

Agribusiness versus ecosystem services: the consequences to peasants and indigenous peoples of a no-win struggle between profit and planetary boundaries in the Brazilian Amazon

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Resumo

Este trabalho tem como objetivo investigar os desafios impostos pela influência política desproporcional do setor do agronegócio à aplicabilidade de políticas ambientais favoráveis aos pobres e à defesa dos serviços ecossistêmicos no Brasil. O método adotado é o de revisão da literatura através de relatórios selecionados que avaliam criticamente perspectivas contrastantes sobre o desenvolvimento dentro do paradigma do agronegócio versus serviços ecossistêmicos. Da teoria da modernização de Rostow ao pensamento pós-desenvolvimento de Escobar, o artigo também incluirá a teoria do desenvolvimento inclusivo e a visão de cosmovisão indígena. Defende-se que a influência política do agronegócio representa uma ameaça global. As consequências da expansão do agronegócio não se limitam aos abusos dos direitos humanos e ao aumento da luta dos povos camponeses e indígenas na Amazônia. Quando considerados os custos e o atraso ambiental mencionados para a mitigação das mudanças climáticas, as consequências se tornam globais. E enquanto a vulnerabilidade dos pobres pode ser exacerbada pelos efeitos da mudança climática, ainda estamos caminhando para uma situação sem vitória. Portanto, quanto mais a agricultura se expande na Amazônia, menos produtiva ela se tornará e, nessa situação, todos nós perdemos.

Palavras-Chave: Desenvolvimento. Fronteira agrícola. Amazônia. Sistema político.

Abstract

This paper aims to investigate challenges imposed by the disproportional political influence of the agribusiness sector to the applicability of pro-poor environmental policies and defense of ecosystem services in Brazil. The literature review of selected reports critically assessing contrasting perspectives on development within the agribusiness versus ecosystem services paradigm will be the method used. From Rostow's modernization theory to Escobar post-development thinking, the paper will also include inclusive development theory and the indigenous cosmovision worldview. It is argued that the political influence of the agribusiness poses a global threat. The consequences of agribusiness expansion are not limited to human rights abuses and increase in the struggle of peasant and indigenous peoples in the Amazon. When considered the mentioned environmental costs and backwardness towards climate change mitigation, the consequences turn out to be global. And while the vulnerability of the poor may be exacerbated by the effects of climate change, we are still walking towards a no-win situation. Thus, the more agriculture expands in the Amazon, the less productive it will become, and in this situation, we all lose.

Key-words: Development. Agricultural frontier. Amazon. Political system.

Introduction

This paper aims to investigate challenges imposed by the disproportional political influence of the agribusiness sector to the applicability of pro-poor environmental policies and defense of ecosystem services in Brazil. To contextualize this debate in the light of contemporary Brazilian politics, this paper will assess the political and socio-environmental aspects of this conflictive scenario, in order to examine the following questions: First, regarding the political aspect, (a) To what extent does the agribusiness political influence locks-in the governance of environmental policies? Second, into the socio-environmental aspect, the paper will look at (b) how does the agribusiness offensive in the Amazon affects peasant and indigenous people's rights?

The case study of the increasing death toll of suicides committed by indigenous people, especially in new agro frontiers in the Amazon, aims to shed some light into the link between ecosystem services not only as the income of the poor but also as a key survival and resilience element.

The literature review of selected reports critically assessing contrasting perspectives on development within the agribusiness versus ecosystem services paradigm will be the method used. From Rostow's modernization theory to Escobar post-development thinking, the paper will also include inclusive development theory and the indigenous cosmovision worldview. Investigative articles of specialists both from Brazil and different countries in the issue of environmental justice were also taken into account.

The structure of the paper will be divided into numeric sections for the sake of a clearer disposition of content. As it follows: (1) theoretical and conceptual discussion based on a brief review of the literature (2) a short case study. Discussion: (3) origins of agribusiness political influence, (4) environmental costs of agro-expansionism, (5) the consequences to peasants and indigenous peoples. Ultimately, finalizing the paper with a conclusion.

