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# Modern agriculture in the *Cerrado* Biome: continuing the disrespect of nature

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**Abstract**

This article has the intention of revisiting the way in which society still goes on destroying nature by its actions, which are more linked to the generation of values turned towards profit than towards the formation of social well-being in its complexity. This is analyzed in the expansion of modern agriculture over the *Cerrado* biome's original vegetation cover (an environment most often compared to *Savannah*). The elaboration and interpretation of maps made to demonstrate the growth of modern agriculture and, at the same time, the reduction of natural vegetation, under the light of an interdisciplinary approach to understand the complexity of the world in its permanent movement, constituted what was essential in the methodology which was chosen to carry out this work. The main result of the research came through in demonstrating that nature continues to be repressed by the forces which destroy the environments where men and women live, within territories of the *Cerrado* biome, in spite of all of the advances which have occurred at the levels of thinking, of legislation and of practices implemented to seek control of such forces.

Keywords: Human Actions; Agribusiness; Capitalism; Techno-instrumental Rationality; Environmental Rationality.

## 1. Introduction

The present article has as its principal objective to once again call society's attention to the way in which nature is still being destroyed by acts linked to interests in the generation of values for profit than for social well-being in its complexity.

A reflection was done based on results originating in research done in the area of one of the lines of investigation in the research group Social Movements and Urban Space which the three authors take a part in as researchers and militants.

The main relevance of this work resides in the necessity of, once more, taking on the discussion of an important theme: the finality of society controlling its own actions in relation to nature. This comes from adopting a dimension of reflection upon the defense of laws implemented for the protection and conservation of environments inherited from the natural and social histories in our country, and upon research directed towards the salvation of sustainable practices, for men and women to have new approaches in relation to their attitudes towards nature.

As for the methodology opted for, and aiming to put the above idea into practice, there was a bibliographic revision, collection of data and information about the highlighted theme; alongside the generation of maps, graphs and tables, aiming to reinforce the arguments of the authors of this article.

This was done under the perspective of an interdisciplinary approach aiming to understand the reality in which occur the shocks between the interests around the expansion of an agriculture, which blindly obeys the commands of techno-instrumental capitalist rationality, and the moral duty to preserve nature.

Under this perspective, the structure of the text was elaborated in a way to: firstly, place the general idea of the research making a synthesis of the task in relation to a revision of the literature about the highlighted theme (first section); afterwards, present the methodology by which was chosen the idea to put into operation (second section); following this, highlighting and discussion of the results reached (third section); and, lastly, to work out the conclusion of the work (fourth and last section).

*Basic premise*

To begin our argument, it must be admitted that, as has already been pointed out by Brunhes (1962) at the beginning of the twentieth century (1909), a discussion taken up again later by Moreira (2015) and Castilho (2017), men and women need to intervene permanently in nature in order to live since they do not live without using nature.

At the same time, such interventions, according to the same author, always provoke impacts – negative ones as well – on nature, principally when destructive social forces superimpose themselves over the wise forces of nature. This fact obliges us to abandon the defense of romantic perspectives in search of utopias which do not correspond to the reality related to the problematic of society's relationships with nature.

Before such a statement, searching for a solution to the fact mentioned above, the same author believed in the possibility of self-awareness in men and women in that which concerned the human capacity to control the destructive effects of their acts. Otherwise they may come to harm themselves even more as far as, in proportion to men and women in agreement with their inclinations before nature, the latter would react in a relentless way. In his own words,

> [...] everything is for men, over the surface of our globe, usual work, and sane understanding of the physical facts and agile adaption to these. However, it is necessary for the adaptation to operate promptly, at an opportune moment – perceived, prepared and conducted by exact scientific research. The vengeance of the physical facts opposed is so much crueler as more grandiose and glorious has been the human conquest. (Brunhes, 1962, p. 443)

The answer to this question can be found, in principle, in the permanence, during close to five centuries, of techno-instrumental capitalist (neoliberal) rationality whose imperatives have guided the acts of men and women over Earth and, simultaneously, in the (still weak) emerging strength of social movements (the environmentalists).

In the wake of this, as written by Leroy (2010, p. 226), the territory of capital expands itself over the territories of peoples from the moment that

> Capital proceeds to the permanent deconstruction and reconstruction of territory, emptying meanings and peoples according to its interests. Since the appearances of public territory with its administrative divisions are maintained, capital seeks to turn it mobile and uncertain in order to make of it a territory of worldwide scale. What interests it is not permanent domain over each area in particular, but the power to have any area as desired. Its territory is the world.

In Brazil, this process of expansion of capital strengthened, mainly during the military period, inside the discourse on technical modernization of the country's rural spaces. This made areas of *Cerrado* regions and Amazonia available as ample spaces for "modernization" and "territorialization of capital", as Fernandes (2016, p. 32) points out:

> During the two decades in which the military governments were in power, they guaranteed the appropriation, by great business groups, of immense areas of lands and also the increase

> in the number and extension of large estates. They financed changes at the technical base of production from the incentives created and from credit subsidized by their agricultural policies. They gave room for the "modernization" of agriculture and the territory for capital in the countryside. On the other hand, they repressed any kind of fight or resistance to their policies.

With this the military performed a technical modernization of the countryside which did not modify the agrarian structure concentrated in the regions referred to, creating a generation of poor and exploited workers as well as making way for an unbridled and uncontrolled exploitation of nature by capital.

In effect, everything which has just been mentioned above is inherent, above all, to societies whose territorial foundations occurred much more for the generation of values in view of profit in the sphere of a perverse capitalism (Harvey, 2013) than for the formation of a society in which well-being, and living well, would constitute fundamental goals. In this perspective, in agreement with Moraes (1997, p. 37),

> [...] the Latin American colonial model of valuing space implied a gradual impoverishing relative to the territories where it installed itself, a destruction of the natural richness without adding a value to the soil compatible with the richness taken out. [...] The colonial territory is seen as a 'space to be won over', the 'civilizing' submission of a brutal nature which encompasses indigenous populations – which in the eyes of the colonizer appear to be another resource of the colonized area. Such a vision appears to be strong along the development of cultures in Latin American nations. Even with processes of political emancipation in place, the elites remain to ponder over their countries as spaces to be won over (the people being seen as instruments of this action).

