SEVEN
publicações acadêmicas

Economy, society, development and environment in Campos Gerais, Ponta Grossa-PR, Brazil

https://doi.org/10.56238/sevened2023.006-105

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ABSTRACT
The feasibility of a policy delimited by the commodities industry provided the establishment of the "agro-export model" as a national strategy for Brazilian development and, consequently, of regional (trans)figures. In the Campos Gerais region, it is possible to observe a historical complexity molded to the similarities of the national route. That said, the work aims at a qualitative analysis of the circumstantial frameworks between state, economy, society and environment in the region of the Campos Gerais National Park whose natural characteristics are primarily impacted by the historical, political and economic trajectories in the region. Furthermore, it aims to highlight resolutive alternatives in order to make economic efficiency compatible with social cohesion and ecological sustainability. The methodological procedures used a review of the state of the art and a survey of bibliographies relevant to the topics covered.

Keywords: Agribusiness, Ecological economy, Latin American economy, (Un) Sustainability, Socioecology.

1 INTRODUCTION

Based on a history of vicissitudes that permeates theories of practical effects in policies, programs and projects, the reflection that begins is on how the socio-political and socioeconomic vision of the territorial space contributes to the interpretation between the character of the development process and the transformations in the materiality of the territories (Claval, 2005; Leef, 2009; Santos, 2006; Botelho, 2013).

Continuously and discontinuously, spatial extensions are corrupted by reorganizations and renormalizations engendered by externalities connected to economic nexuses that, consequently, lead to territorial transformations (Santos, 1999, 2006; Pear tree; Claval, 2005; Kahil, 2006; Leef, 2009; Cavalcanti, 2010; Silveira, 2010; Botelho, 2013). Territories come to be governed by a hegemonic dialectic dominant in the capitalist system, whose elements are established in the spaces through interrelations woven into the strategies of development and propulsion of the economy; they become a spatial configuration recreated and re-signified for the service of capital, work, techniques and mechanization. By providing the use of raw materials and geographical spaces, it also enables the homogenization, fragmentation and modification of the pre-existing equilibrium that, without positive

interlocutions to the innate contexts, generate incompatibilities that are fundamentally presented as harmful impacts, above all, as conflicts in environmental issues (Santos, 1999, 2006; Pear tree; Kahil, 2006; Harbor; Martinez-Alier, 2007; Cavalcanti, 2010; Silveira, 2010; Botelho, 2013). Therefore, as multi-scalar arrangements that unfold about space and, equally, about the environmental and civilizational crisis as a product of the dominant economic and technological rationality in capitalism (Leff, 2000, 2009; Harbor; Milanez, 2009; Botelho, 2013), socio-environmental conflicts go beyond the obvious and are based on latent facts.

Considering that the marks and legacies of the culture and economy of societies represent important sources for understanding the complexity of social problems and processes interdependent on the natural environment, the objective of this analysis is to explore, through reviews of the state of the art and bibliographic survey in qualitative method, the themes intrinsic to the research problemfrom the delineation of the development of production modes and the emergence and evolution of the expansion and consolidation of agribusiness in Brazil to the micro-regional of the production systems of Campos Gerais. The analytical reading was granted in order to corroborate possible modes of progressive social strengthening, as a process of continuous learning that acts as a prioritization of the cumulative advance of the problem-solving capacity of socio-ecological configurations, as exposed by Vieira (2003, p. 271).

2 STATE, ECONOMY AND DEVELOPMENT: LATIN AMERICAN HISTORICAL-ECONOMIC PROCESS

Economic development was a historical process based on the capitalist revolution; commercial; national, with the formation of national states; and industrial (Bresser-Pereira, 2006; 2017).

The outbreak of the capitalist revolution took place from a process of rationalization aimed at the fundamental technical transformation as a Western project of the unlimited modernity of Reason, Science and Technique (Bresser-Pereira, 2006; Ferreira; Raposo, 2017). Such evidence revealed the Commercial Revolution marked by the achievement of profit and the accumulation of capital, and the Industrial Revolution expressed for profit beyond the accumulation of capital, but also for the incorporation of systematic and competitive technical progress to work and the means of production (Bresser-Pereira, 2006).