1 Theoretical and conceptual discussion based on a brief review of the literature

Development. One of the favorite words of the agribusiness lobby in Congress when referring to the importance of agribusiness to the commodity-based Brazilian economy. In fact, reports from the Confederation of Agriculture and Livestock of Brazil shows a contribution of 23.5% to the Gross Domestic Product in 2017, and about 46% of Brazil's export in 2016 (Ibrahim, 2018). Actually, the understanding of development as a sub-product of economic growth, linked to agribusiness interests and legitimized by governmental modernization investments can be dated far back in Brazilian history. From the colonial coronelism times to the 1960's President Kubitscheck's political discourse, largely influenced by Rostow's Modernization Theory, and through Michel Temer's ongoing environmental regulation dismantling. Ahead, this paper will cover this evolution in details.

In contrast, inclusive development regards ecological and social aspects (Gupta and Baud 2015) into the scope of analysis. Furthermore, from a critical post-development perspective, Escobar (1995) sees development, or the creation of the development dream, like a magic formula offered to the west-created third world. To indigenous peoples in Brazil and some other Latin American countries such as Ecuador and Bolivia, for instance, the idea of development does not even exist in the conceptual categories and language (Walsh 2010). Indigenous perspectives such as *Buen Vivir* dissolves the dualism Society-Nature and denotes a good life as a balance between community and nature, or Pachamama ('mother earth') (Gudynas 2011, p. 442). A cosmovision perspective where land is owned collectively, and nature understood as a provider. Hence, the symbolic value of land for indigenous peoples differs from the value it has in a market-based society (Bonin 2015).

Neoliberal logic is what sustains current Brazilian government environmental policies. A global soy, beef, minerals, sugar, coffee markets. Thus, everything is commodified to become profitable. State-led

initiatives opening new agriculture frontiers in the Amazon forest, and legal frameworks loosening environmental regulation has been crucial to agribusiness growth. However, what has been the socio-environmental cost? How does agribusiness expansionism affect Amazonian ecosystems and its native people?

This paper approaches the thematic regarding environmental costs by following Kate Raworth's (2012) planetary boundaries concept, Chapagains' (2003) thoughts on the virtual water cost of agriculture, relevant reports on climate change literature (Stern, 2006) and the call for limited sinks (Chopra et al. 2005), amongst others such as the article The threat political bargaining has on climate mitigation in Brazil published last July in Nature Climate Change Journal, and reports of native peasants and indigenous activists.

Within the scope of peasants and indigenous people struggle against agribusiness in the Amazon, the paper touches upon the matter of food security, violence, land grabbing, land theft, impunity and inequality. To this extent, reports of Brazilian research institutes such as Instituto de Pesquisa Econômica Aplicada (IPEA) and Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais (IBAMA), the Food and Agriculture Organization of the United Nations (FAO) reports, Amazon universities researches, OXFAM Brazil and others NGO's, and investigative documents, amongst others, consists of the theoretical basis of this paper.

2 Short case study: indigenous peoples suicide rates & ecosystem services: a silent protest

As described by the European Commission report on ecosystem services and biodiversity (2015), ecosystem services concept was widely spread by the Millenium Ecosystem Assessment (MA) in 1999 and defined simply as "the benefits obtained from ecosystems" (MA 2005). MA divided the services into four categories:

- *A. Supporting services.* These are services, such as nutrient cycling and soil formation, which are needed for the production of all other services.
- *B. Provisioning services.* Products obtained from ecosystems, such as food or timber.
- *C. Regulating services.* The benefits obtained from the regulation of ecosystems, including services such as purification of water, flood control, or regulation of the climate via carbon sequestration.
- *D. Cultural services.* The benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences.

The literature on the impacts of agribusiness in ecosystems in the Amazon are often focused on (a) water cycles and agricultural production, (b) food security and peasantry, or (c) carbon sequestration. However, in this case study, I would like to focus on (d) cultural services. The object of study is an investigative analysis of reports on the increasingly indigenous suicide rates in Amazonian agribusiness expansion affected areas.

From 2000 to 2016, 782 indigenous people committed suicide only in Mato Grosso do Sul, a place known for the power of ruralist politicians and agribusiness. According to the Ministry of Health, the death toll from suicide among indigenous people is almost triple the national average. While Brazil records 5.7 deaths per 100,000 inhabitants, the index is 15.2 in the indigenous population. Most deaths (44.8%) occur in the age group of 10 to 19 years (Gonçalves 2018).