If on one side there are moments in the history of humanity where one has the impression that they are evolving in the sense of consolidating a set of actions directed towards the control of destructive forces of nature translated into advances in the spheres of thought, legislation, social practices, etc., on the other hand reality shows the opposite. This leads us to inquire, basing ourselves in the fruitful discussion by Santos (2000), about to what degree such advances would not represent fables created to sustain a perverse globalization, interrupting the possibilities for more concrete advances.

Before such a problematic, one notes that, especially from the middle of the 1970s, and with greater intensity across the following decades, the territory of the *Cerrado* biome, in Brazil, has become the target of agribusiness and with the support of the State which has promoted the process of territorial expansion of such and activity through great works of road, energy an research infrastructure – with money from the social collective – destined predominantly towards the increase in productivity.

However, the essence of the problem identified here does not reside in the expansion of the activities of modern farming *per se*, but above all in the way in which such an expansion is happening, that is to say by disrespecting nature and the traditional communities which are found in its wake. It all happens beneath the logic of the search for the space to be won over and conquered at any cost – notably seeking the generation of economic richness.

In the sense of reviewing such a problem under the perspective of controlling the social forces which destroy nature, including laments for the insensible way that the *Cerrado* is being modified by men, Ab'Sáber (2003, p.41) pointed to what he called

> [...] three basic guidelines capable of reconciling development with protection for genetic patrimonies: 1. preservation of significant portions of *cerrados* and larger *cerradões* (*cerrados* with larger trees, located in interfluvial domes, transforming them into true genetic banks of the *cerrados*); 2. conservation of strips of *cerrados* and countrysides in the low strand plains, hundreds of meters in length, according to each case, so that the management of arable lands does not interfere in the fragile equilibrium of the strip of contact between strands and valley bottoms with gallery forests; 3. maximum possible suspension of use of soils in the strips of gallery forests, aiming for the multiple preservation of alluvial river corridors in biodiverse forests, as well as the existing paths at the margins. [...] The great dilemma will always reside in the development of techniques for the selection of effectively arable subspaces, without harming the relative

> preservation of natural patrimonies of the 'universe' of *cerrados* and *cerradões.* All of this, however, fell on the ground, since, until the end of the year 2000, the anthropic devastation accumulated 65 to 70% of the total space. Few examples of ecosystems of *cerradões* remain, given the immediateness and savageness which rule over the current system of production of farming spaces in most of the country.

However, for almost two decades after the publication of the concept referred to here, one continues to lament the insensibility of these social forces which destroy nature. But at the same time society is called upon to control them, for once within the parameters of an alternative rationality. And why not the environmental rationality presented and proposed by Leff (2009) in his various reflections on the environment.

## 2. Procedural assumptions of the methodology

Santos (2000) affirmed that one of the great feats of contemporary times has been the mastering of the electromagnetic spectrum, defending that satellite images permit us to monitor the evolution of spatial phenomena. This discussion is an example of such a great technological aid spurring on an object of discussion where deforestation and the advance of the expansion of human populations are able to be spotted and even put into figures.

The utilization of remote sensing techniques and analyses by geo-processing which reinforce the empirical representation of the studied phenomenon, making use of the theoretical paradigms available to explain determining factors and its evolution in the historical process, were essential procedures aiming towards the foundation of the argumentation for our research.

In this way, by way of the application of remote sensing techniques and the consequent analysis through geo-processing it is believed that it is possible to obtain ample and even profound knowledge about what is happening in each place of the Planet.

Besides, this same author reinforced that the technical, scientific and informational processes which, by way of satellites, permit photographing places on the planet permit, at the same time, the obtaining of an empirical vision of the totality of objects fixed on the surface of the earth. As photographs occur at regular intervals, a picture of the very evolution of the process of occupation of the surface referred to is obtained. For him, then, the simultaneousness pictured constitutes a truly new and revolutionary fact for knowing geographic reality as well as for the corresponding focus for science, altering paradigms.

Based on these assumptions, the mapping of the vegetal cover done specifically for 1975, 1985, 1992, 2000, 2007 and 2017 permitted the capture of an empirical vision of the objects installed on the earth's surface – forming "luminous spaces" – even coming to define "the limits" of the process of territorial expansion of the modern agricultural frontier represented by agribusiness.

Accordingly, we sought an interdisciplinary momentum with a focus to bring us closer to the complexity of the problematic inherent to the process of social production of geographic space, guided by the social forces which destroy nature and resulting from techno-instrumental capitalistic rationality.

## 3. Results and discussion

Firstly, the factors which were decisive in pushing the quick and intense expansion of agriculture's capitalist frontier were highlighted within the space of interest. To do this we found it interesting to start with the observation of physical factors inherent in the area under question. One knows that in theory declivity is one of the determining factors for the mechanization and expansion of modern agriculture.

The existence of an extensive area of flat relief with declivity of around 3% was determined. To facilitate our perception further, only areas of flat relief were isolated which permitted us to view the real dimension of this factor which is known to be favorable to modern capitalistic agricultural expansion (Figure 1).

