis	65 – Barra Do Garças	2009	2,162	8,033	1,183	582	2,099	503
PA	São Félix do Xingu	120 – Redenção	2009	895	2,667	393	583	286,116	1
MT	São José do Rio Claro	63 – Tangará Da Serra	2009	2,077	10,143	1,497	584	10,107	269
MA	Tasso Fragoso	114 – Balsas		590	6,633	982	585	0	758
MT	Nova Ubiratã	64 – Sinop	2009	2,261	11,250	1,671	586	31,641	81
MT	Santa Terezinha	68 – Vila Rica	2013	1,738	4,030	599	587	29,467	91
MA	Bela Vista do Maranhão	118 – São Luís		403	1,292	194	588	1,827	523
PA	Castanhal	123 – Belém		595	2,700	409	589	3,963	435
MT	Vila Rica	68 – Vila Rica	2009	1,738	4,200	638	590	40,252	56
MT	Juscimeira	60 – Rondonópolis	2013	2,162	11,660	1,791	591	11,965	241
MT	Santa Carmem	64 – Sinop	2009	2,261	13,010	2,004	592	1,858	521
MT	Nova Maringá	63 – Tangará Da Serra	2009	2,077	8,000	1,239	593	26,605	105
MT	Rondolândia	66 – Aripuanã	2013	881	5,040	781	594	15,291	207
MT	Peixoto de Azevedo	67 – Alta Floresta	2009	2,261	5,667	880	595	57,502	32
MT	Vera	64 – Sinop	2009	2,261	13,010	2,029	596	2,069	506
MT	Primavera do Leste	60 – Rondonópolis	2009	2,162	19,250	3,002	597	9	700
MT	Novo Santo Antônio	68 – Vila Rica		1,738	4,030	640	598	1,415	544
MT	Pontal do Araguaia	61 – Alto Araguaia	2011	2,162	10,727	1,707	599	236	661
MA	Olinda Nova do Maranhão	118 – São Luís		213	1,292	207	600	4,043	430
MT	Arenápolis	63 – Tangará Da Serra	2009	2,077	10,143	1,659	601	8,246	305
MT	Reserva do Cabaçal	58 – Cáceres	2015	1,292	7,238	1,205	602	830	586
MT	Aripuanã	66 – Aripuanã	2014	881	3,200	535	603	40,627	53
PA	Oeiras do Pará	122 – Ilhas		595	225	38	604	6,126	365
MT	Sorriso	64 – Sinop	2009	2,261	23,000	3,861	605	4,441	412
PA	Limoeiro do Ajuru	122 – Ilhas		595	225	38	606	51	686
AC	Xapuri	126 – Rio Branco		289	1,870	318	607	16,375	191
MT	Santo Afonso	63 – Tangará Da Serra	2009	2,077	10,143	1,744	608	10,963	259