Concomitantly with the Industrial Revolution, the condition of viability became the National Revolution, in which, from the formation and establishment of national states, there was a homogenization of the process of development or economic growth (Bresser-Pereira, 2006).

The process of development and economic growth have become synonymous with increased productivity. Rates of capital accumulation, incorporation of technical progress and capital productivity relations have become determining variables in the opportunity of the economic system

coordinated by the market at the world level, as well as the political objective of the governments of a nation, nation-state and state (Bresser-Pereira, 2006; Ferreira; Raposo, 2017).

Thus, the process of rationalization of the aspects of production of goods and surpluses, consumption market and capital accumulation occurred from the moment in which expanding production created consumer markets and realized in them the surplus value generated still in production (Botelho, 2013). The feasibility of economic development was, and still is, the intensification, expansion and, consequently, the internal and external geographic restructuring (Botelho, 2013). Therefore, space is the conditional nature of capitalism's geographical expansion, which does not appear only as a result of its dynamics, but as a necessity for the maintenance and reproduction of its processes of expropriation of the means of production, investment, circulation, distribution and consumption (Santos, 1999, 2006; Botelho, 2013).

To the extent that it refers to a historical phenomenon that involves the constant competition between nation-states, it has also been made explicit today, depending on the trajectory in which economic development was triggered or the industrial revolution took place, the classification of countries among typologies such as rich, middle-income and poor (Bresser-Pereira, 2006). The subdivision was based on the vertical power relations between empire-colony and/or center-periphery arising from capitalism as a system of structural rupture. In addition, it segregated pre-industrial countries from industrial or technologically sophisticated countries (Furtado, 1992; Cassol; Niederle, 2016; Bresser-Pereira, 2006, 2017; Ferreira; Raposo, 2017). In this way, industrial imperialism, interdependent on competitive markets and accumulation processes with the incorporation of technical progress, shaped the Center-Periphery system (Furtado, 1992; Cassol; Niederle, 2016; Bresser-Pereira, 2017).

The multifacets of the developmentalist ideology in Latin America were temporally consolidated in the mid-twentieth century. Or, middle-income countries that, despite being formally independent, remain tied to the center, failing to complete the national revolution in favor of the autonomy necessary to promote their own economic development (Bresser-Pereira, 2017).

The historical-cultural perspective of structuralism in underdevelopment allows for a dialogue based on conceptual elements and establishes the context of Celso Furtado's political economy of Latin American underdevelopment (Bresser-Pereira, 2006, 2017; Cassol; Niederle, 2016). Although intrinsically associated with the emergence of industrialization as a paradigm of development, it is based on the primary refusal of an explanatory existence in a universalist mold (Cassol; Niederle, 2016; Ferreira; Raposo, 2017). And, therefore, in the need for its own theorizing, whose bias is approached as an autonomous process in favor of productive methods parallel to sociocultural homogenization (Cassol; Niederle, 2016; Ferreira; Raposo, 2017).

Therefore, the economic development of Latin American countries is the result of the assimilative imbalance between technological innovations and the most effective production methods that act proportionally to the patterns of accumulation and consumption (Furtado, 1992; Cassol; Niederle, 2016; Bresser-Pereira, 2017). Considering that the disarticulation of these processes defines industrial capitalism, the diagnosis of the root of underdevelopment in relation to the modernization of countries that export raw materials is outlined as a substitute for import crises (Furtado, 1992). The problem of the prolonged crisis on the export sector weaves restricted options: the rupture with the modernization process or the maintenance of substitutive industrialization.

Totally entangled under the shackles of economic growth prior to the stages of modernization, the pattern of industrialization was imposed. Correcting the prototypes of accumulation and consumption was unfeasible due to the magnitude of socioeconomic and sociopolitical interests (Furtado, 1992). Soon

> "It remained, as a line of ease, to continue relying on modernization, consequently reproducing underdevelopment" (Furtado, 1992, p. 9).

From the circumstances established through substitutive industrialization, it has been concluded that productive growth is not a truly sufficient evidence for full development. And that, therefore, it would be necessary to reorient the framework of underdevelopment from the dynamism of transgression to export activities with a view to conquering international markets (Furtado, 1992; Ferreira; Raposo, 2017).