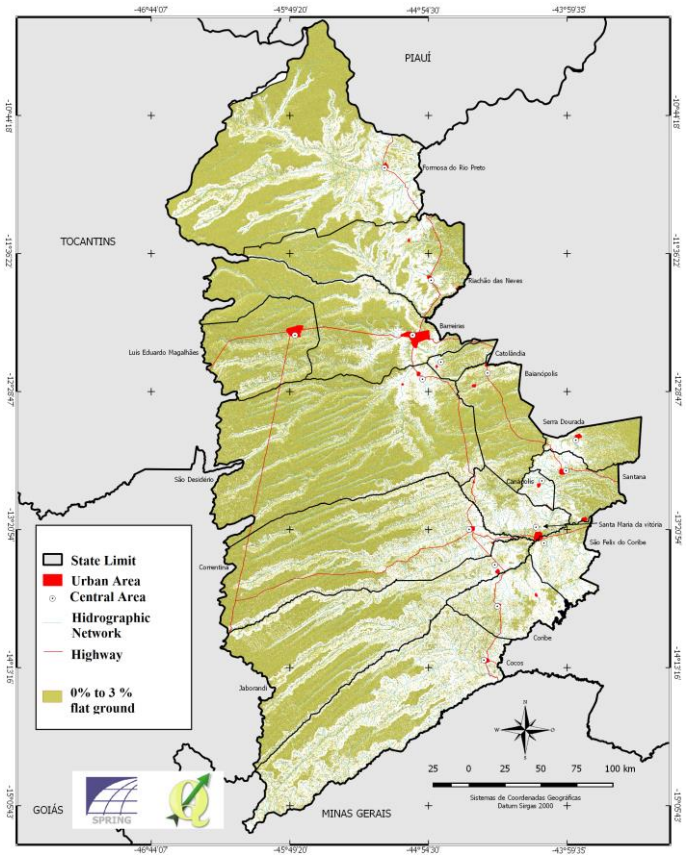
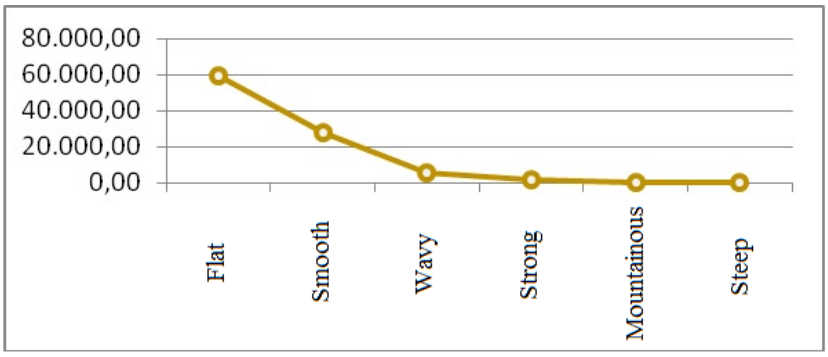



Figure 1 - Declivity showing *flat relief*.

In relation to the same factor being highlighted, Graph 1 demonstrates that the flat relief class is approximately 60 thousand km², comprised of an area greater than the Federal States of Alagoas and Sergipe together. Adding flat relief to smooth relief one would have, on the other hand, an area of 90 thousand km². In comparative terms, this would almost be the total area of the Federal State of Pernambuco.

Beside this factor, the area has mean rainfall which varies from 1,200 to 1,800 mm (Figure 2), the high precipitation being another important factor which conditions the activity under focus.




Graph 1 – Classes of relief in square kilometers (km²).

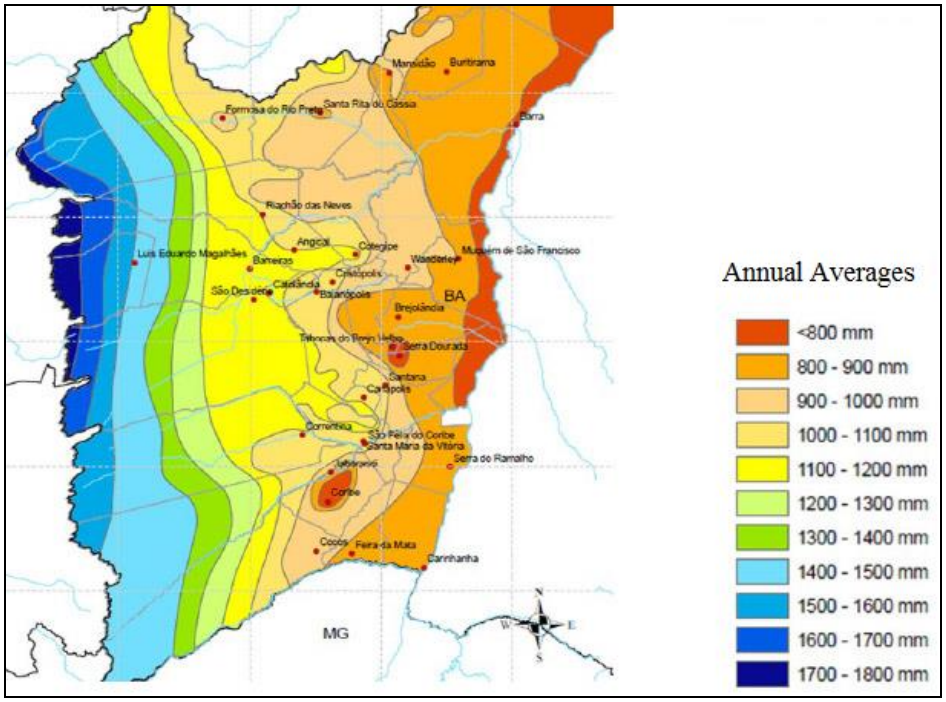



Figure 2 – Averages for annual precipitation in the West of the State of Bahia. Source: Soja Plus Bahia (2017).

At the same time it is clear that one must take into account the necessity of soil correction, this being another essential factor for the increase in productivity for the range of environments of the Cerrado.

The uniting of the three factors mentioned above, finally, contributed to the region's being fundamental for the expansion of modern agriculture, intensifying the process of destruction of vegetation cover.

With the characteristics shown above, one can confirm that until more or less the 1990s, the West of Bahia still fit into the set of areas which Santos (2000) had called the "army reserve of places". But reserved for what? It was to be for the expansion of the modern agricultural frontier thereby consolidating agribusiness as the phenomenon which currently has its premises on the *cerrado* plains of Brazil.

In the 1970s and 1980s, with the support of the State the West of Bahia benefited from the Program of Cerrado Development (Proceder) which, allied with other incentives of planned occupation seeking to provide infrastructure, energy and transport, came to attract investors from the South, Southeast and Center West Brazilian regions. This would all depend on the availability of low-cost arable lands.

Thus, in the 1980s still, agriculture came to have increasing participation in the area's economic activities. It was in this period that soy began to become concentrated in some of the region's municipalities to continue its influence, afterwards, in the 1990s, through the whole of the West of Bahia.

For Santana and Calaça (2006) agricultural production, from the 1980s onwards, was the prime mover inside regional transformations, contributing to insert the *cerrados* of the West of Bahia into the national and international division of labor. Further still, for this same author, this insertion of territory ties yet another knot in favor of the complex network of territories for modern agricultural production, and for the world market of agricultural *commodities*, later becoming evident on cash flow statements.