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State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
MT	Nova Marilândia	63 – Tangará Da Serra	2009	2,077	10,143	1,768	609	16,125	194
AC	Porto Acre	126 – Rio Branco		289	1,714	299	610	21,232	143
MT	Pedra Preta	60 – Rondonópolis	2009	2,162	16,500	2,882	611	776	589
MT	Marcelândia	67 – Alta Floresta	2009	2,261	5,667	999	612	43,546	49
PA	Santana do Araguaia	120 – Redenção	2009	1,738	3,820	674	613	137,807	6
MA	Vitória do Mearim	118 – São Luís		213	1,292	229	614	4,296	421
MT	Nossa Senhora do Livramento	59 – Cuiabá	2009	2,077	4,256	763	615	1,952	514
PA	Anapu	120 – Redenção	2009	895	3,634	660	616	55,475	36
TO	Gurupi	76 – Gurupi		1,102	4,000	730	617	469	629
MT	Rosário Oeste	59 – Cuiabá	2009	2,077	4,500	822	618	1,198	559
PA	Muaná	122 – Ilhas		595	225	41	619	72	681
PA	Bom Jesus do Tocantins	120 – Redenção		1,274	3,845	705	620	42,524	50
MT	Santa Rita do Trivelato	64 – Sinop	2009	2,077	13,010	2,417	621	2,626	485
AC	Capixaba	126 – Rio Branco		289	1,714	319	622	8,108	309
MT	Guiratinga	61 – Alto Araguaia	2014	2,162	7,433	1,385	623	1,898	516
MT	Gaúcha do Norte	64 – Sinop	2011	1,738	7,050	1,316	624	19,257	159
MT	Itiquira	60 – Rondonópolis	2010	2,162	8,950	1,681	625	2,492	490
MT	São José do Xingu	68 – Vila Rica	2009	1,738	6,400	1,207	626	24,228	115
PA	Curionópolis	120 – Redenção		1,274	3,818	730	627	26,139	108
PA	Chaves	122 – Ilhas		595	225	43	628	407	637
MT	Nova Mutum	64 – Sinop	2009	2,077	16,000	3,100	629	8,844	284
AC	Rio Branco	126 – Rio Branco		289	1,403	274	630		764
PA	Santo Antônio do Tauá	123 – Belém		595	2,478	485	631	471	627
MT	Alto Paraguai	59 – Cuiabá		2,077	4,256	843	632	7,775	318
AC	Senador Guiomard	126 – Rio Branco		289	1,870	371	633	28,782	96
PA	Água Azul do Norte	120 – Redenção	2010	1,274	3,927	781	634	120,950	8
MT	Barra do Bugres	58 – Cáceres	2009	2,077	7,238	1,452	635	46,097	44
MA	São João Batista	118 – São Luís		213	1,292	259	636	3,727	447
MT	Santo Antônio do Leverger	59 – Cuiabá	2014	2,044	4,256	863	637	26,147	107
MT	Sinop	64 – Sinop	2009	2,261	15,500	3,146	638	9,680	273
MT	Nova Nazaré	62 – Pontes e Lacerda	2009	1,738	8,033	1,634	639	4,129	427
MT	Água Boa	65 – Barra Do Garças	2009	2,162	10,250	2,090	640	575	614
MT	Juína	66 – Aripuanã	2011	881	4,500	926	641	40,124	57

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				Incra 2017	Market 2016	Declared to RFB 2016			
MT	Campo Verde	60 – Rondonópolis	2009	2,077	19,250	4,015	642	6,200	362
MT	Ipiranga do Norte	64 – Sinop	2013	2,261	13,010	2,720	643	3,734	446
MT	Cláudia	64 – Sinop	2012	2,261	13,010	2,746	644	4,656	408
PA	Vitória do Xingu	119 – Santarém		895	4,071	868	645	25,801	109
PA	Santa Maria do Pará	123 – Belém	2009	595	2,366	506	646	4,773	403
MT	Canabrava do Norte	68 – Vila Rica	2009	1,738	4,030	866	647	10,328	266
PA	Abaetetuba	123 – Belém	2012	595	2,367	518	648	2,772	476
MT	Alto Garças	61 – Alto Araguaia	2009	2,162	8,900	1,954	649	506	621
MT	Comodoro	62 – Pontes e Lacerda	2009	881	5,000	1,103	650	38,079	64
MT	Querência	65 – Barra Do Garças	2009	1,738	12,000	2,663	651	13,131	229
MT	Novo Mundo	67 – Alta Floresta	2009	3,039	5,667	1,262	652	18,890	160
MT	Brasnorte	63 – Tangará Da Serra	2010	881	8,000	1,783	653	28,908	95
MT	Chapada dos Guimarães	59 – Cuiabá	2009	2,077	4,256	956	654	7,040	339
RO	Ji-Paraná	124 – Cacoal	2015	2,210	8,500	1,911	655	11,514	250
MT	Salto do Céu	58 – Cáceres	2009	1,292	7,238	1,628	656	8,192	308
TO	Caseara	77 – Palmas		1,102	7,075	1,597	657	3,764	444
PA	Acará	123 – Belém		595	2,033	460	658	25,728	110
MT	São Pedro da Cipa	60 – Rondonópolis	2015	2,162	11,660	2,664	659	2,581	487
MT	Sapezal	63 – Tangará Da Serra	2009	881	11,250	2,585	660	3,769	442
TO	Araguaína	78 – Araguaína	2009	499	3,600	832	661	26,391	106
MT	Conquista D'Oeste	62 – Pontes e Lacerda	2014	881	4,644	1,112	662	15,743	201
MT	Campos de Júlio	63 – Tangará Da Serra	2009	881	10,000	2,398	663	9,146	280
AP	Laranjal do Jari	133 – Macapá		798	997	239	664	1,223	557
MT	Paranaíta	67 – Alta Floresta	2013	3,039	5,667	1,361	665	8,477	298
MT	Porto dos Gaúchos	66 – Aripuanã	2009	2,261	7,500	1,802	666	13,551	224
MT	Santo Antônio do Leste	65 – Barra Do Garças	2009	2,162	8,033	1,957	667	25	694
MT	Serra Nova Dourada	68 – Vila Rica		1,738	4,030	982	668	1,562	537
MT	Nova Lacerda	62 – Pontes e Lacerda	2009	881	4,644	1,134	669	43,689	48
MT	Nova Monte Verde	67 – Alta Floresta	2009	3,039	5,000	1,223	670	6,494	354
MT	Lambari D'Oeste	58 – Cáceres	2009	1,292	10,000	2,449	671	11,708	247
MT	Barra do Garças	65 – Barra Do Garças	2009	1,738	8,000	1,983	672	4,725	404
MT	Nova Brasilândia	59 – Cuiabá	2011	2,077	4,256	1,058	673	30,918	86
AM	Manaus	130 – Baixo Amazonas	2009	6,040	433	108	674	3,294	464