Ara, one of the leaders of the Jaragua tribe points out the importance of passage rituals linked to land and nature and adds: "Adriana, like many youngers here, did not have nature room to live as a proper young indigenous child. The boys used to learn to hunt, the women to plant, we were free and now we are trapped in the smallest indigenous territory in Brazil, there are 1,700 hectares for 700 people"

While the Brazilian Constitution, in theory, respects indigenous peoples rights to diversity, ecosystems and land protection (Silva 2014), in practice, and especially after the PEC 215, the future is uncertain to young tribal individuals. The indigenous political influence according to with Brazilian electoral court is 0,34% (Streit 2018), against 39% of the ruralistas (Pereira et al. 2018). Some say that prejudice and lack of financial lobby are behind the low representativity. The x-ray of candidates profiles reaffirmed the underrepresentation as a major challenge (INESC 2014). For the 2018 election, although the number of indigenous candidates increased 50% in comparison with 2014, the 130 candidates from the Frente Parlamentar Indígena (FPI) represents a tiny fraction - 0,47% of the 27.5 thousand candidates. And throughout history, only one in 1982, the federal deputy Cacique Mario Juruna made it into the Congress (Pitombo 2018).

In contrast, multinationals exploiting the global soya agribusiness market not far from Jaragua's tribe, such as the North-American Cargill receives a governmental framework of legal incentives supported by the other Frente Parlamentar, the ruralistas (FPA). Credit lines, land purchase deals, flexibilization of environmental regulations, cheap labour and tax exemptions, are some of the incentives. Meanwhile, native tribes' rights and ecosystem services are left out of the agenda. Cargill's exploitation in the Amazon has led to the destruction of mangroves due to a large amount of chemicals used in its soya production.

Although the occurrence of suicides is spread throughout the country, in the Amazon the number is increasing above the national average. Two municipalities exemplify the situation. First, the city of Alto Rio Solimões. In 2015, were reported 13 cases in 2015, whereas a year later, the death toll jumped to 30 cases. Second, the city of São Gabriel da Cachoeira, where an increase in the number of deaths revealed a bigger picture of the profile of the victims. Out of the 73 deaths, 75% at a young age. The researcher Alessandro Campos says that the deterritorialization is a key element to understand the suicide cases. "For indigenous peoples, it means the destruc-

tion of their way of life, because it is in the original territories that the elements of community life are present, that is where they meet, sing, dance, do their rituals, relate in the most complete and complex way " (Gonçalves 2018).

As can be seen, the importance of ecosystem services can be expressed by the link between survival and cultural benefits. Tribes that have been in the Amazon for at least three thousand years, now are seeing their land invaded by soy fields, cattle pasture and logging industries. As their culture, their ecosystems are dying. The Constitution is just a piece of paper, is the agro-power that dictates indigenous peoples future.

Given the above, indigenous suicides can also be understood as a silent protest of those who chose to break with the scarcity of rights (Gonçalves 2018). An ultimate act imposed by the legal and legitimized agribusiness expansion.

3 Origins of agribusiness political influence

3.1 From *Coronelismo* [1] to *Ruralistas* [2]

A brief historical contextualization on how colonial structures contributed to the formation of the influent agro-political power called *bancada ruralista*. The paper will look into how unequal structures of the Portuguese colonial times reflected into policy-making throughout the history of Brazilian politics.

"Throughout the history of Brazil Colony power was concentrated in the hands of the great landowners - the ruling landlord class - despite the existence of the Portuguese. The rural seigniorial class dominated the political, economic, social and cultural life of the colony and its interests were represented and defended by the Municipalities. The municipal councils decided on the administration of municipalities, taxes, salaries, supplies, war and peace with the Indians etc." (Mattos et al.,2009 p. 441).

The statement above describes policymaking in the Brazilian soil at the colonial period dated in the year 1532. The Portuguese strategy to rule the colony was

to divide the territory into 14 portions, named hereditary captaincies, and delegate exploitation and colonization tasks to lower Portuguese nobles (Innocentini, 2009). These portions had smaller city councils ruled entirely by so-called “good men's” composed by self-nominated coronels which owned massive amounts of lands. These men, also called colonels, taking advantage of the economic edge given by its feudal land ownership and the absence of the Empire considered territorial proportions, embedded themselves into the political and military roles, not only being above the law but also dictating the outcomes of it at their own taste. Such practices prepared the scope for a phenomenon later in Brazilian history called coronelismo, which relates to the violent manifestation of the centralization of political power in the hands of agrarian oligarchs between 1889 and 1930.