3 STATE, ECONOMY AND DEVELOPMENT: POLITICAL-ECONOMIC DIMENSION OF THE BRAZILIAN AGRIBUSINESS SOCIETY

Agricultural expansion and modernization at the national level have acquired a dislocated unfolding of political hegemony (Delgado, 2001). The rural sector was continuously exposed in a subsidiary manner and, nevertheless, tailed to the flow of industrialization in the Brazilian economy. However, the substitutive conversion of imports to exports of primary products has been on a significantly increasing course since the 1960s and 1970s (Furtado, 1992; Delgado, 2001), and this episode is mentioned by Delgado (2001) as the reorganization around the thematic axes of the agrarian question, industrialization and the role of agriculture by the military regime (Delgado, 2001).

From the moment that exports assume their character of "agrarian capital", there is also the translocation of the identity of the land system, in which properties of a traditionalist nature begin to identify themselves as enterprises under the dome of national development strategies.

Turning to the political debate on Agrarian Reform in the post-war period and to the core of the reflection via the Economic Commission for Latin America, Celso Furtado's protagonism diagnosed

the inelasticity of the pressures of industrial demand on the Brazilian agricultural pillar which, in justifying the need for profound changes in the land structure, concomitantly dealt with the social relations of labor in the countryside (Delgado, 2001). ECLAC's hypotheses were constantly refuted by a wide range of economists who disregarded the ethical-social issues implicit in the land structure (Delgado, 2001), given that economic development would fulfill its function in the liberation of labor; in the supply of raw materials; the creation of markets focused on the expansion of exports; and, in the financing of intensive capitalization to be applied in the industrial sector of wide international competition (Delgado, 2001; Bresser-Pereira, 2006).

The implementation of the Rural Credit System (Delgado, 2001), as well as other stimuli to rural investments for the development of storage, industrialization, costing and marketing of agricultural products were driving agents of the changes in the technical basis in the agricultural sector. There was a growing use of industrial inputs, among which are agrochemicals of the classes of correctives, fertilizers, pesticides and phytosanitary defensives; specialized machinery; and, value-aggregating branches, since the end of the eighties was the golden age of the development of national capitalist agriculture. It was the transitory milestone towards the new political-economic pattern that, still with conservative remnants, inflected liberalist principles associated with the reordering of the 1988 Constitution (Delgado, 2001; Heredia; Palm; Leite, 2010).

Due to the particularities that defined the current context in the early 1990s, there was a delineation that deepened the debate on the relations of production and the land structure with its social, economic and political consequences; but, equally, on issues related to the supply and demand of agricultural products in the context of agro-industrial complexes and, later , *agribusiness* and, sequentially, agribusiness (Delgado, 2001; Heredia; Palm; Leite, 2010).

Given that the emphasis of agribusiness is based on the adherence to control and integrated management processes (Heredia; Palm; Leite, 2010), the establishment and feasibility of a policy delimited by the external linkage of trade and the *commodity* industry (Delgado, 2001), it is assumed that the involvement of a set of capital, machinery, inputs and exports of agricultural and agro-industrial products provided the conceptual distinction necessary for the validations of the different agribusiness societies (Heredia; Palm; Leite, 2010). The process operated in the new agricultural frontiers began to shape the level of production, accumulation and forms of integration between each sector of the complex and the state apparatus based on the strategic impositions of economic policies. Above all, the "agro-export model" and its policies of interest, intervention mechanisms and regional configurations that have passed into broader macroeconomic spheres (Heredia; Palm; Leite, 2010), evidencing the hierarchization of hegemonic networks and transnational agribusiness conglomerates.

4 STATE, ECONOMY AND DEVELOPMENT: ORIGIN OF PRODUCTION SYSTEMS IN CAMPOS GERAIS

Brazil's success in global competition is centered on the "agribusiness society" as a national development strategy: exponentiation of productions, transactions, accumulations and socioeconomic and sociopolitical articulations between the state apparatus and sectors of the agro-industrial chain. When one takes into account the system and the characterization of agricultural and agro-industrial production in Campos Gerais, it is possible to observe a historical complexity shaped by the similarities of the Brazilian itinerary. And, nevertheless, parallel to the economic cycles of the State of Paraná.