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				Incra 2017	Market 2016	Declared to RFB 2016			
MT	Campo Novo do Parecis	63 – Tangará Da Serra	2009	881	11,250	2,814	675	6,843	344
MT	Canarana	65 – Barra Do Garças	2009	2,162	9,500	2,379	676	3,795	438
MT	Jaciara	60 – Rondonópolis	2009	2,162	7,000	1,784	677	23,209	124
MT	Juara	66 – Aripuanã	2012	881	5,500	1,412	678	63,607	23
PA	Cachoeira do Arari	122 – Ilhas		595	225	58	679	22	695
RR	Boa Vista	132 – Boa Vista		975	1,867	485	680	183	667
MT	São José do Povo	60 – Rondonópolis	2013	2,162	11,660	3,038	681	235	662
MT	Rondonópolis	60 – Rondonópolis	2009	2,162	11,333	3,014	682	11,562	249
RO	Cujubim	125 – Porto Velho	2009	2,210	7,187	1,916	683	17,692	173
PA	São Sebastião da Boa Vista	122 – Ilhas		595	225	60	684	73	680
MT	Tapurah	64 – Sinop	2011	2,261	9,500	2,540	685	2,421	494
MT	Alta Floresta	67 – Alta Floresta	2011	3,039	5,250	1,414	686	20,853	148
PA	Soure	122 – Ilhas	2009	595	225	61	687	398	638
MT	Jauru	58 – Cáceres	2009	1,292	7,238	1,978	688	8,263	303
PA	Santa Izabel do Pará	123 – Belém		595	2,366	653	689	1,565	536
MT	Várzea Grande	59 – Cuiabá		2,077	4,256	1,178	690	0	761
MT	Vale de São Domingos	62 – Pontes e Lacerda	2014	1,292	4,644	1,287	691	11,755	246
MT	Poxoréo	60 – Rondonópolis	2013	2,162	5,500	1,528	692	17,685	175
AC	Porto Walter	127 – Tarauacá		213	530	148	693	3,405	459
PA	Xinguara	120 – Redenção	2009	1,274	3,820	1,068	694	29,470	90
MT	Tangará da Serra	63 – Tangará Da Serra	2009	2,077	10,000	2,823	695	27,264	102
MT	Porto Alegre do Norte	68 – Vila Rica	2011	1,738	4,030	1,147	696	7,975	313
MT	Vila Bela da Santíssima Trindade	62 – Pontes e Lacerda	2013	1,292	4,800	1,376	697	78,480	18
MT	Porto Estrela	59 – Cuiabá		2,077	4,256	1,238	698	3,605	450
MT	Cáceres	58 – Cáceres	2009	1,292	2,950	866	699	16,697	187
MT	Castanheira	66 – Aripuanã	2013	881	4,500	1,321	700	19,611	154
PA	Benevides	123 – Belém		595	2,476	729	701	276	657
MT	Feliz Natal	64 – Sinop	2008	2,261	5,000	1,488	702	21,097	145
AC	Assis Brasil	126 – Rio Branco		289	1,714	512	703	2,048	507
MT	Jangada	59 – Cuiabá	2009	2,077	4,256	1,284	704	0	723
MT	Matupá	67 – Alta Floresta	2009	895	6,750	2,055	705	22,533	132
MT	Carlinda	67 – Alta Floresta	2011	3,039	5,667	1,749	706	4,958	396
MT	Cuiabá	59 – Cuiabá		2,077	3,467	1,079	707	1,992	511