Following the 20th century, Brazil's emergence as an agro-power was resultant not of its natural resources, but extensive state-driven intervention, innovation and the opening of massive new frontiers countryside (Hopewell, 2016). The Colonels have left their feuds and accessed both Congress and Senate. The agricultural modernization maintained traditional land concentration, preserving hegemony and political influence of rural oligarchies (IPEA, 2011).

Accordingly, the influence of the bancada ruralista is well-known in Brazil since coronelism times but was with president Juscelino Kubitschek (1956 - 1961) and his logo, 50 years of development in 5 years of governance, based heavily on industrialization, new roads and agro-expansion that ruralistas reached a new level. In a speech in New York in 1956 pledged to ‘foster free enterprise and assist the role of foreign capital in the development of his country's vast resources (Bracker 1956).’ Kubitschek's political discourse was influenced by Rostow's Modernization Theory, based on a strong belief that economic growth would raise the quality of life of the population. Hence, the importance of promoting the distribution of land and wealth, the guarantee of popular participation to the satisfaction, was ignored in order to equate human development indices with economic growth. Linked to the devel-

opmental economic discourse, ruralist interests were gradually incorporated into state policies as if it were the hegemonic Brazilian strategy to guide development (Junior 2017).

3.2 President Temer Government: trees for votes

Michel Temer was named president after the impeachment of Dilma Rousseff on August 2016. He was not democratically elected, actually, he was Dilma's centre-right vice-president due to a coalition made by the left-wing Workers Party already foreseeing a counterbalance to the ruralist influence in the Congress. Temer holds the lowest level of popularity ever recorded by a president, in a recent pool 82% of respondents say that his government is “bad” or “lousy” (Redação 2018).

Between 2011 and 2015 the ruralist bench represented the most influential group in both Congress and Senate. Representing 27% of the parliament, with 160 seats in total, 142 deputies and 18 senators according with official number of the Intersindical Department of Parliamentary Advisory. With representatives from multiple political parties and lords of the agribusiness themselves, the ruralist bench is considered to be the most efficient and successful lobby in the Congress. Given their representativity, as soon as there is a national relevant matter to vote, the bench requires pardon or renegotiation of debts, under penalty of voting against the government (DIAP 2010). ‘*It is in a two-storey house with earthy green windows, on the edge of Lago Sul, in Brasilia, where one of the most aggressive groups in the Brazilian political arena meets every Tuesday morning. Only 10 minutes by car from the national Congress*’ (Pereira et al. 2018). A well-structured group called Frente Parlamentar da Agropecuaria (FPA) - Parliamentary Front of Agriculture - weekly meetings and discussion of common interests and strategies (Cavalli, 2017).

Last year, on August 1st, one of this meetings received a special guest, the interim President Michel Temer. Was not the first time the President was publicly seen with ruralists, yet the timing of this meeting clearly revealed how political bargain is threatening

environmental policies. A month before this meeting, Temer has been charged for corruption after he was taped discussing bribes with Joesley Batista, former president of JBS, the world's largest meat-packer (Leahy 2017a). The Supreme Court detailed the bribe scheme after 2 months of investigation and filmed meetings revealed the amounts: R\$ 500.000 (approximately 118.000 euros) a week for the period of 20 years. However, under Brazil's constitution, two-thirds of a full session of the lower house of Congress needs to approve the process to a sitting president be tried in a criminal case. As a result, the Congress was due to meet on August 2nd to decide whether Temer's charges should be investigated or postponed to after his term ends on December 2018.

Just before the dinner took place at FPA's location, Temer announced an executive order on the forgiveness of interest payments on arrears and reduction of the collection rate paid by rural producers to rural workers assistance fund. Only with the forgiveness of charges, fines and interest, the government is expected to lose a collection of R\$ 7.6 billion (Prazeres and Rebello 2017).

Critics say that Temer is swapping trees for votes by agreeing to back demands from Brazil's rural lobby to make it easier to operate in protected areas in return for their support as he battles corruption charges (Leahy 2017b). On the day of the full session, no surprise. With the support of the ruralist bench, the lower house approved by 263 votes against 227 the suspension of the corruption charges. Temer, that denies all charges, after the session released a national communicate calling the decision a "victory of the rule of law". Conversely, two months later again the Congress by 251 votes against 233 approved the suspension of a new corruption charge brought up by the Supreme Court. Between June and October, the political bargain for the political negotiation to stop the two criminal accusations against Temer had a cost that can reach R\$ 32.1 billion. This is the sum of several concessions and government measures negotiated with parliamentarians (Cardoso, 2017).

