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**Monoculture of the eucalyptus in the degradation of nature and work's social forces, in the Pardo river basin, municipality of Encruzilhada/BA**

**Monocultivo de eucalipto en la degradación de la naturaleza y de las fuerzas sociales en la cuenca del río Pardo, municipio de Encruzilhada / BA**

**Monocultivo do eucalipto na degradação da natureza e das forças sociais do trabalho, na bacia do rio Pardo, município de Encruzilhada/BA**

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### Abstract

In the capitalist crisis, there is an intensification of the conflicts for ambiental resources, provoking the nature exploration. Lands concentration and the salaried employment changes the concrete work's principles, causing disagreement. In the municipality of Encruzilhada/BA, the eucalyptus in the logging logic for charcoal production exports the natural resources causing the unsustainability of this model. The society-work-nature relation becomes fundamental to explain the ways of subjection of the peasants to capitalism, this comprehension allows the understanding of the real concrete experienced in the agribusiness territory. With these collisions, the peasants attempt to resist, remaining in the countryside, through civil society organizations, via associativism, social movements, non-governmental organizations and churches.

**Keywords:** Capitalism, nature, agribusiness, work.

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### Resumen

En la crisis capitalista, los conflictos por los recursos ambientales se intensifican, provocando la exploración de la naturaleza. La concentración de tierras y el asalariamiento altera los principios

del trabajo concreto, generando extrañeza. En el municipio de Encruzilhada / BA, el eucalipto en la lógica de la extracción de madera para la producción de carbón vegetal exporta los recursos naturales provocando la insostenibilidad de ese modelo. La relación sociedad-trabajo-naturaleza se vuelve fundamental para explicar las formas de sometimiento de los campesinos al capitalismo, esa comprensión hace posible el entendimiento del concreto real vivido en el territorio de la agroindustria. Con estos embates, los campesinos buscan resistir, permaneciendo en el campo, por medio de organizaciones de la sociedad civil, a través del asociativismo, movimientos sociales, organizaciones no gubernamentales e Iglesias.

Palabras clave: capitalismo, naturaleza, agroindustria, trabajo.

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### Resumo

Na crise capitalista, há intensificação dos conflitos pelos recursos ambientais, provocando a exploração da natureza. A concentração de terras e o assalariamento altera os princípios do trabalho concreto, gerando o estranhamento. No município de Encruzilhada/BA, o eucalipto na lógica da extração de madeira para produção de carvão vegetal exporta os recursos naturais provocando a insustentabilidade desse modelo. A relação sociedade-trabalho-natureza se torna fundamental para explicar as formas de sujeição dos camponeses ao capitalismo, essa compreensão possibilita o entendimento do real concreto vivenciado no território do agronegócio. Com esses embates, os camponeses buscam resistir, permanecendo no campo, através das organizações da sociedade civil, via associativismo, movimentos sociais, organizações não governamentais e Igrejas.

**Palavras-chave:** capitalismo, natureza, agronegócio, trabalho.

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### Introduction

It is believed that the theme focused on the exploitation of common use assets in the Rio Pardo Basin, has been little worked on in the academy, although it is something central to the reproduction of the society that lives in its surroundings and, with it, of the society itself. nature, demanding an ontological understanding, where society and nature are seen as dialectical pairs, therefore inseparable, being historically transformed by work.

In addition, the importance of discussing the theme through the bias of Geography is added, by allowing the understanding of the territorialization process of capitalist companies and the unequal production, because classist, of the space,

which it provides. It is also important to emphasize the importance of reflecting on the dialectical unity between society and nature, a relationship absolutely tainted by the expropriation logic of capital, encouraging the appropriation of space for the production of merchandise and profit. On the other hand, reading the territory also allows us to understand the contradictory relationships between subjects/classes in the geographic space, fostering conflict territories, which in the reality in question is expressed, on the one hand, in the territorialization of capital and , on the other hand, in the processes of organization, reproduction and resistance of peasant communities in their territories of reproduction of life.