In consideration of the three classes of vegetation cover indicated beforehand – Agriculture, Pasture and Natural Vegetation – in Figure 3 one notes that in 1975 there was a predominance of natural vegetation (represented in tones of green). This means that the areas

maintained a pattern of coverage over the earth compatible with the variety of vegetation patterns which characterize the *Cerrado* biome, even though they presented some level of alteration in relation to the original countryside because of the presence of productive activities like ranching (Figure 4), low-impact activities or those for subsistence.

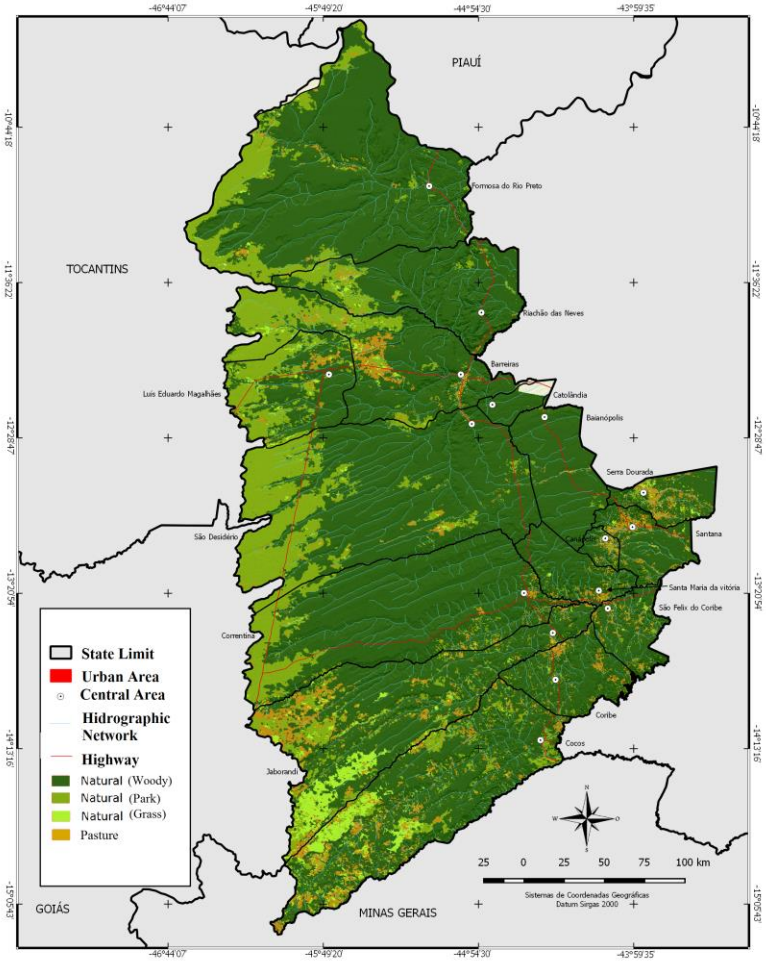



Figure 3 – Mapping of vegetation cover, 1975.

Figure 4 – Presence of traditional ranching activities (left) and low impact activities (right) in the productive region of Bahia's West. Photographic register: Brandão (2017).

The results of the mapping done of vegetation cover from 1975 with the mapping generated by the Radambrasil project from the 1970s were compared, confirming that until the middle of the 1980s the West of Bahia still possessed an exceptional Cerrado biome reserve for it to be taken advantage of permanently rather than having a lot of its content destroyed.

Without a doubt there exists, in the nature of agribusiness, the inheritance of the conservative modernization of Brazilian agriculture, first supported by strong patronage by the State in the 1960s, 1970s and 1980s, through incentives which, in reality, financed deforestation, evictions, the construction of infrastructure, of industry and warehouses and production.

Much public money was applied, mainly (we have a hunch) to serve the interests of business and political friends, occupying lands which had initially found themselves "in the reserve".

Setting off from the year 1975, we come to bear witness to the recent dynamics of excessive exploitation of the *cerrados* of the West of Bahia. Firstly, these dynamics posit themselves in the productive use of space without taking an interest in territorial inequalities. Then we find this behavior sustained by the discourse of development which, in reality, ended up arousing a certain negation of the people around who actually exist, entailed in cutting down natural vegetation; and degrading soils, as well as water resources, by the use of pesticides.

Figure 5 shows the presence of new agricultural areas (represented in yellow), their presence being very limited in Figure 3. This demonstrates the growth of agricultural areas in 1985 compared to 1975, coming to occupy a greater area than that which could be occupied by cattle raising.

According to SEIBAHIA (2003), focused on the transformations which occurred in the agriculture of the West of Bahia, from the 1980s one perceived a striking feature corresponding to modifications in work relations in introducing practices and concepts such as contracting, subcontracting and managerial elites inside the productive units. As a consequence, the number of people necessary to work on, maintain or even expand production levels has diminished, altering the process of land occupation, as new areas have become added to the productive business model and/or traditional agricultural areas have been pressured to adhere to the entrepreneurial dynamic.

The permanence of the commands of the logic of techno-instrumental capitalist (neoliberal) rationality, responsible for the unceasing conquest of spaces, has given continuity to the expansion of *conservative* modernization which is *painful* at the same time. This is a result of the technical base of the transformation by rural production and agroindustrial complexes as providers of new zones of capitalist appropriation, occupying the places which they thought to be "in the reserve".

The decline of natural vegetation with the growth of modern agricultural expansion continued to happen until, from the year 2000 (Figure 6) such a process widely consolidated itself in the West of Bahia. What increased the pressure as much on the modern agricultural frontier, as in the livestock sector, were the remnants of the *cerrado* biome.