3.3 Legal frameworks: the dismantling of key environmental agencies

One of the objectives of this section is to show how legal frameworks signed by Temer's government satisfies the interests of the ruralist agenda and threatens the Amazon by restructuring environmental policies. In the last 2 years the Fundação Nacional do Índio - FUNAI, a Brazilian governmental protection agency for Indian interests and their culture, has suffered budget cuts of over 50%, leaving the organ without resources to honour its administrative bills (INESC 2017a). On top of that, the agency has also received cuts of strategic personnel responsible for the analysis of the impacts of large enterprises in indigenous lands, besides doing the work of receiving and carrying demands of indigenous peoples to the public power. Similarly, a parliamentary commission called CPI da FUNAI restructured the institution and indicted a group of 67 individuals which whom the majority of anthropologists, environmental researches, activists and native peoples for crimes related to property invasion (Caram and Calgaro 2017).

Regarding indigenous peoples rightful land demarcation, the Proposta de Emenda à Constituição 215 (PEC 215) Proposed Amendment to the Constitution - transferred the responsibility of demarcation from the executive to the legislative, where the ranching bench has a better chance to manage its outcomes. The Environment Ministry had an approved budget of R\$ 911mi which was reduced to R\$ 596,5mi. A direct impact in key environmental agencies such as IBAMA - Brazilian Institute of the Environment and Renewable Natural Resources and Instituto Chico Mendes (INESC 2017b). The law decree number 9.142 extinguishes Renca's - an ecological natural reserve as big as Denmark - environmental protection status and liberates the region for the private exploitation of ores such as gold, manganese, copper, iron and others (Milhorance 2017).

4 Agribusiness and boundaries

This section aims to examine how the neoliberal agribusiness concept of growth literally trespasses not only indigenous and peasants property boundaries, but also threatens planetary foundations of ecosystem services. The following will look at what cost has the agribusiness developed.

4.1 Overview of the agro-expansionism in the Amazon

Brazil has become a global player in the world through one of the largest and most competitive agricultural sectors, what to some extent has been translated into political influence and enabled it to secure prominent roles in global economic governance (Hopewell, 2017). OECD-FAO agricultural projection places Brazil as the fastest growing agropower in the world (find ref). Brazil ranks number one in world production of sugar, coffee, and frozen concentrated orange juice; number two in soybeans, beef and poultry (USDA 2016). The country is the largest beef exporter of the world, supplying about 25% of the commerce, and with an estimative of 200 million head of cattle, only in the Amazon (Boucher et al. 2011).

However, although the increase in production has brought economic benefits, the environmental cost of agribusiness has to be taken into account. As pointed out by (Merten and Minella), large-scale agricultural activity is generally accompanied by changes in the hydrological regime (Chaves et al., 2008, Costa et al., 2003), loss of biodiversity (Klink & Machado, 2005), and problems with water quality and soil erosion. Agribusiness was responsible for about 70% of all deforestation in Latin America between 2000 and 2010. To provoke fires in order to prepare the pasture for cattle is a common, but not limited to ranching farms, logging and soya industries also make use of such method. Researches have pointed to a dramatically large increase in the amounts of wildland fire-provoked greenhouse gases emission in the Amazon (Liu 2005).

The export of soybean cultivation, meet production and palm oil products are the main responsible actors driving this practice. In fact, the link between deforestation and widening of agro-frontiers is not limited to Brazil, a comparative study of 7 Latin American countries revealed that pasture expansion for cattle ranching caused the loss of at least one-third of the forests. In Argentina, pasture expansion was responsible for nearly 45 per cent of forest loss over the period and the expansion of commercial cropland for more than 43 per cent. More than 80 per cent of deforestation in Brazil in the period was associated with conversion to pasture land (De Sy et al., 2015).