Monoculture is an expansive and destructive system, which de-characterizes the environment, destroys biodiversity, standardizes nature, in addition to extracting all its vitality and energy, as can be seen in the example of eucalyptus plantations and the growing practice of occupying the territory of the River Pardo watershed. Thus, throughout this article, the central issue of the degradation of nature and the use of social labor force in the Mamoeiro stream in Encruzilhada/BA will be emphasized. This destructive and unsustainable practice, concentrated and anchored in private ownership of land, sequesters common goods and limited resources such as water, for the benefit of the possession of a small portion of companies and large landowners in the region and external speculators, thus exposing the weaknesses and contradictions of the production of space in the countryside and in the city.

It is understood that making visible the real socio-environmental and predatory interests is necessary to understand the development model adopted by capitalism, which extracts its raw material from nature and its workforce from the peasant, and thus, directly and indirectly, extracts the land rent, expropriating part of these subjects from their way of social reproduction, absorbing and consuming all kinds of existing labor force, which becomes cheaper, therefore more exploited.

Among the municipalities most affected by the degradation of water resources and the social work force are Candido Sales and Encruzilhada, with some specific locations of action by the Center for Studies and Social Action, a non-governmental

organization that works in advising and supporting social movements in the countryside. in the South and Center South of Bahia and in the metropolitan region of Salvador, whose researcher makes up the rural team, working throughout the Center South of Bahia in the neighboring municipalities of Rio Pardo, which becomes the major force for unifying the struggle in defense and regional water sovereignty .

### **Advancement of capital in the appropriation of nature and work**

When considering the advance of capital in the Brazilian countryside, and its interests, in different historical moments, it is highlighted, in a context of structural crisis, what is pointed out by the geographer Thomaz Junior (2004) when considering that this productive restructuring of capital takes place significant since the 1990s, still permeated by the diffusion of Agroindustrial Complexes and, more recently, by agribusiness and the production of commodities.

As we know, it is from the 1980s onwards that the first impulses of the productive restructuring process appeared in Brazil, but it was at the beginning of the following decade that they reached a new breadth and depth, when technical and organizational innovations assumed a more systemic character. throughout the productive circuit of the various economic sectors. However, they kept a trace of similarity in relation to the search for capital competitiveness and the adoption of new compatible organizational and technological standards. (THOMAZ JUNIOR, 2004, p. 18).

In this movement, it is important to emphasize, as Marx (1984, p. 262) points out, that in Political Economy, from the beginning, "law and "labor" have been the only means of enrichment" in the case of this last legal apparatus. which defines the control of property in the hands of the dominant classes: capitalists and landowners. In the countryside, in addition to the action of capital on labor, control over land ownership is reinforced, which ends up giving landowners the possibility of extracting income from the land, in addition to ownership over other means of production.

For now, it is worth considering that, for capital in crisis and seeking to reproduce itself, seeking to minimize the catastrophic effects of the tendential fall in the profit margin, which accentuates its own crisis, one of the scenarios pointed out by David Harvey (2005) is the expansion geographical location, where you can have sources of energy and natural resources and greater control over work, which in extremely precarious conditions guarantee greater extraction of surplus value for the propertied classes. However, Harvey (2005) himself affirms the limits of this spatial and uneven expansion of capital.

(...) The imperative of accumulation consequently implies the imperative of overcoming spatial barriers (...). (...) the reduction in realization and circulation costs helps to create new space for capital accumulation. Conversely, capital accumulation is intended to be geographically expandable (...). (p. 50). (...) Capitalism can only escape its own contradiction through expansion. The expansion and, simultaneously, intensification (...) and geographic expansion. For capitalism to survive, new space for accumulation must exist or be created. If the capitalist mode of production prevails in all respects, in all spheres and in all parts of the world, there will be little or no room left for further accumulation. (HARVEY, 2005 p. 64)

And it is from this understanding of the structural crisis of capital and its restructuring process that we seek to understand the recent transformations in the Brazilian countryside, the advance of agribusiness and its attempt to, in addition to appropriating more unpaid work margins, also extend its tentacles over nature, increasingly converted to the condition of a commodity.