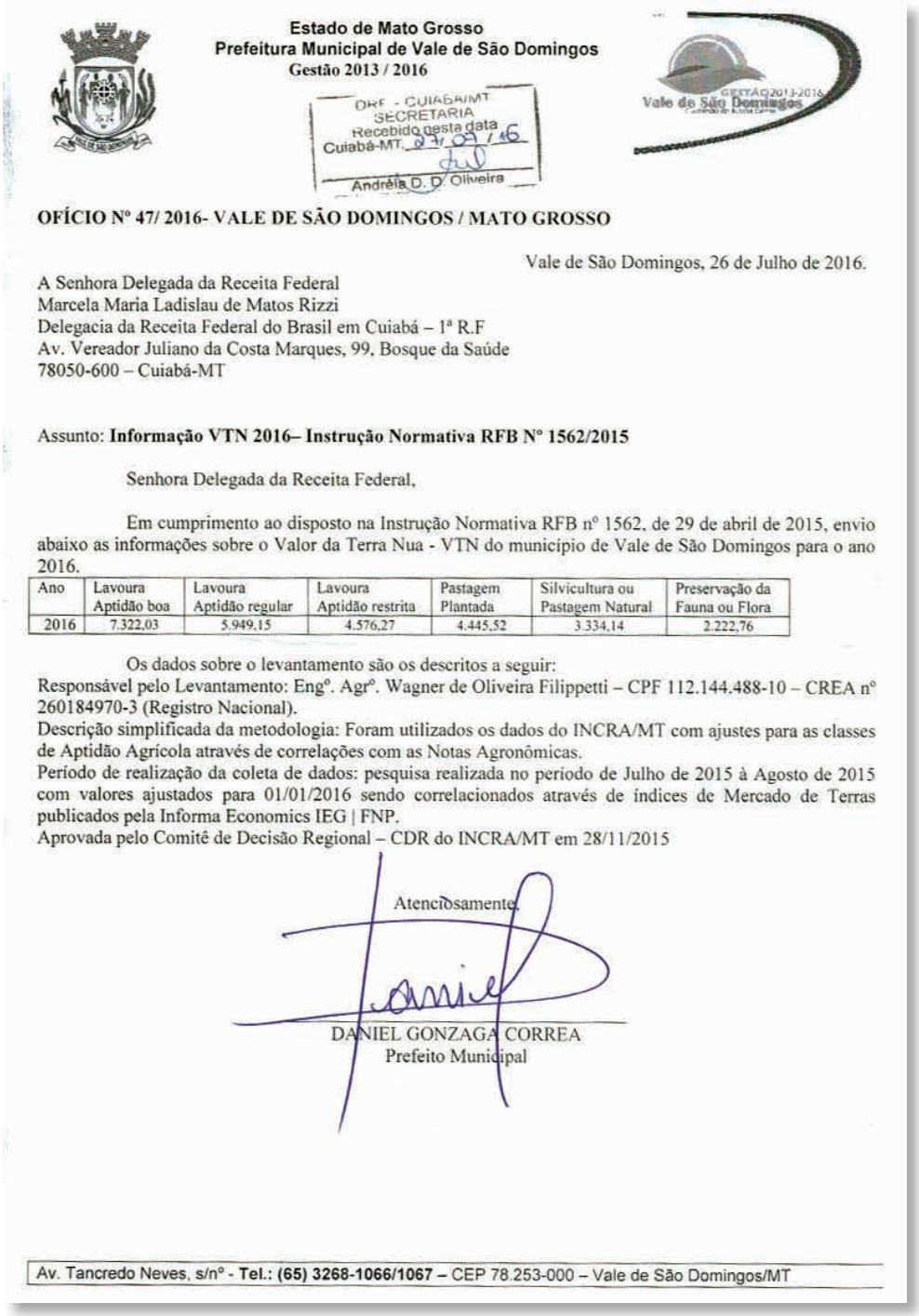
Continuation of Appendix 1

State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
AC	Rodrigues Alves	127 – Tarauacá		213	530	165	708	12,819	232
PA	Santa Cruz do Arari	122 – Ilhas		595	225	71	709	0	750
MT	Lucas do Rio Verde	64 – Sinop	2009	2,261	23,000	7,302	710	2,908	473
MT	Rio Branco	58 – Cáceres	2014	1,292	7,238	2,300	711	18,529	168
MT	Terra Nova do Norte	67 – Alta Floresta	2009	2,261	5,667	1,801	712	31,736	79
MT	Nova Santa Helena	67 – Alta Floresta	2011	2,261	5,667	1,843	713	8,500	293
MT	Itaúba	67 – Alta Floresta	2009	3,039	5,667	1,874	714	17,953	171
MT	Porto Esperidião	58 – Cáceres	2013	1,292	7,238	2,458	715	4,433	414
AM	Barreirinha	130 – Baixo Amazonas		895	578	198	716	6,983	342
MT	Araputanga	58 – Cáceres	2009	1,292	8,000	2,869	717	3,594	452
MT	Figueirópolis D'Oeste	58 – Cáceres	2009	1,292	7,238	2,612	718	5,902	370
MA	São Pedro da Água Branca	115 – Imperatriz		499	5,260	1,915	719	5,831	371
MT	Novo Horizonte do Norte	66 – Aripuanã	2014	2,261	5,040	1,879	720	6,667	350
MT	Pontes e Lacerda	62 – Pontes e Lacerda	2009	1,292	4,133	1,543	721	48,388	42
MA	Rosário	118 – São Luís		213	1,292	489	722	455	633
MT	Nova Canaã do Norte	67 – Alta Floresta	2010	3,039	5,667	2,149	723	12,556	234
PA	Baião	122 – Ilhas		595	225	86	724	21,642	139
MT	Colíder	67 – Alta Floresta	2009	3,039	5,250	2,005	725	7,557	322
AC	Tarauacá	127 – Tarauacá		213	530	205	726	17,942	172
MT	Nova Guarita	67 – Alta Floresta	2013	3,039	5,667	2,248	727	3,345	460
MT	Dom Aquino	60 – Rondonópolis	2015	2,162	5,500	2,186	728	12,337	239
MT	Planalto da Serra	59 – Cuiabá	2013	2,077	4,256	1,727	729	8,501	292
MT	Curvelândia	58 – Cáceres	2015	1,292	7,238	3,049	730	1,451	542
AC	Epitaciolândia	126 – Rio Branco		289	1,714	733	731	6,329	360
MT	Bom Jesus do Araguaia	68 – Vila Rica	2011	1,738	4,030	1,728	732	8,798	285
PA	Irituia	123 – Belém	2009	595	2,478	1,064	733	14,121	217
MT	Mirassol D'Oeste	58 – Cáceres	2009	1,292	8,000	3,523	734	5,590	378
MT	Indiavaí	58 – Cáceres	2013	1,292	7,238	3,203	735	3,303	462
AC	Santa Rosa do Purus	126 – Rio Branco		213	1,714	784	736	1,762	529