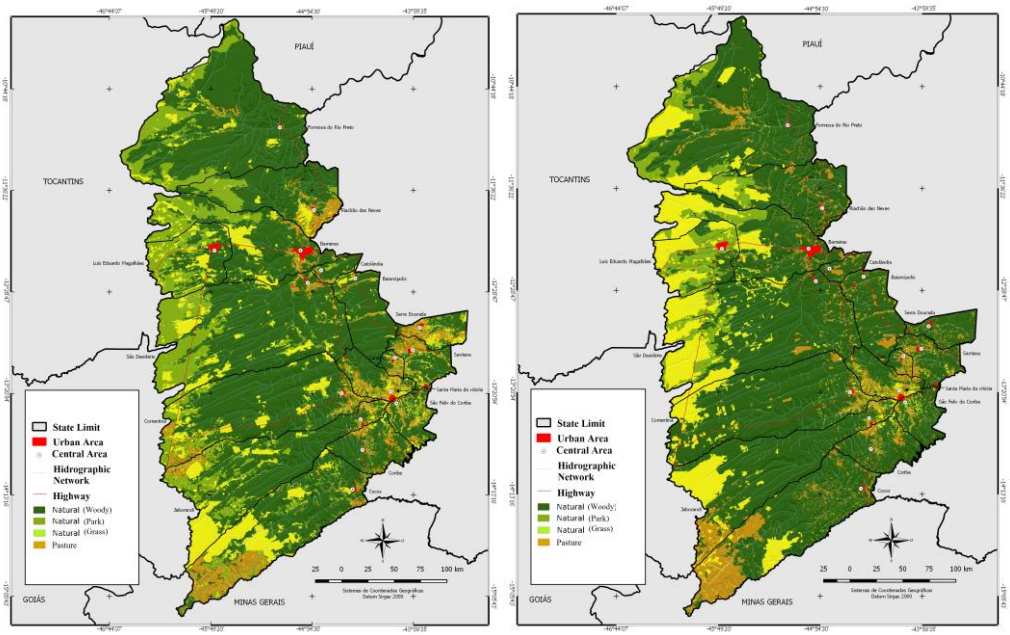



Figure 5 – Mapping of vegetation cover in 1984 (map to the left) and in 1992 (map to the right).

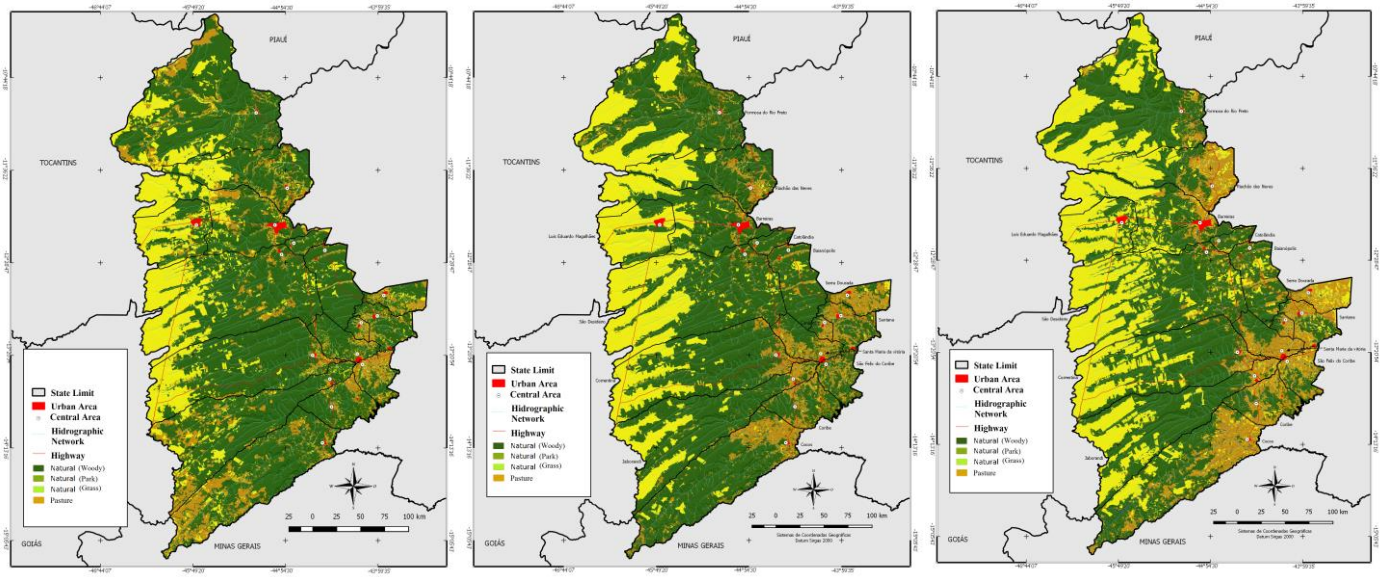



Figure 6 – Mapping of vegetation cover 2000 (map on the left), 2007 (map on the middle) and 2015 (map on the right).

The awareness of such pressure awakened defenses for the protected reserves; as well as setting tourism as an economic activity for the region. With respect to this, in the case of adventure tourism, perhaps this activity provides the conditions for maintaining the reserves and stimulating the creation of new units of conservation.

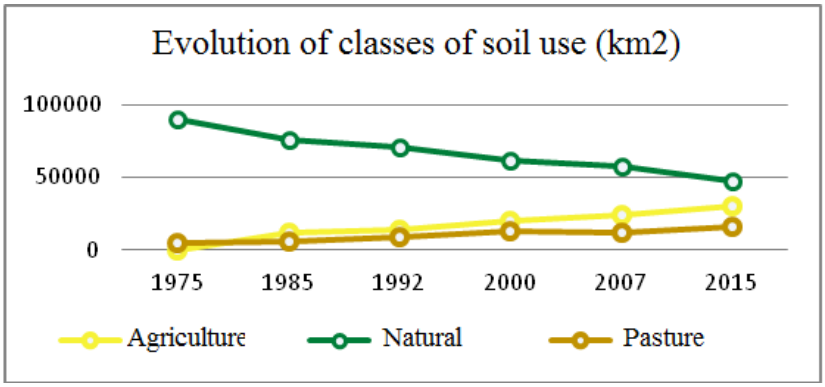
Nevertheless, one is not in a moment where things are shaping up for the better. In truth, this is yet another fable for the supposed maintenance of "intact" areas today which would afterwards be used for the expansion of the activities linked to hegemonic interests.

The series of maps for the years 1975, 1985, 1992, 2000, 2007 and 2015, previously presented, therefore led us to highlight the evolution of farming in the Productive Agricultural Region of the West of Bahia, establishing a relationship between land structure, ownership and government programs for agriculture in the *cerrados*.