### **The expansion of eucalyptus in the process of advancing capital on the banks of the Pardo River**

Eucalyptus is an exotic plant species, with its point of origin in the Australian continent. The first reports of commercial arrival in Brazil date from the 20th century, and its primary use is for pulp extraction, paper making, use in civil construction, biomass for energy production, charcoal. Between the 1960s and 1980s, monoculture areas of this cultivar spread across the country, motivated by government tax

incentives, with the beginning of planting at an industrial level. As highlighted by Koopmans (2005);

At the end of the 1960s, the federal government started a policy of support and encouragement for "reforestation". In the last years of this decade, several laws were passed that made a new code possible, in addition to numerous ordinances from the Brazilian Institute for Forest Development (IBDF), facilitating this branch of agriculture. Finally, "reforesting" is an agricultural activity, and concretely, in our region, it is a monoculture with eucalyptus, which has nothing to do with reforestation." (KOOPMANS, 2005, p.70)

In Bahia, eucalyptus cultivation started in the 1970s, with the creation of the Camaçari Petrochemical Complex and the Aratu Industrial Center, and also on account of the inauguration of the BR 101, in 1974, an important way to make the process of occupation of the territory by agroforestry companies. In 1976, the State Government prepared a study for submission to the Brazilian Institute for Forest Development - IBDF, in order to zoning the state forest districts, with Decree Law No. of production. In the 1980s, financial capital, represented mainly by the National Development Bank – BNDES, directed approximately R\$ 8.7 billion to the agroforestry sector, not only to promote the expansion of monoculture areas, but also to intensified private appropriation by multinational companies, such as Veracel Celulose. The Associação Baiana das Empresas de Base Florestal - ABAF also points out that the sector received investments in the order of 728 million in 2018, exceeding by 16% the year 2017, applications coming from different and diverse investors, which are projected for the period of 2019 to 2024 more than R\$ 2 billion of investment.

In the late 1990s, the first eucalyptus plantations began in the Center-South of Bahia, driven by the territorialization and expansion of production in the states of Espírito Santo and Minas Gerais, as well as presenting themselves as an "alternative" of economic gains for the landowners, faced with the difficulties in producing coffee, which was the main commodity in the region. In the middle of the first decade of the