PA	Salvaterra	122 – Ilhas		595	225	107	737	1,030	567
MT	Tabaporã	66 – Aripuanã	2013	3,039	5,040	2,432	738	17,503	179
PA	Melgaço	122 – Ilhas		595	225	112	739	604	611
PA	Sapucaia	120 – Redenção	2014	1,274	3,820	1,941	740	6,452	355

Continuation of Appendix 1

State	Municipality	Region of the municipality according to the FNP/IEG classification	Year of Agreement	Average land reference values (BRL/hectare)			Ranking of the discrepancy between the declared and market values	Degraded pasture (ha)	Ranking degraded pasture
				Incra 2017	Market 2016	Declared to RFB 2016			
MT	Glória D'Oeste	58 – Cáceres	2009	1,292	7,238	4,009	741	878	582
PA	Canaã dos Carajás	120 – Redenção		1,274	3,794	2,182	742	36,893	67
MT	São José dos Quatro Marcos	58 – Cáceres	2009	1,292	7,238	4,216	743	2,674	481
AM	Apuí	129 – Humaitá	2009	895	2,500	1,504	744	53,769	38
MT	São Félix do Araguaia	68 – Vila Rica	2009	1,738	1,575	974	745	30,947	85
MT	Alto Boa Vista	68 – Vila Rica	2015	1,738	1,575	989	746	4,423	415
PA	Portel	122 – Ilhas	2013	595	225	146	747	14,808	211
PA	Ananindeua	123 – Belém	2012	595	2,533	1,705	748	0	709
MA	São Luís	118 – São Luís		213	1,883	1,315	749	569	616
MT	Cocalinho	65 – Barra Do Garças	2013	1,738	1,150	826	750	4,345	417
PA	Marituba	123 – Belém		595	2,478	2,287	751	5	701
PA	Parauapebas	120 – Redenção	2013	1,274	3,820	3,629	752	19,584	156
AM	Iranduba	130 – Baixo Amazonas		13,307	578	555	753	4,551	410
PA	Ponta de Pedras	122 – Ilhas	2009	595	150	146	754	370	644
MA	São José de Ribamar	118 – São Luís		213	1,292	1,372	755	15	697
MT	Araguaiana	65 – Barra Do Garças	2009	1,738	1,150	1,418	756	7,166	334
MA	Paço do Lumiar	118 – São Luís		213	1,292	1,761	757	44	690
PA	Tucuruí	122 – Ilhas		1,274	225	310	758	23,374	121
PA	Cametá	122 – Ilhas		595	225	350	759	13,397	226
AM	Borba	129 – Humaitá		975	1,932	3,245	760	2,331	497
PA	Anajás	122 – Ilhas	2013	595	225	509	761	212	663
MA	Raposa	118 – São Luís		213	1,292	7,608	762	0	747
TO	Santa Rosa do Tocantins	76 – Gurupi		1,102	9,000		763	2,699	480
RR	Uiramutã	132 – Boa Vista		975	2,433		764	503	622