The regional context is traced from the pre-Columbian paths that acted as a link between the southern coast of Brazil and the Pacific. The origin of the production systems in the Campos Gerais of Paraná has its beginning properly demarcated with the first expeditions of the sixteenth and seventeenth centuries, where Portuguese and Spaniards crossed the region in search of metals and Amerindian slaves of the Jê and Tupi groups, as well as to alternative routes to Paraguay and Peru. After the dismantling of the "Jesuit State" and the respective "Jesuit reductions", the clean fields of the region began to have a different connotation. They became a spatial reference in the scenario of the Brazilian colonial period, characterized by easy access, conquest and occupation of the territory and the search for wealth (Rocha; Neto, 2014).

Adding up the characteristics of the landscape units of homogeneous conformation (Maack, 1948; Melo; Live; Guimarães, 2014), a new and more attentive look of the people of São Paulo fell on the region and established the context of marking the beginning of the definitive occupation of the current State of Paraná with the raising of cattle along with the agricultural dynamism of subsistence. (Rock; Neto, 2014).

In the eighteenth and nineteenth centuries, with the increase of mineral extraction in other areas of the Brazilian territory, the demand for nuclei for the maintenance of activities related to mining increased proportionally. In the sense of a logistical system of transport, trade and animal production, Campos Gerais began to meet the needs of the villages from its representation in the sale of cattle production to São Paulo; in wintering rentals; and, in other activities related to tropeirismo, being a link to the dynamic flow of the economy between the southern regions of the country, São Paulo and the mining regions. Therefore, the so-called Caminho das Tropas, as a corridor for the accumulation of capital and economic and political power, was fundamental for the occupation of territorial space (Rocha; Neto, 2014).

Subsequently, with the decline of the mining phase, especially of gold mining, the productivity of Imperial Brazil turned to the cultivation of coffee and the local economic dominance was still attributed to the large farmers of Campos Gerais. The socio-political and socio-economic regime exercised by this small group remained relatively preponderant until the decrease in winter rents, the

loss of the markets of São Paulo and Rio de Janeiro and the beginning of the implementation of railroads (Rocha; Neto, 2014).

Considering the changes in the market situation, plus the degradation of soil quality due to the depletion caused by management techniques and cattle raising, most of the territory was under the denomination of "sertão paranaense". New capital and innovation policies were invested in export models of yerba mate, wood by-products and immigration flows in order to stimulate the consolidation of Polish, Ukrainian, Russian, German and Italian colonies. The economic structure of the region turned to the transportation of grass and agricultural products via wagon caravans, and by the end of the century, the large port modal enterprises that boosted the pine sawmills with a focus on the extension of the railroad networks (Rocha; Neto, 2014).

The activities related to the tropeirismo debuted a new spatio-temporal scale to serve the consumer centers of animal production and to supply animals for peasant work. Parallel to the latifundium structure of the provincial period, extensive cattle raising was still the most strongly consolidated system until the first decade of the 1960s (Rocha; Neto, 2014). From the second decade of the same year onwards, it was possible to observe the expansion of cultivated areas due to the introduction of agricultural technology, and it was only in the early 1970s, after the crisis in world soybean production, that there were agronomic investments to overcome the challenges regarding low fertility and high soil acidity.

In this context, there was the introduction of agricultural systems and, in particular, of soybean cultivation in the Campos Gerais of Paraná (Rocha; Neto, 2014) when, definitely, the public policies of intensive capital subsidy, especially those dealing with rural credit, favored the rapid dissemination and solidification of productivity through annual crops (Rocha; Neto, 2014). In addition, with regard to public incentives, the fiscal crisis in the late 1980s weakened the rural credit policy in favor of the exchange rate policy aimed at the export sector; foreign trade policy; tax policy and wage policy (Heredia; Palm; Leite, 2010).