According to Jice (2010), the frustration over grain harvest which occurred worldwide in 1973 awakened Japan to the necessity for diversifying suppliers, mainly soya. Accordingly Brazil increased its production of grains (Table 1 and Graph 2) with the initial support of the *Nipo-Brasileira* Cooperation Program (1978) in the *Cerrado*s – Prodecer.

Table 1 – Evolution of classes of vegetation cover.

| Classes | Evolution of classes of vegetation cover (km²) | | | | | |
|---|---|---|---|---|---|---|
| | 1975 | 1985 | 1992 | 2000 | 2007 | 2015 |
| Agriculture | 0,00 | 12.309,81 | 14.561,12 | 19.838,68 | 24.571,20 | 30.756,61 |
| Natural Vegetation | 89.980,18 | 76.185,41 | 71.227,43 | 61.932,04 | 57.961,06 | 47.580,92 |
| Pasture/Livestock | 4.774,15 | 6.258,97 | 8.965,60 | 12.983,59 | 12.221,90 | 16.417,32 |
| Total | 94.754,33 | 94.754,19 | 94.754,15 | 94.754,31 | 94.754,16 | 94.754,85 |




Graph 2 – Evolution of classes of vegetation cover. Author: Brandão, 2017.

Thus one observed that in 1975, one did not identify the presence of great agricultural production in the region under study, corroborating the previous statement that until the 1970s the *cerrados* area was perceived as inappropriate for grain cultivation. Therefore, starting with government intervention, through policies for agricultural development with Prodecer, studies were also initiated, aiming to improve and correct local soils for cultivation, mainly for soya.

Between 1975 and 1985 the figures showed the presence of agricultural patches (Figure 7) in the *cerrados*, reaching more than 12 thousand km². During this same period it was also possible to observe decrease in natural vegetation, as well as feel the threat that the vain expansion of such activities continues to cause for one of Brazil's most complex and beautiful countrysides (Figure 8). This is what was supported by State policies through the use of public resources, from the period of the military regime, in cooperation with private initiative, in the sphere of Prodecer, through the model denounced by Delgado (2012) as conservative modernization.

Figure 7 – Natural vegetation with low impact activities (upper left), intensive livestock (upper right), soya (lower left) and cotton (lower right). Photographic register: Brandão (2017).

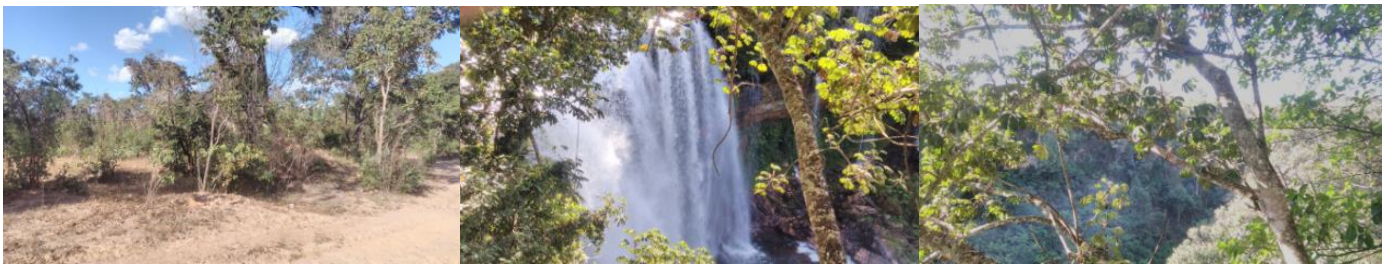


Figure 8 – Natural vegetation, *Acaba Vida* waterfall and surroundings of *Acaba Vida* waterfall in the RPA of the West of Bahia. Photographic register: Brandão (2017).

Here it is possible to visualize the spatial distribution of the activities represented in relation to legally defined areas (Figure 9). These are understood as territories – conservation units, *quilombola* communities, amongst others – decreed and recognized by Bahia's state government.

The strong pressure of modern agriculture is felt over legally protected areas, reinforcing the need to create more conservation units and maintain the ones which already exist, promoting effective conditions for the monitoring and surveillance of such areas; this clearly arises from the support and work of the set of traditional communities.

Still in agreement with the farming Census (IBGE), between the years 1970 and 2006, the occupied area with permanent and temporary labor practically doubled, going from 30 million hectares to close to 60 million. The quantity of agricultural *commodities* produced also had an exponential increase in the same period: adding up coffee, corn, cotton, wheat grain soya grain and sugar cane, it went from near 90 million tons to more than 400 million tons.

Frederico (2013) also corroborates that, since the 1970s, there has occurred a process of exponential growth of the quantity produced and, consequently, of the area destined to agricultural production in the Brazilian territory.