Appendix 2. Official document sent to the Brazilian Revenue Service by the city hall of Vale de São Domingos – MT to adjust the bare land value/ha in 2016



Estado de Mato Grosso
Prefeitura Municipal de Vale de São Domingos
Gestão 2013 / 2016

DRF - CUIABÁ/MT
SECRETARIA
Recebido nesta data
Cuiabá-MT, 27/07/16
Andréia D. D. Oliveira

GESTÃO 2013-2016
Vale de São Domingos

OFÍCIO Nº 47/ 2016- VALE DE SÃO DOMINGOS / MATO GROSSO

Vale de São Domingos, 26 de Julho de 2016.

A Senhora Delegada da Receita Federal
Marcela Maria Ladislau de Matos Rizzi
Delegacia da Receita Federal do Brasil em Cuiabá – 1ª R.F
Av. Vereador Juliano da Costa Marques, 99, Bosque da Saúde
78050-600 – Cuiabá-MT

Assunto: **Informação VTN 2016– Instrução Normativa RFB Nº 1562/2015**

Senhora Delegada da Receita Federal,

Em cumprimento ao disposto na Instrução Normativa RFB nº 1562, de 29 de abril de 2015, envio abaixo as informações sobre o Valor da Terra Nua - VTN do município de Vale de São Domingos para o ano 2016.

Ano	Lavoura Aptidão boa	Lavoura Aptidão regular	Lavoura Aptidão restrita	Pastagem Plantada	Silvicultura ou Pastagem Natural	Preservação da Fauna ou Flora
2016	7.322,03	5.949,15	4.576,27	4.445,52	3.334,14	2.222,76

Os dados sobre o levantamento são os descritos a seguir:
Responsável pelo Levantamento: Engº. Agrº. Wagner de Oliveira Filippetti – CPF 112.144.488-10 – CREA nº 260184970-3 (Registro Nacional).
Descrição simplificada da metodologia: Foram utilizados os dados do INCRA/MT com ajustes para as classes de Aptidão Agrícola através de correlações com as Notas Agronômicas.
Período de realização da coleta de dados: pesquisa realizada no período de Julho de 2015 à Agosto de 2015 com valores ajustados para 01/01/2016 sendo correlacionados através de índices de Mercado de Terras publicados pela Informa Economics IEG | FNP.
Aprovada pelo Comitê de Decisão Regional – CDR do INCRA/MT em 28/11/2015

Atenciosamente,

DANIEL GONZAGA CORREA
Prefeito Municipal

Av. Tancredo Neves, s/nº - **Tel.: (65) 3268-1066/1067** – CEP 78.253-000 – Vale de São Domingos/MT

Available at: http://www.valedesaodomingos.mt.gov.br/servicos/itr/oficiositr/201/view/282, acesso em 12/10/2018

Appendix 3. Examples of how municipalities disseminated information on bare land value for land tax purposes

Decreto nº 034/2018 - Tabela VTN - ITR 2018

17 de Julho, 2018 às 17:52:00

DECRETO Nº 034/2018
TABELA VTN - ITR 2018

Estabelece Tabela de Avaliação de Valor da Terra Nua (VTN) Por Hectares de terra e por aptidão em áreas rurais do município de Novo São Joaquim-MT, para fins de lançamento fiscal e cobrança do (ITR) de 2018.

saiba +

DECRETO Nº 034/2018 DE 17 DE JULHO DE 2018.