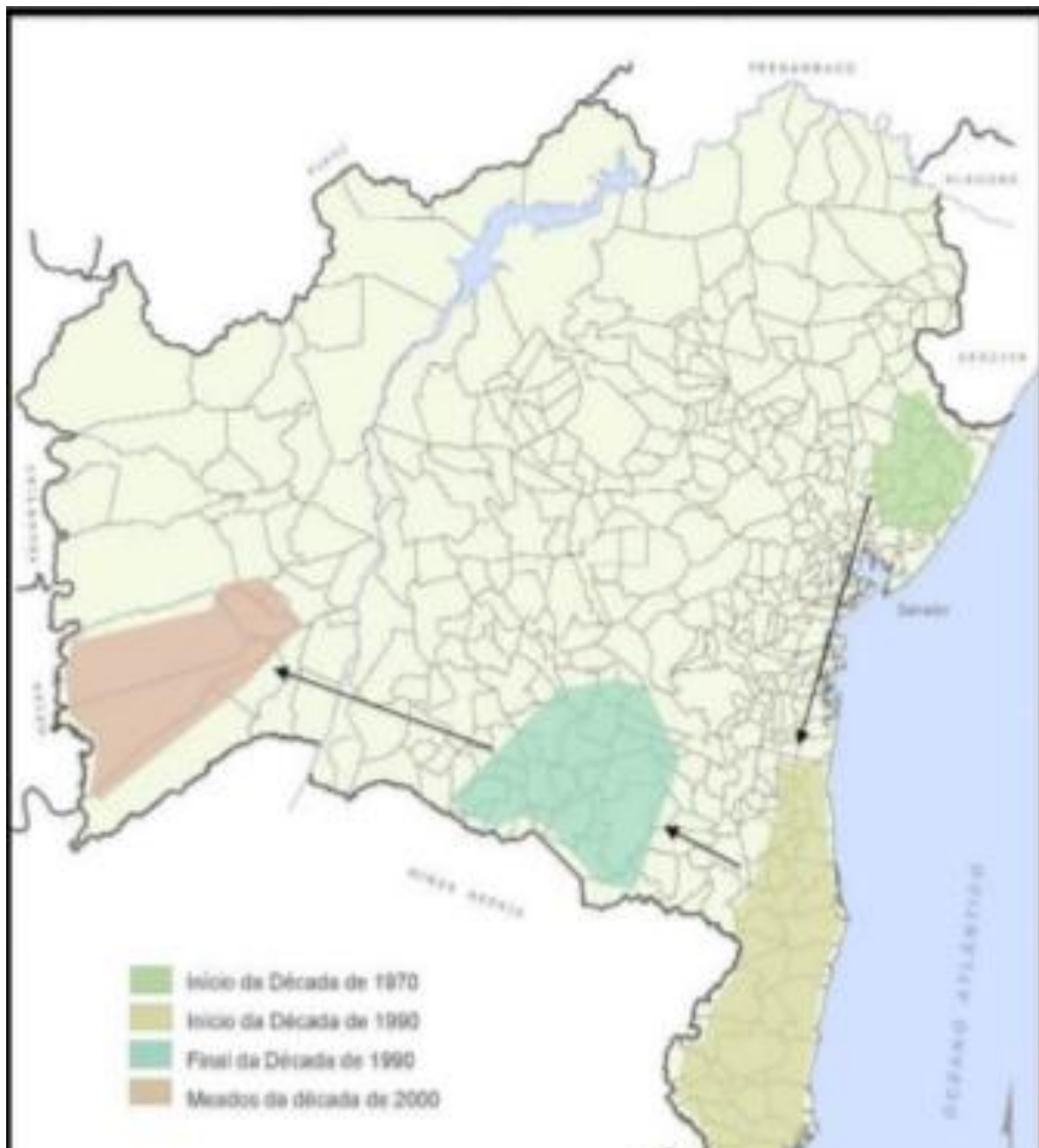


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2000s, eucalyptus production began to spread to municipalities located in the south of western Bahia.

**Map 1 – Expansion of Eucalyptus Culture in the State of Bahia (1970-2000).**



Source: CEAS Notebooks, 2016.

The municipality of Encruzilhada stands out among the production of the municipalities in the Center-South of Bahia, behind only the municipality of Vitória da Conquista, surpassing the municipalities of Cândido Sales in Bahia and Divisópolis in Minas Gerais in establishments that plant eucalyptus, (Table 1) .,

**Table 1** – Number of agricultural establishments (Units) with eucalyptus plantations, South Center of Bahia, 2017.,

Counties	Eucalyptus
Cândido Sales (BA)	18
Encruzilhada (BA)	28
Macarani (BA)	1
Ribeirão do Largo (BA)	8
Vitória da Conquista (BA)	55
Divisópolis (MG)	18