Although the mechanisms and instruments of public policies for expansion, renegotiation and incentives have undergone modifications, setbacks or promotions, the bases of subsidy for the productivist framework in the Campos Gerais region of Paraná persist to the present day. Considered the most dynamic agricultural systems in terms of national territory, they have high productivity rates based on soybean and corn crops and in the production of dairy, poultry and pigs. They also have intense investments in the commercial reforestation sector with pine for the wood and cellulose industry for export (Rocha; Neto, 2014).

According to the study developed by Ramos, Santana, Prieto and Matias (2014), the use and occupation of land in Campos Gerais in the years 2000 and 2006 were mapped and compared. The characterization was classified and differentiated into cultivation areas; of forest; field exercise;

reforestation; urban area; of water bodies; of cerrado; and others (Rocha; Neto, 2014). That said, according to Neto and Rocha (2014), the components directly inserted in the sector can be classified into rural, urban, family and family farming entrepreneurs, and they are characterized according to income generation and employed labor. Owners and proprietors, such as rural managers, have a high application of salaried labor, as well as the generation of goods and wealth in terms of income and profits. On the other hand, family members are those whose levels of income and profits under production are determined by an intermediate level and by the eventuality of hired labor. The owners of family farming are distinguished from the previous ones by factors of non-production on a large scale, the non-use of generalist precepts and protocols in management and production, by the rates of income generation that are considerably lower than those of rural and family entrepreneurs, and by the use of almost entirely family labor. Finally, the urban leader is qualified by the higher income, since it comes from wings outside the rural environment (Neto; Rocha, 2014).

Regarding these analyses, it is mentioned that the trends of expansion of activities related to reforestation and agricultural cultivation of grains in areas of native forest, are in fact a direction for the confirmation of the "agro-export model", in which the *commodity industry* incorporates the technology of the regional agricultural sector (Porto; Milanez, 2009; Rock; Neto, 2014).

5 DISCUSSION

5.1 STATE, SOCIETY AND ENVIRONMENT: (UN)SUSTAINABLE DEVELOPMENT IN THE REGION OF THE CAMPOS GERAIS NATIONAL PARK

Agribusiness is responsible for making up a large part of the quantification of the macroeconomic indicator in Campos Gerais, which has a gross domestic product (GDP) that exceeds the state and national averages (Neto; Rocha, 2014). Ponta Grossa stands out due to the holding of approximately 80% in the participation of economic activities in the total agricultural Gross Domestic Product (GDP) in Campos Gerais (Santos; Mistura, 2018).

As mentioned above, Ponta Grossa represents a peculiar microcosm in the economic, social and environmental context of Brazil. Its strategic geographical location, associated with a rugged topography, marked by mountains and valleys, shaped the urban and rural occupation of the region. According to the analysis of Ana Clara Moura Gomes (2015), this geographical conformation directly influences the distribution of economic activities. The flat areas around the urban center are conducive to industrial and commercial development, while the mountainous regions are dedicated to agriculture, contributing to the economic diversification of the municipality.

As for the classes of use and management, they reproduce the composition of the agricultural sector based on animal management systems for poultry, pigs, beef and dairy cattle; forest-based activities; and, in agriculture with high production rates, corn (*Zea mays*), beans (*Phaseolus vulgaris)*

and soybean (*Glycine max*)), with corn having an average regional yield twice as high as the national one, and soybeans with a harvested area of around 70 hectares and a production of around 265 thousand tons (Neto; Rocha, 2014; Saints; Mistura, 2018; IPARDES, 2019).

As a reference in the no-tillage system, soil management assumes notoriety in large-scale production for agro-export movements, especially at the state level. The technique in question has basic fundamentals aimed at the minimum soil turnover, crop rotation and the maintenance of organic cover content. It presents several benefits to soils and water bodies when compared to the conventional agricultural production system, such as the renewal of organic matter contents and, therefore, energy balances. But, on the other hand, it has conceptions focused on the intensive use of agrochemical inputs (Neto; Rocha, 2014), and the culture based on the application of substances of this nature has grown nationwide as it exceeds the expansion of planted areas. This corroborates once again the aforementioned mention that Brazil has been consolidating itself under the economic vision of intensive agro-export development in the use of chemical inputs (Porto; Milanez, 2009).