Estabelece Tabela De Avaliação De Valor Da Terra Nua (VTN) Por Hectares de terra e por aptidão em áreas rurais do município de Novo São Joaquim-MT, para fins de lançamento fiscal e cobrança do (ITR).

O Prefeito Municipal de Novo São Joaquim, Estado de Mato Grosso, Sr. **ANTÔNIO AUGUSTO JORDÃO**, no uso de suas atribuições legais que lhe confere a Lei Orgânica Municipal, o Decreto Federal nº 4382/02, e Instrução Normativa RFB nº 1562/2015 de 29 de abril de 2015,

DECRETA:

Art. 1º - Ficam estabelecidos os valores da avaliação da Terra Nua (VTN) por hectare e aptidão (capacidade potencial de terra/qualidade do solo), aos imóveis rurais do Município de Novo São Joaquim-MT para fins de fiscalização e cobrança do ITR – Imposto Territorial Rural na forma estabelecida pelos membros da comissão de avaliação, designada pela Portaria 280/2017.

TABELA VTN EXERCICIO DE 2018

Lavoura Aptidão Boa	R$ 9.000,00
Lavoura Aptidão Regular	R$ 5.913,00
Lavoura Aptidão Restrita	R$ 3.620,00
Pastagem Plantada	R$ 3.550,00
Silvicultura ou Pastagem Natural	R$ 2.050,00
Preservação a Fauna ou Flora	R$ 1.350,00

Art. 2º - Os valores constantes da tabela referida no art. 1º serão remetidos à Receita Federal do Brasil para armazenamento no Sistema de Preços de Terra - SIPT.

Art. 3º - Este decreto entra em vigor na data de sua publicação, revogadas as disposições em contrário.

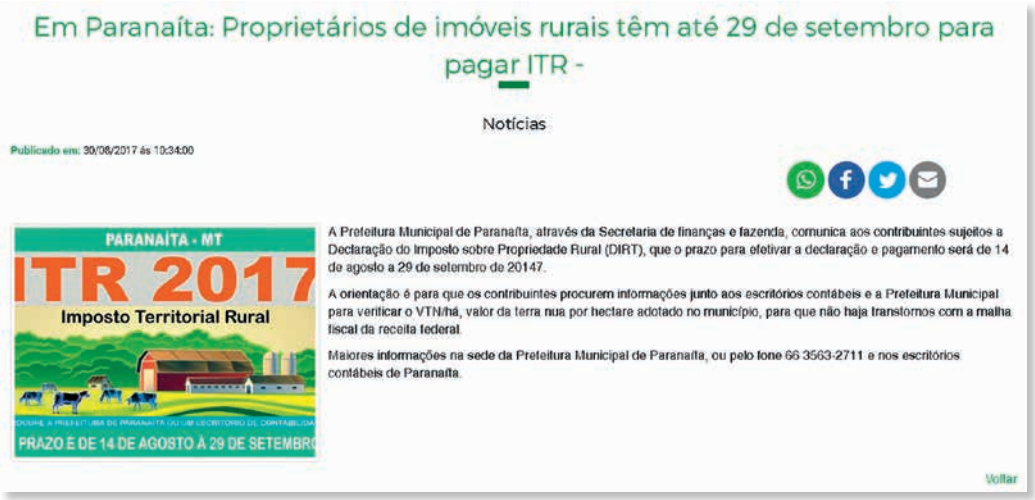
Novo São Joaquim MT, em, 17 de julho de 2018.

Registra-se, Publica-se e Cumpra-se

ANTÔNIO AUGUSTO JORDÃO

Prefeito Municipal

Atesto que o referido Decreto foi publicado no mural de publicações, portal da transparência, Diário Oficial de



Em Paranaíta: Proprietários de imóveis rurais têm até 29 de setembro para pagar ITR -

Notícias

Publicado em: 30/08/2017 às 10:34:00

A Prefeitura Municipal de Paranaíta, através da Secretaria de finanças e fazenda, comunica aos contribuintes sujeitos a Declaração do Imposto sobre Propriedade Rural (DIRT), que o prazo para efetivar a declaração e pagamento será de 14 de agosto a 29 de setembro de 20147.