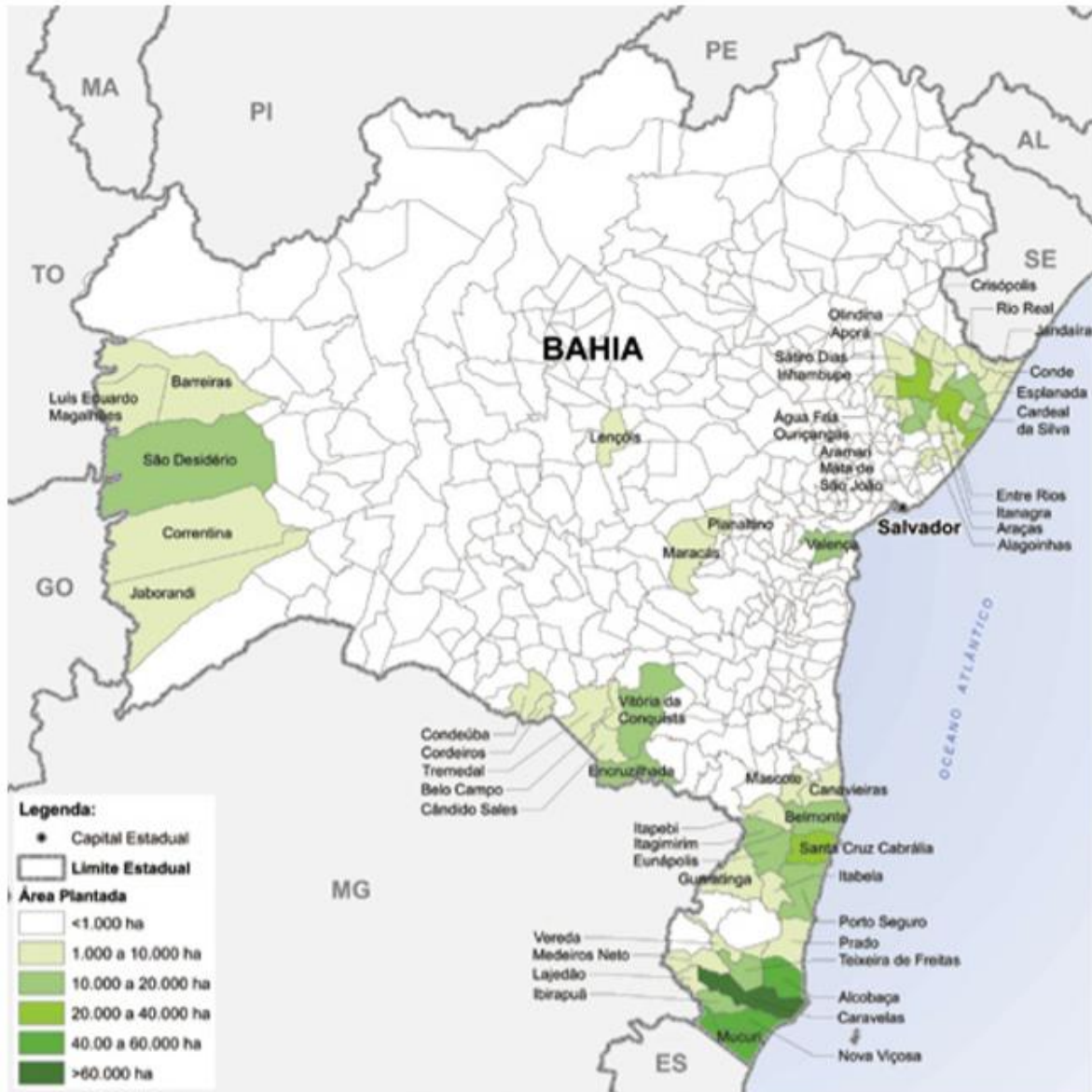
Source: IBGE - 2017 Agricultural Census. Modified by the author. (2020)

According to the Associação Baiana das Empresas de Base Florestal – ABAF, Brazil has 7.83 million hectares planted with eucalyptus and pine and Bahia has 657 thousand hectares of planted areas with forestry species, 94% of which are eucalyptus. , which places the state in 4th place in the national ranking of forestry exploration, with 85% corresponding to the areas of companies associated with ABAF with 528 thousand hectares planted, with 99% of the areas certified by the Brazilian Forestry Certification Program - CEFLORE belonging to only 6 ABAF member companies of the 636 active companies in the state.

In the Center South, specifically in the municipality of Encruzilhada, eucalyptus is mainly used for the production of charcoal, a product resulting from the burning of wood. The Brazilian steel segment shows significant growth in the production of steel from charcoal. Map 02 shows the distribution of forest plantations in the state.



Map 2 - Geographical distribution of forest plantation areas in Bahia, 2017.



Fonte: IBGE (2017), elaborado por STCP (2019).