4.2 Overview of the agro-expansionism in the Amazon

Shifting cultivation, the combination of farming while keeping forested habitats has been the dominant agricultural method in the Amazon for the last thousands of years (Andrade and Rubio-Torgler 1994). A sustainable and biodiversity-dependent practice that in the past decades has been threatened by the expansion of cattle ranching and soybeans. New agro-frontiers has been opened in the Amazon. And besides being the major deforestation driver, agriculture also demands enormous amounts of resources. Much of the water available to communities is used for purposes other than direct human consumption. Globally, the largest user of water is irrigated agriculture, representing 70% (Stern, 2007) of present freshwater withdrawals (Stern, 2006). When compared to crop products, for instance, livestock in itself contains between 5 and 20 times more virtual water per kg product (Chapagain & Hoekstra, 2003). Research has shown that animal products do not only require more land to obtain a certain nutritional value but also more energy and water. An average of 18% of anthropogenic greenhouse gas emissions is prominent from cattle ranching activities (Steinfeld et al., 2006).

As resources are unsustainability exploited and boundaries are pushed by the Anthropocene, the

balance of complex ecosystems is affected. Amongst those who stand for the importance of recognizing what wellbeing, not only of the poor but in the long run from us all is intertwined with safeguarding the integrity of ecosystem services provided by nature is the work of Kate Raworth (2012). The dependence of human well-being on planetary health and the concern about a safe and just space for humanity can be expressed by the concept of planetary boundaries represented by the image of a doughnut below.

The doughnut is meant to be used as a tool for reconceptualising sustainable development (Dearing et al, 2014). By describing the relationship between the social foundation and ecological ceiling, and representing how the pressure on the planetary boundaries endangers a safe and just space for humanity. Raworth defined the 12 doughnut dimensions based on the Sustainable Development Goals established in 2015 by the United Nations and on deprivations raised by governments in their submissions to the UN's Rio+20 Conference.

Another point brought up by Raworth's doughnut is climate change. Studies have shown that climate change will have impacts on multiple sectors: energy (e.g. via the impact on water lows), agriculture (via the impact on land use), industry (via the impact on water, food and other inputs), forestry (e.g. through changing (micro-)climate and increasing risk of forest fires), tourism (e.g. via impacts on beaches), health (e.g. by influencing the spread of disease) and transport (via e.g. the impacts on ports). Through such impacts, there will be impacts on income, welfare, employment, infrastructure and investment, culture and lifestyles, and life itself. The vulnerability of such impacts is influenced by local capacities – related to gender, age, wealth, social strata, etc (Gupta 2014, pp 23). Considering the effects of climate change, although they will not be felt evenly, for some of the poorest countries there is a real risk of being pushed into a downward spiral of increasing vulnerability and poverty. Tropical regions will be hardly affected by even small amounts of warming, what will lead to declines in yield and economic loss. Ecosystems will be particularly vulnerable to climate change, with one study estimating that around 15 –

40% of species face extinction with 2°C of warming. Strong drying over the Amazon, as predicted by some climate models, would result in dieback of the forest with the highest biodiversity on the planet (Stern, 2007).

Agribusiness growth in the way how it is being done in the Amazon comes at a highly expensive environmental cost. The continuation of such patterns results in a non-sustainable system where we live beyond our ecological means (WWF, 2012). According to a report of the United Nations Environment Programme in partnership with the Brazilian Ministry of Environment (2008, p.10), the wealth of the Amazon is not only based on the supply of tangible goods, it is also based on the functioning of its various natural ecosystems and socio-cultural systems, which offer a range of ecosystem services. Unfortunately, human well-being in the region is being affected by environmental degradation.

Considering the emission of greenhouse gases (GHG) and the boundaries of the ecosystem services we receive from nature, (Chopra et al. 2005) calls for limited sinks or the numerical delimitation of the amount of GHG allowed to be released into the atmosphere. Another insight of a possible effective response to the climate change problem can be noticed by the multiscale approached of ecological inclusiveness. Where besides addressing risks, responsibilities and rights regarding GHG emissions and environmental policies, advocates for protection against land grabbing and ownership of resources at the local level, ecosystem services ensured at the national level and at the global instance, a transboundary governance aiming for common but differentiated responsibilities for dealing with global problems (Gupta and Vegelin 2016a).

5 Ecosystem services and the consequences of agro-expansionism to peasants and indigenous communities in the Amazon

This section aims to analyze the effects of ecosystem damages caused by agriculture to the poorest. The paper investigates and identifies the vulnerability that such appropriation brings to peasants and indigenous communities in the Amazon.