Pesticides, fertilizers and phytosanitary products are considered the greatest causes of impacts on ecosystems (Neto; Rocha, 2014). Intrinsically associated with the disorder of biogeochemical, biophysical, biophysiological cycles, among others, such as damage at molecular and genetic levels, the imminent gravity is supported by the presence of potentially toxic metallic elements in the inorganic composition of the parent rock used in the manufacturing process of these inputs. In addition to its mechanisms of frequency of exposure and action and, consequently, its systemic and cumulative effects along the trophic webs based on the exchange of matter and energy (Steffen; Steffen; Antoniolli, 2011).

When it is said that corn, beans and soybeans are produced in the mosaic of the conservation unit of the Campos Gerais National Park and that they are substantially treated from the recurrent and intensive use of agrochemical inputs, it is directly said that the harvests occur in the months of December to February in a location whose climate is subtropical with strong trends of rainfall concentration in the summer months and without a defined dry season. Therefore, there is a hydrological cycle integrated with the dynamics of transport, mobilization, chemical speciation of metals and, consequently, bioaccumulation and trophic biomagnification. Factors dependent on specific physicochemical variables, such as: water and air temperature, pH and dissolved oxygen, chemical and biochemical oxygen demand, conductivities, solubility, salinity, suspended and dissolved organic matter, turbidity, hardness and sedimentary load (Rocha; Rose; Cardoso, 2004). As a set that defines bioavailability and toxicity (Rocha; Rose; Cardoso, 2004; Arenzon; Raya-Rodriguez, 2006; Baird; Cann, 2011), the dissociation between ecological and biochemical routes is integrated with the unique environmental conditions of the unit and the viability, availability and toxicity potential of

metallic elements in ecoregional and biological compartments, which include wildlife, humans and their trophic relationships.

That said, the negligent management of crops and chemical inputs leads to sanitary problems, ecological imbalance, transformation and fragmentation of ecosystem units (Tundisi; Tundisi, 2008; Steffen; Steffen; Antoniolli, 2011; Melo; Live; Guimarães, 2014). Immediately, environmental contamination by metallic elements represents a warning of the deleterious effects on the development, maintenance and reproduction of biodiversity (Porto; Martinez-Alier, 2007; Harbor; Milanez, 2009; Steffen; Steffen; Antoniolli, 2011; Melo; Live; Guimarães, 2014). It also designates an arrangement characterized by the loss of the quality of ecosystem health due to the loss in the dynamic efficiency of regeneration and reception of ecosystems (Leff, 2000; Rigotto, 2002; Pear tree; Kahil, 2006; Harbor; Milanez, 2009; Vieira, 2003, 2009, 2013).

The backstage of *the production of commodities* in agribusiness, steel and mining is mentioned by Porto and Martinez-Alier (2007) and by Porto and Milanez (2009) as an unsustainable and unfair model of production and consumption, a "social metabolism" that:

> "It intensifies social inequalities and environmental degradation, as it is based on commodity prices that do not incorporate environmental degradation, the social effects of the concentration of income and power for populations, nor the health impacts generated by the most aggressive phases of the production chain." (Porto; Milanez, 2009, p. 1986)

A complex and multidimensional critique of the paradigms of neoclassical utilitarian economics: when social and environmental costs are not incorporated into the cost of production and become externalities; and, when the future component is ignored generating the intergenerational problem: long-term effects and consequences such as qualitative degradation and the quantitative end of natural goods and biodiversity, which includes the human being (Beck, 2010; Harbor; Martinez-Alier, 2007). This means the same as asking:

> "When a ton of soybeans, beef, iron, steel or aluminum is exported, how much energy, materials and natural resources was consumed indirectly? How did the processes of dissipation and disintegration produce environmental impacts due to the use of resources, pesticides and irrigation? This same reasoning can be applied to human labor: how many human lives have been affected by disease, death, and precarious living conditions by the production systems that generated such products?" (Porto; Martinez-Alier, 2007, p. 506)

Without being convenient to the current economic development and segregation referred to in the previous analyses, irregularities associated with the dichotomization of individual objectives become the pillar of the genesis of problem regions (Delgado, 2001; Bresser-Pereira, 2006).