Source: Bahia Association of Forest Based Companies – ABAF, 2017.

Like the municipality of Vitória da Conquista, with 3,254,187 km<sup>2</sup>, Encruzilhada stands out in the Center-South region with more than 40,000 planted hectares. Aggravating this scenario, according to the Brazilian Tree Industry, steel producing companies have 939.6 thousand hectares planted for use, in addition to supporting third parties who are encouraged to this activity. Extolling the promotion system with peasants, these companies, in 2018, already had 42,000 ha planted in peasant areas, signing another 370 new contracts with another 300 families across the state.

## **Expansion of eucalyptus in the municipality of Encruzilhada/BA: appropriation of resources and degradation of working conditions**

Eucalyptus production was implemented and disseminated through government subsidies, through financing by bank agencies through projects such as Low Carbon Agriculture - ABC Florestal, allowing the financing of investment projects, aimed at practices arising from agroforestry activities, intended for industrial use or for the production of charcoal. Reality that motivated companies and landowners to implement cultivation, having the land itself as a guarantee for access to financing, facilitating the opening of this activity; equipment and tractors were financed that made it possible to treat the land and use the inputs, implantation of seedling nurseries, stump operations, etc. With payment terms of up to 12 years, and grace periods of up to 8 years, with interest rates of 6% p.a., being financeable up to 5 million per beneficiary in the agricultural year. (Bank of Brazil, 2020, official website).

[...] defenders of capitalist agriculture, consider the "forestry agribusiness" as one of the main factors of rural development responsible, in their words, for diversifying production, integrating small and medium farmers into one of the largest production chains and mainly to generate income. "Whoever plants eucalyptus is like opening a savings account", said the BNB financial agent to an attentive audience of more than 100 small and medium-sized farmers in the municipality of Encruzilhada, at a meeting promoted to encourage the planting of eucalyptus in that municipality. Some months ago. An excellent business, with lines of financing available from official banks and easily accessible, judging by the speed with which a medium producer in the municipality of Ribeirão do Largo managed to approve his investment project: "In fifteen days, the money was already in the account!", he happily told me, unlike PRONAF, which usually takes years to be released. (CEAS Notebooks, Salvador, n. 222, p. 70-80, 2006.)

After the coffee cycle, the monopoly capital seeks in this activity the territorialization of a new stage of concentration and expropriation, through the planting of eucalyptus monoculture, which in the region reach the eyes of landowners and multinational companies as areas of expansion and growth of the activity, meeting the growing demand for timber, supported by mayors, deputies and other government officials.

Allied to the promising prospects of eucalyptus culture and, above all, with the crisis of coffee monoculture in the 1980s and 1990s, the first commercial plantations are implemented in areas previously populated by coffee plantations and pastures, using experiences of intercropping with these crops. . [...] Due to the few investments made by the state promotion programs in the entire coffee production chain, new movements of agribusiness investment inflows then open, in the mid-1990s, with the introduction of the third monoculture in the region: eucalyptus culture (ANDRADE, 2015, p. 54).

This promise arrives in the region as a new productive potential to leverage the economy and generate foreign exchange for the state. of the peasant population, which calls for another way of using land and territory. So it was with the Popular Initiative Law Project - PLIP, started in 2015, with the mobilization of civil society, being presented to the city council and shelved by the executive and legislative powers.

The Association of Residents and Producers of the Água Preta Region, by its undersigned president, in its own name and in the name of other social movements and hundreds of crossroads citizens, comes, before you. to request, based on the Federal Constitution and the Municipal Organic Law, the registration for further discussion and deliberation of this legislative house, the present Popular Initiative Law Project subscribed by about 800 regularly registered in the municipality, therefore more than 5% of the voters required by law. (Excerpt from P.L.I.P. protocol, 2016).

Until today, the Bill remains without a vote or discussion, as there is an interest on the part of landowners in producing and benefiting from the planting of eucalyptus, in addition to keeping the wheel turning with funding and political support. This issue becomes an affront when questioned or raised, because part of the population of the municipality (especially the proprietors and municipal public authorities) sees in these companies and in these land entrepreneurs a lifeline to municipal public accounts, to the detriment of environmental issues. and social. The expansionist interests of the forestry capital in the South Center of Bahia. (table 2).