5.1 Structural and physical violence

In the Brazilian Amazon forest, the agribusiness expansion represents an increase in the global flow of commodities. However, by having its roots on neoliberal approaches, this policies hardly touch upon the need to share economic growth with the poorest or environmental consequences of what they define as development (Gupta, J., & Vegelin, C. 2016b). Such transformation of value, and consequently the use of the territory, enables a socio-spatial plot that opposes indigenous people and peasantry to the hegemonic forces of capital. Furthermore, indirect services provided by nature such as stabilization of soils and climate, water flows, habitat for pollinators and natural predator of agricultural pests, shade and shelter amongst others, are being affected by the Anthropocene (Crutzen 2006). Forests and trees beside supporting sustainable agriculture, contribute to food security of hundreds of millions of people worldwide, for whom they are important sources of food, energy and income (SOFO, 2016)

Worldwide in 2016, an average of four people was murdered every week protecting their land. It has never been deadlier to take a stand against industries like agribusiness, mining and logging. The ruthless scramble for the Amazon's natural wealth makes Brazil, once again, the world's deadliest country in terms of sheer numbers killed with 49 registered deaths. However, adds the Global Witness Report - Defenders of the Earth, murder is just one of a wide range of tactics used by the industries, including criminalisation of activists, trumped-up charges,

death threats, arrest, sexual assault and aggressive legal attacks.

By its market-based characteristics such as increasing profitability and productivity at all costs, agribusiness has led to a precariousness of rural workers conditions. As a result, peasants were turned into mere sellers of work, and by not being able to produce, or compete, were forced into debt and the need to sell their lands (IPEA 2011). In the same way, chemicals used in soybean plantations kill the peasants' crops. Some communities of the plateau cannot even produce in their properties because they are harmed by this type of activity. Still, when peasants take precautions against soybeans, they are immediately received with death threats (Silva and Conceição 2017).

5.2 Foreign land grabbing, national land theft and inequality

A country with a population of over 30 million inhabitants. That would be the credential of Rural Brazil if small-scale farmers and peasants were to be put together. Sadly, with a Gini Coefficient of 0.727, this 'country' would rank second in the index of income concentration and inequality. A position not to be proud of.

According to the United Nations Report on Human Development in 2009, only Namibia scored higher with 0,727 (UNDP 2009). An OXFAM Brazil report describes how unequal the situation is. Around 45% of the Brazilian rural superficial belongs to only 1% of the properties and concentrates the biggest part of the rural credit. Gender inequality was also pointed. About 87,3% of the properties are owned by men. Furthermore, and even more shocking is the fact that although small-scale farms represent 47% of the total properties, they hardly access rural credit and occupy only 2,3% of the territory. And even without accessing rural credit, small-scale farmers still manage to be responsible for more than 70% of all foods consumed in Brazil (OXFAM, 2014).

International land grabbing is another issue. In the 1990's, foreign capital owned approximately 2.6 mil-

lion hectares of rural land (Oliveira, 2010); a number that in 2008, has reached around 5.6 million hectares (Hackbart, 2008) and continues to increase, mainly in areas rich in natural resources. Two points motivate foreign investment, first the conception of agriculture as a secure asset, especially after the financial crisis; secondly, countries concerned about their food security and dependence on food markets. Besides foreign activity, land theft, known in Brazil as *grilagem*, also appears as a common practice. To this extent, the ruralists' bench has pushed forward last year the *Medida Provisoria 759* - also known as land grabbing bill. The law, signed by president Temer, in practice, legalises land theft by loosening land legalisation and regulation. It facilitates the logging industry registration of claims on public lands, such as national reserves, as private property.

5.3 Impunity

Even before the dismantlement of the Ministry of Environment in the president Temer government, impunity has been a major issue in the Amazon. A study of 34 cases of environmental crimes found that only 3% of them were concluded. On regard of fines applied by the governmental agency IBAMA, the majority were never paid off, and the lack of structure of the judiciary in the Amazon results in years of delay in investigating environmental crimes in the region (IMAZON 2013).