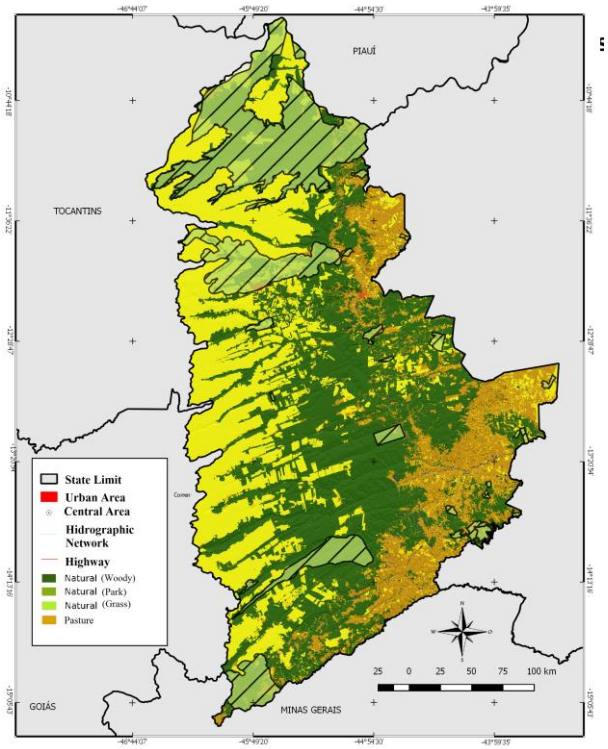


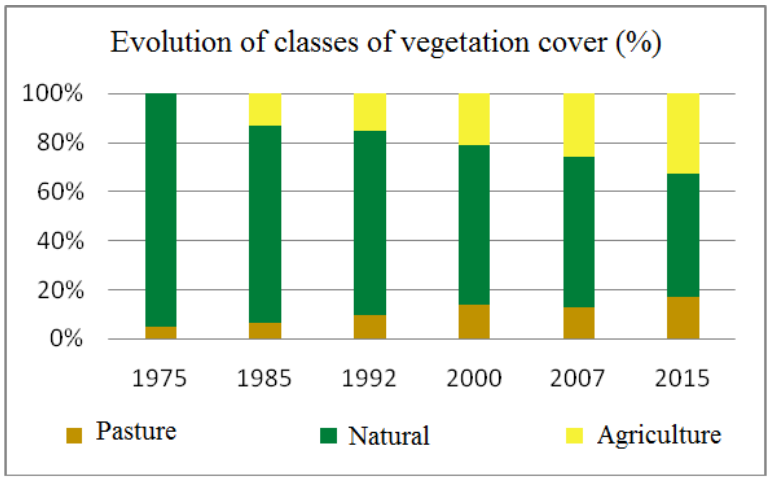

Figure 9 – Legally defined areas x mapping of vegetation cover, 2015. Author: Brandão, 2017.

A significant part of the increase in area and quantity produced occurred due to the expansion of the modern agricultural frontier, that is to say, the incorporation of new areas destined towards the practice of an agriculture which is intensive in capital and technology. The problem resides in the fact that the modern agricultural frontier is mainly expanding over areas of natural scenery considered to be patrimony, increasingly destroyed and reduced (Table 2 and Graph 3).

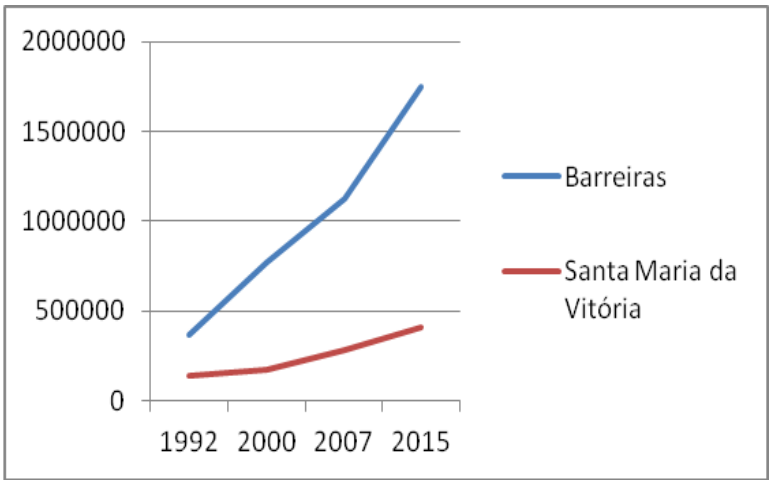
At the same time, what is observed on minor scales also happens on larger scales, an example relative to the micro regions of Barreiras and Santa Maria da Vitória (Graph 4) which constitute central areas relevant to the urban network which sustains agribusinessin the West of Bahia.

Table 2 – Evolution of the classes of vegetation cover.

| **Classes** | **Evolution of the classes of vegetation cover (%)** | | | | | |
|---|---|---|---|---|---|---|
| | **1975** | **1985** | **1992** | **2000** | **2007** | **2015** |
| Pasture/Livestock | 5,04 | 6,61 | 9,46 | 13,70 | 12,90 | 17,33 |
| Natural Vegetation | 94,96 | 80,40 | 75,17 | 65,36 | 61,17 | 50,21 |
| Agriculture | 0,00 | 12,99 | 15,37 | 20,94 | 25,93 | 32,46 |
| Total | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 |




Graph 3 – Evolution of the classes of vegetation cover.




Graph 4 – Evolution of temporary labor, IBGE.

These micro regions respond for 58.28% of the area planted by temporary work in the whole of the State of Bahia. According to the Census, the gross domestic product for farming in Bahia in 2014 was 15 billion reais, where Barreiras and Santa Maria da Vitória added up to 5 billion reais, representing 33.3% of the gross domestic product for farming and 16% of the total area of the state since the two micro regions make up an area of approximately 94 thousand square kilometers.

They are the two most important spaces of the Northeast of Brazil in terms of economic gain. In view of the idea of Elias (2011), the fact of these highlights of agribusiness being hegemonic in the West of Bahia does not eliminate the existence of opaque spaces nor the overlapping of the territorial division of labor, responsible for the formation of various spheres of agrarian economy, such as those formed by the small farmer who is not integrated with agribusiness, making Bahia's West the stage for various types of conflict.

The last series of maps clearly shows the evolution of the process of spatial expansion of modern agriculture in the area being studied, highlighting the planting of soya (Figure 10).