**Table 2** – Municipalities/Area intended by Veracel – South Center of Bahia, 2013.

Municipality	For planting	For acquisition* (ha)
Encruzilhada	4.000	8.000
Itapetinga	10.000	20.000
Macarani	10.000	20.000
Maiquinique	4.000	8.000
Itarantim	17.900	35.800
Potiraguá	5.000	10.000
TOTAL	50.900	101.800

(\*)Veracel only informs the area intended for effective planting. The area to be acquired is just an estimate based on EIA-RIMA data

Source: ANDRADE (et. al.) P, 2013. Adapted by the author.(2020)

The interest of the land owner class is to increasingly concentrate the land, serving for speculation and guarantee for new financing, concentrating more and more land rent, and governmental power, preventing the municipal population from emancipating itself and seeking alternatives for management. their territory of life, being freed from the exploitation of large landowners and monopoly companies. Because they have the guarantee of financial return and the extraction of income from the land, when they finance the plantations and negotiate the commercialization in the voracious market for the acquisition of the consumer product obtained.

Looking at small producers, the “siren song” becomes the success of large enterprises, which sell their image of sustainability and prosperity, causing them to

fall into loans that they cannot afford with their property, only with planting, making the even a trap and a means of indebtedness, being forced to give up the activity or even sell the land to those who threw the traps of the regional vocation for the activity. Thus, there is a continuation of the predatory use of natural resources, contaminating and destroying nature, concentrating the land and the exploitation of the social forces of work, threatening the local peasant communities.

The attitude taken by financial institutions that make credits viable in rural areas penalizes small producers who, although they need a loan to consolidate the plantation for the family's subsistence, as exposed, this type of activity does not offer economic viability. In this way, for lack of alternative, and through imposed activities, they are inserted into the credit system, which makes it hostage to financial ties, starting to produce no longer to maintain itself, but mainly to pay off bank loans. (SANTOS, 2020, p. 46).

Among the conflicts generated by the degradation of nature with monoculture, in the municipality of Encruzilhada/BA, the dispute over water stands out. In the concrete reality of the communities in which the empirical analysis of the expansion of this monoculture was carried out and its effects on nature and the social forces of work, it was possible to verify that water no longer flows in the papaya stream (Photo 1), which is why it has already been deforested at its headwaters by monoculture farmers, water that is sorely needed and interferes with the way of life of the rural peasant. Since 66.7% of respondents understand that after planting eucalyptus, there was some change, whether in the use of water or its availability, and 70% noticed changes in the surroundings of the community, with the death of small rivers, scarcity of water and streams being perceived. that do not keep their course for a long time, loss of crops, lack of rain, etc. Even though they are not sure that such problems are caused by the large areas of eucalyptus plantations, the peasants interviewed highlight this understanding in their approaches. They also pointed out the historical deforestation of the caatinga, the routine droughts and also the growing monoculture in the region.



**Photo 1** – Mamoeiro Seco stream bed, Encruzilhada/BA, 2019.



Source: Field research. Photograph: Joctan Moreno, (2019)

This reality is visible in the vicinity of the Pardo River, whose natural characteristics have become significantly altered with the development of eucalyptus monoculture. This reality will also translate into the difficulty of permanence of peasant communities, which, among other issues, need water to carry out production. However, the spread of eucalyptus monoculture also has other consequences. The expansion of cultivation and the possibility of concrete gains for the landowners class values the land, these advance over peasant land and processes of mobility and expropriation also become a very close reality with the degradation of this important regional river as a burden of the system. predatory.

Today, this stream only receives water during the rainy season, outside of this period, there is no more life, much of what was taken from its riparian forests and the destruction of its springs. This reality implies difficulties in the reproduction of families in periods of non-availability of water resources, since the production of foodstuffs and the small creations they have depends on it. In the semi-arid region,



little water is sacred, but the widespread cultivation of eucalyptus consumes these resources quickly. They are species of high water demand, with high evapotranspiration potential, due to their size and development.