The environmentalist Rogerio Vargas explains that agribusiness conglomerates already counts on the possibility that in case IBAMA sues them, the crime can prescribe by the lack of judges. Dorothy Stang, a 73 years-old North-American missionary, was shot dead in February 2005. The reason? She was head of the Sustainable Development Project Hope (PDS), enticing the enmity of farmers in the region who claimed to own land that would be used in the project. Stang was in the Amazon since the 1970's advocating against deforestation and in favour of livelihoods for peasants affected by the agribusiness. The case caught international attention which led to an efficient answer to the Brazilian government. The

farmer Vitalmiro Moura was sentenced to 30 years and Clodoaldo Batista, one of the perpetrators of the murder, was sentenced to 18 years in prison. Rayfran das Neves Sales, the author of the shots, was sentenced to 7 years in prison. All came to serve their sentence but were entitled to progression and left the closed regime being freed shortly after.

Conclusion

Back to the questions posed at the introduction, it is to a large extent that the agribusiness interest and political influence locks-in pro-poor environmental policies. On top of that, a trade-off between peasants and indigenous peoples' rights, culture and livelihood are taking place by a ruralist neoliberal agenda.

Although research on conservation studies has shown that the presence of indigenous territories is fundamental to the permanence of Amazonian ecosystems (Pimm et al. 2001; Peres & Zimmerman 2001). Territories such as the Xingu Indigenous Park and the Kayapo Tribe has halted an intense agribusiness expansion in the last decades (Zimmerman, B., & Schwartzman, S., 2005). However, there are every day fewer indicators that this resistance will last long. Nation-wide movements such as *Movimento dos Trabalhadores Rurais Sem Terra (MST)* struggle for (re)access land to grow food and gain a livelihood. Over 64 million are currently facing food insecurity (IBGE 2010).

Forestry and land policies are often at odds (FAO, 2016). Brazilian researchers' article, published last July in the *Nature Climate Change Journal* named: *The threat political bargaining has on climate mitigation in Brazil*, revealed that the dismantling of deforestation control policies and biased political support for predatory agricultural practices make it impossible to meet Paris Agreement commitment (Rochedo et al. 2018). The paper maintains that the total cost of Brazil not keeping up with its environmental targets could reach US\$ 5.2 trillion to other countries. As alerted by (Gupta 2014) transboundary governance is affected by the competition between short-term national versus regional interests.

As can be seen, pro-poor governance of environmental policies given the unbalanced political representativity results in a densely locked-in scenario pushed forward by the agribusiness. When trade-offs between collectively

economic growth and individual well-being are perpetuated by states, this can lead to marginalization of the latter (Pouw and McGregor 2014) The marginalization of human and environmental aspects, in order to value economic growth, also portrait as green economy/growth or inclusive growth (which results from the combination between environment with the economy, UNEP 2011; World Bank 2012) is leading to a no-win situation.

The future of peasant and indigenous people in Brazil is part of a, particularly complex context. Structural problems such as land concentration and agribusiness disproportional political influence, deepened by inequality and impunity, are locking-in the development of environmental policies.

It is up to the social movements to demonstrate the sensitivity and the firmness to take the fight for the preservation of another agriculture, which is, in fact, economically, environmentally and socially sustainable. And it is up to the academy to produce the necessary knowledge, capable of inspiring new policies of social inclusion, that effectively considers the peasantry and indigenous ways of life.

This paper concludes that the political influence of the agribusiness poses a global threat. The consequences of agribusiness expansion are not limited to human rights abuses and increase in the struggle of peasant and indigenous peoples in the Amazon. When considered the mentioned environmental costs and backwardness towards climate change mitigation, the consequences turn out to be global. And while the vulnerability of the poor may be exacerbated by the effects of climate change (Paavola and Adger 2006), we are still walking towards a no-win situation. As (Oliveira et al. 2013) pointed, the more agriculture expands in the Amazon, the less productive it will become, and in this situation, we all lose.

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Notas:

- [1] Coronelismo, also known as the "rule of the colonels", was the centralization of political power in the hands so-called "colonels" during the Old Republic, especially between 1889 and 1930.
- [2] Bancada ruralistas (ranching lobby) is the most powerful lobby in the Brazilian congress. Their political influence in the number of projects and laws approved, and the number of deputies and senators is hardly beaten by any other lobby. Last October 7, 261 deputies and senators linked to the Frente Parlamentar da Agropecuária (FPA) - Parliamentary Front of Agribusiness were elected for the 2019 - 2022 term.