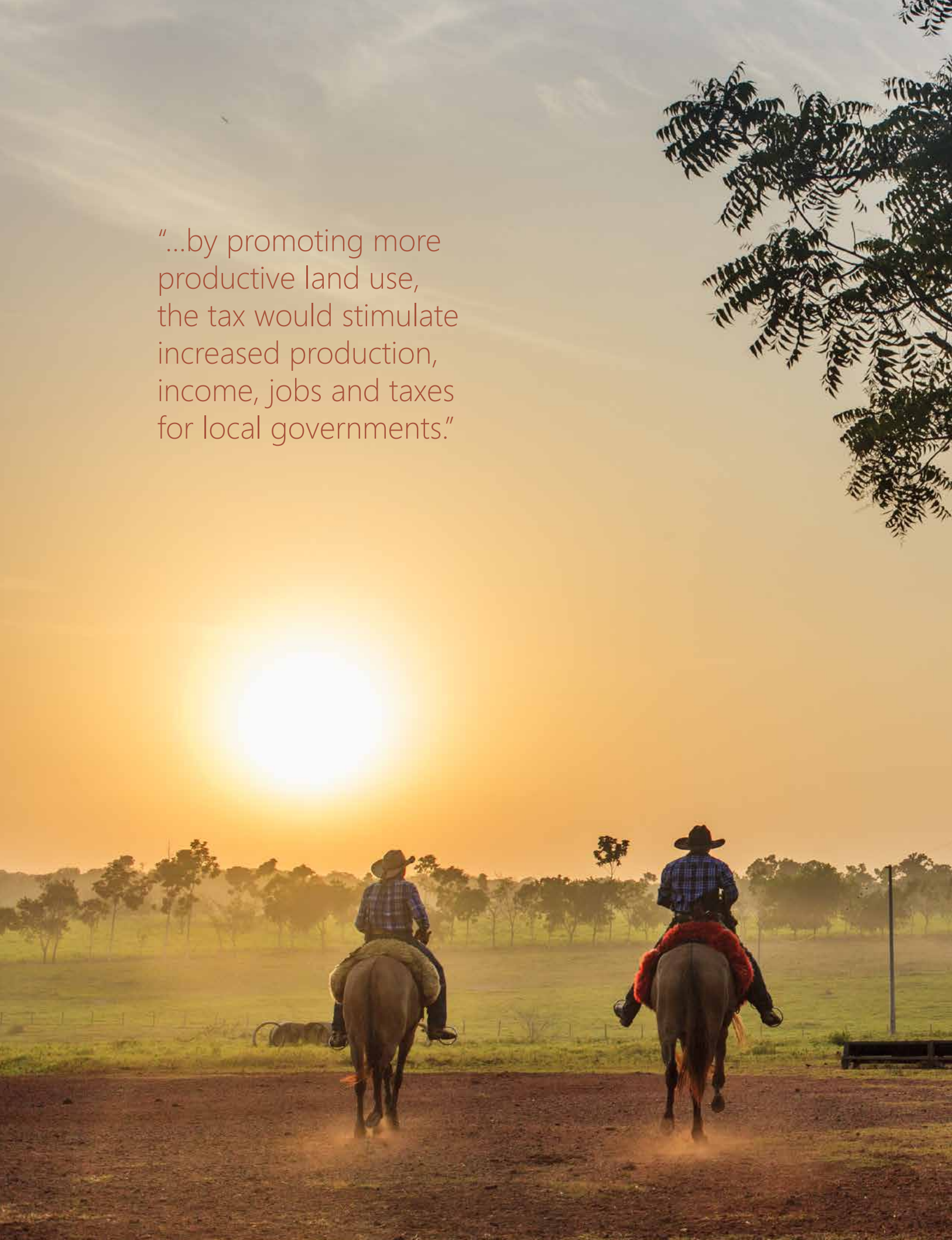
A orientação é para que os contribuintes procurem informações junto aos escritórios contábeis e a Prefeitura Municipal para verificar o VTN/há, valor da terra nua por hectare adotado no município, para que não haja transtornos com a malha fiscal da receita federal.

Maiores informações na sede da Prefeitura Municipal de Paranaíta, ou pelo fone 66 3563-2711 e nos escritórios contábeis de Paranaíta.

Voltar

Sources: https://www.novosaojoaquim.mt.gov.br/Noticias/Decreto-n-0342018---tabela-vtn---itr-2018-41/ e https://www.paranaita.mt.gov.br/Noticias/Geral/Em-paranaita-proprietarios-de-imoveis-rurais-tem-ate-29-de-setembro-para-pagar-itr-4256/

"...by promoting more productive land use, the tax would stimulate increased production, income, jobs and taxes for local governments."



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Norway's
International Climate
and Forest Initiative