[...] the adverse environmental effects of planting eucalyptus most highlighted by those who oppose it are: the withdrawal of water from the soil, making the water balance deficient, with the lowering of the water table and even the drying up of springs ; the depletion of nutrients in the soil, as well as its drying; the desertification of large areas, due to the allelopathic effects on other forms of vegetation and the consequent extinction of the fauna; the occupation of extensive tracts of land, which could be producing food; the creation of jobs only during the implantation of the plantation, even so for unskilled labor, with low wages, and the stimulus to the rural exodus and the consequent swelling of the metropolises. (VIANA, 2004, p. 248.)

Thus, there are not many options left for the water security of these communities, which have no other system, in addition to the cisterns for harvesting rainwater, which is emptied throughout the year, and for those who still have some financial resources, the drilling of a little. About the water supply in the community, it was said in the interviews that it is carried out by water trucks, artesian wells and by the cisterns of Placa, which collects rainwater annually. In 100% of the establishments there is no type of sewage treatment, aggravating the quality of water resources and streams in the community.

This reality has generated conflicts over territory, conflict over water resources and hampered the survival of riverside peasants, so that they can guarantee their production, which is fundamental for the supply of the city, a reality that does not escape the rule of the importance of Brazilian peasants in supply. of the domestic market.

### **Final considerations**

The nuances of capital's action in the countryside can be observed everywhere. It is no coincidence that in Encruzilhada/BA, as in the entire national territory, the expansion of the capitalist mode of production uses monopolization and

territorialization to detain hegemony for agribusiness companies, based on the universal tool of exploitation and appropriation of peasant lands. , generating dispossession and inequality in the countryside

It was found in the research that the municipality of Encruzilhada/BA is among the municipalities in the Center-South region of Bahia that most suffered from the appropriation of land and work by the forestry capital, being the second municipality with the largest area planted with eucalyptus. It also stands out with areas of interest to forestry companies for the expansion of plantations. In the community under study, only one company was observed that monopolizes the hiring of the peasants' workforce, which, using minimal application of labor rights, manages to absorb part of the dissatisfactions of employees who see the business action in the surroundings as something necessary for the reproduction of your life. But behind this appearance is the entire process of expropriation, denial of working land and the possibilities of producing with a minimum of autonomy, making subjects increasingly "free" to subject themselves to the extraction of unpaid labor. .

One of the biggest difficulties in peasant reproduction is, without a doubt, the destruction of springs and the difficulties of access to water, appropriated by large enterprises in rural areas, whether plantations and eucalyptus or other irrigated monocultures, which in addition to appropriating land and work, they also appropriate water and other natural goods, inferring in the reproduction of peasant life. Even if they are organized, social movements and entities are pressured by local hegemonic forces and by the public power itself that encourages and protects these large enterprises, causing them to expand in the territory.

Among the impacts caused by the extractive export model of common goods, implemented over the years, by forestry companies in the region called caatinga in Encruzilhada, there was a cut in the flow of the tributaries of the Pardo River, here expressed in the papaya stream, no longer current, noting There is also deforestation for the implementation of monocultures, with all the loss of biodiversity. In this sense, peasant communities would need, in addition to being heard, investments and

subsidies to carry out their production, which are so important for the supply of the domestic market, that is, the implementation of initiatives that would truly enable them to remain in the countryside, their production and its marketing.

Capital shows its face in the Brazilian countryside, and in the monoculture of forestry it is not established differently. It is expansive, as it seeks to appropriate more land – expropriating those from the place, especially the peasants; it is destructive – by appropriating the goods of nature and surplus labour; it is uncontrollable, seeking, at all costs, the thirst for profit, by appropriating all the wealth produced by social work; and it is inhumane – having no commitment to the way of life of the communities in which they settle, maintaining as their only objective the exploitation of work to produce more wealth, increasing their profits.

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