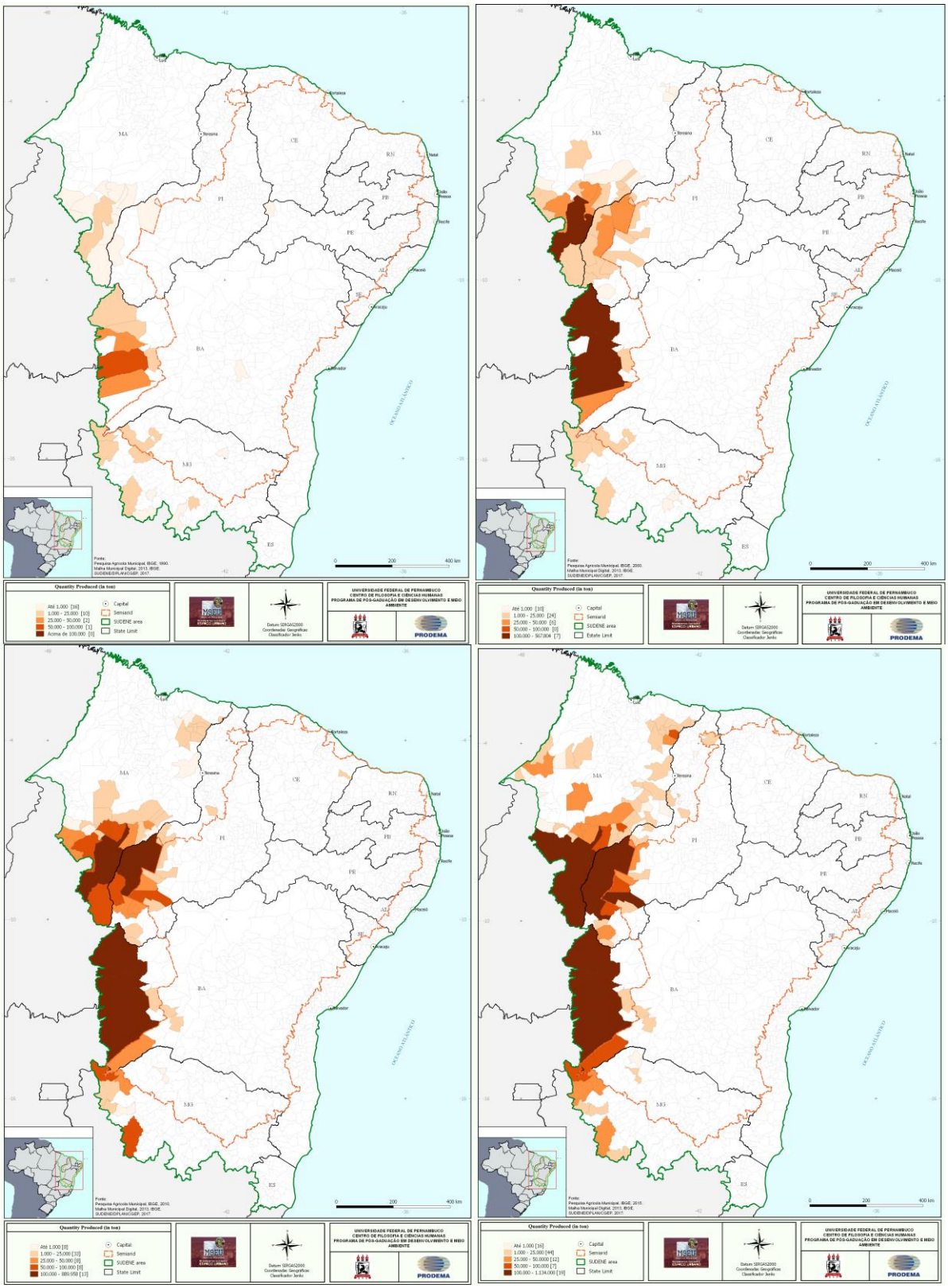


Figure 10 – Quantity of soya produced for the years 1990 (upper map to the left), 2000 (upper map to the right), 2010 (lower map to the left) and 2015 (lower map to the right).

The principal objective of our research was not to criticize the territorial expansion of modern agriculture under the perspective of agribusiness *per se*, especially because it is recognizably important for the country's economy.

Nonetheless it is the way in which it is being expanded which is criticized, disrespecting (Ab'Sáber, 2003; Leroy, 2010) and even destroying the Cerrado biome according to techno-instrumental capitalist logic (or neoliberal) for which, in the search for an increase in values concerned with money, any space occupied to consolidate this gain is valid.

In the way that this activity is territorially expanding in the Cerrado biome of Bahia's West, there is conformity with a set of social forces which destroy nature (Brunhes, 1962), clearing away everything which it meets in its path which does not possess, in principle, the conditions to create wealth.

In view of such an issue, the attention of society is once again called upon for the urgent necessity of salvaging the thought, legislation, social practices and research (since it has already had a role in the treatment of this issue) under the parameters of environmental rationality (Leff, 2009), seeking the control of those social forces which destroy nature.

Such a rationality, counterpoised against the predominant one, would be founded, above all, on the valuing of the principles listed below,

> The environmental potential of each region, the self-regulating of resources in the community, the development of appropriate technologies, the respect for cultural values and for ethnic diversity, as well as for the recovery and scientific enrichment of traditional practices in the use of resources, opens channels for participative management of resources and for sustainable development. (Leff, 2009, p. 98)

Such principles find themselves close-knit with the thoughts of the authors cited in this work.

However, realistically, one must admit that the true practice of such a scheme, currently, would not take place so easily. All the same, its maintenance as an objective to be pursued should be kept in place.

## 4. Conclusions

The general idea of the research presented at the beginning of the article was demonstrated by the results arrived at, established by the interpretation of the series of maps designed for 1975, 1984, 1992, 2000, 2007 and 2015, succeeding in representing in a clear way the formula analyzed here.

In effect, the Cerrado biome is being destroyed in an increasingly rapid and intense way, proportionate to the advance of modern agriculture linked to the interests of agribusiness. This was demonstrated from the analysis of what is happening in the West of Bahia.

From 1975, in the biome referred to, at that time constituting an immense territory, covered by natural preserved vegetation, as well as having low impact activities for production, or better still, subsistence linked to traditional agriculture, we begin to have a better vision of levels of destruction after ten years. One arrives precisely at 1984 as the point in time to observe the process of programmed occupation by modern agriculture, even though ranching and traditional agriculture were, in that year, still the predominant activities.

Since 1992, on the other hand, the expansion of modern agriculture has taken hold, expanding over the region we are concerned with and, in turn, coming to replace traditional agriculture. This process of territorial expansion, from that time onwards, has never ceased, above all resulting from the increasing social forces which destroy nature and with the support of the State, leaving behind unfortunate circumstances in the present day.

In the wake of the continuity of this environmental disaster, it was necessary to call attention to an appreciation of conquests realized in terms of thinking and practicing behaviors more akin to what is defended as sustainability, with an end to control more effectively the social forces which destroy nature, taking us back to another rationality, which is the environmental one.

Definitively, one can no longer conceive of and practice territories as merely "empty" spaces, or "clean slates", which should continually be filled with alien and alienating activities which do

not consider all the elements – physical and anthropic – which exist in them, disrespecting them and eliminating them. Enough is enough!

On the other hand we can consider them and dialogue with these elements – as valuable and not mere object-merchandise – aiming to find the effective sustainability for life on Earth through human actions capable of changing the current direction of things.

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