In the Campos Gerais National Park, "*anthropic action mediated by technology is a historical constant in this region*" (Meneguzzo; Albuquerque, 2009, p. 52). It is possible to verify socio-environmental conflicts in the production stages, especially those that are potentially toxic to human

and animal life; the degradation of soil quality by export monocultures and reforestation, with a focus on the pulp and paper industry; land problems (Porto; Martinez-Alier, 2007); and, of a bureaucratic order, intrinsically associated with class conflicts. Findings that point to the fact of the late development of environmental policies; of the legislation that integrates environmental policies and productive sectoral policies that generate environmental impacts (Meneguzzo; Albuquerque, 2009); the absence of a management plan which, despite being established by the Chico Mendes Institute for Nature Conservation (ICMBio), still represents a gap in the conservation of natural elements in the area; and, notwithstanding, for the claim of annulment of the decree creating it.

It should also be added that, in view of the release of 467 substances released by the Brazilian government in 2019, the conflicts related to the compensation of private lands and access to Rural Environmental Credit represent only a part of the local tensions and go directly to the core of the particular interest of each class to which it refers. It is more about the restrictions in relation to the planting of genetically modified soybeans on properties within the perimeter of the unit, whose cultivation is prohibited by environmental legislation in protected areas, as well as the greed of the mineral extractive sector.

However, if progress has as its analytical understanding the convergence of economic, political, social, and environmental development under the aegis of security, freedom, economic well-being, social justice, and environmental protection (Bresser-Pereira, 2006; 2017), previous policies reflect the dimension of the problems embedded in the lack of deepening of theoretical and empirical knowledge about protected areas. environmental damage and abuses of power in the appropriation of territories and aggregates, such as natural goods in common use (Ostrom, 1990; Harbor; Milanez, 2009).

Problems of land regularization, public use, and technical-operational procedures (Bach et al., 2016) have to be solved; economic growth based on the historical, political, social, cultural and environmental weaknesses inherited from the territories to which they settle (Santos, 1999, 2006; Claval, 2005; Acselrad, 2008; Botelho, 2013) and the patterns of capitalization of nature (Vieira, 2003, 2009; Beck, 2010), too. Above all, the park has to be conserved under the indispensable premise of keeping its natural areas conserved to sustain the quality of life and to maintain biodiversity.

These findings imply, therefore, the need for a detailed study focusing on strategies outlined for the territory in question, such as: area of implementation, size and structure of the enterprises, sector of activity, technological standard, etc., as they will not be mentioned here due to the course of the general line of discussion.

In addition, it is considered the indispensability of structuring norms, policies and social objectives in the areas of planning and ordering, administration, knowledge and quality of protected resources, based on a State whose quality is legitimacy and reorganization, as well as the political-legal integration of territorial order (Bresser-Pereira, 2006; Heredia; Palm; Leite, 2010; Bach et al.,

2016) linked to the ethical and moral principles of social movements and environmental prevention. Also for this reason, imminent risks must be embedded in the instruments provided by the Preliminary Environmental Impact Studies, Environmental Zoning, Environmental Licensing and EIA-RIMA, endowed with transparency and reliability to local realities and capacities, with the urgent need for the consummation of modern business mechanisms with the construction of the pact of sustainable development and corporate responsibility.

5.2 ALTERNATIVES FOR DEVELOPMENT AND SOCIO-ENVIRONMENTAL SUSTAINABILITY

Currently, the design of how a group of people perceive the world and how they act on it follows a logic that separates man and the environment, and indicates an urgent need for a paradigmatic reform that is capable of changing the organization of thought. If individuals are reborn from the supremacy of man as a political and social being, it implies the possibility of characterizing the productive models implemented in each territory, in the qualification and indication of unsustainability and in the capacity for reorientation, as well as reinvention, of effective productive and environmental policies within the scope of the respective national states and global governance (Meneguzzo; Albuquerque, 2009).

The "metabolic profile" has served as an important tool to indicate the sustainability of a given country or region, as exposed by Porto and Martinez-Alier (2007). For example, EUROSTAT, a statistical body instrumentalized in the European Union, which reveals the dynamics of use and exploitation of materials in categories such as minerals, energy and biomass; and, subcategories such as import, export, and domestic extraction. Operationalization is, in general terms, obtained from the accounting of material and energy flows associated with socioeconomic systems; or, based on the human appropriation of net primary production as a connection to the loss in ecosystem health, explained by the authors as the socio-ecological damage of exporting countries (Porto; Martinez-Alier, 2007).

Therefore, subterfuges are directly related to different ways of life and cultural organizations, where subjectivity is broadly considered and it alters coping and development. The methodological challenge, then, consists in being man and being nature, that is, being simultaneously object and subject in a state over and juxtaposed. The construction of knowledge through the approach of thought, reflection, contextualization and the specific development of each being involves the mastery and appropriation of time and, consequently, of territorial spaces. The notions of science, based on a given questioning, change the paradigms by questioning the complexity and by organizing the context of the problem and generate diversity.

Thus, the indicative for a remodeling focused on development alternatives is based primarily on the questioning of contemporary models:

> "What is the social, ecological and health balance resulting from the development model in a territory and in the historical moment, which includes the production and consumption processes present in it?" (Porto, 2008, p. 146);
>
> "How much can be extracted and how much can be returned to the environment through the economic process? That is, what is the scale of the economy compatible with its ecological basis?" (Cavalcanti, 2010, p. 57).

And, based on this, how it enables innovations for socio-spatial interactions and opportunities for productive territorial specialization (Santos, 1999; Claval, 2005; Silveira, 2010).

In addition, they allow the deconstruction of a unique ideology in favor of the traditional polarities of the cognitive process in a convergent relationship to the whole. This way of constructing considers the objects, as well as the methods and conclusions of theory and practices, and evaluates their cognitive validity described in evolutionary trajectories, structural paradigms and their relations with society and history. This means that, based on the collective construction of values and sensibility, the paradigm shift makes it possible to bring to light the dualism of the apprehension of these values and resulting from the meanings associated with the specific culture.

Therefore, it is oriented towards the change of collective thought and action towards perception, sensitivity, morality, rationality and responsibility in the face of the susceptibilities of an environmental and civilizational risk (Porto, 2008; Leff, 2000, 2009; Vieira, 2003, 2009, 2013; Beck, 2010) and that increase the capacities of local action. The inseparability between society and the environment portrays precisely this search for new synergistic forms of socioeconomic, sociopolitical, sociocultural and socio-environmental organization that reinsert the history of human societies into the history of the relationships that are maintained with nature (Vieira, 2003, 2009, 2013; CAVALCANTI, 2010).

Consistent with a multidimensional phenomenon, development on a democratic basis stimulates investment while incorporating a strategy of work and competition (Vieira, 2003, 2009, 2013). Its complexity is oriented so that the management of the needs of the communities involved is equivalent to the principles of an ecologically correct, socially just, economically viable and culturally diverse society based on the diagnosis and prospection of local resources for potential solutions (Ferreira; Raposo, 2017).

In this sense, the sense of identity, common interests and the creative, critical, reactive and proactive capacity of local actors can delineate a culture of justice and civil, civic and political rights (Acselrad, 2008; Leff, 2000, 2009; Vieira, 2003, 2009; Sachs, 2012). The participatory and negotiated strengthening of natural resource asset management, as well as the notions of endogeneity, decentralization and autonomy aimed at the exercise of local and territorial governance, strengthens the alternatives for sustainable territorial development (Vieira, 2003, 2009, 2013; Harbor; La-Laina Porto, 2008; Sachs, 2012).

The context points to a challenge from the perspective of democratization and respect for knowledge with regard to the composition of knowledge, the construction of interpretations, the transposition of social, environmental and cultural distances. These positions result from the negotiation of attitudes and values and power relations involving the democratic distribution of places of sensitive listening, speech and action, the forms of appropriation and destination of the knowledge elaborated and the appreciation of the effects of domination and local emancipation. A certain complexity, be it environmental, economic, political, etc., is constructed and learned through a horizontal dialogical process, in the hybridization of science, technology and popular knowledge" (Leff, 2009).

Therefore, in detail,

> "It is about achieving a more adequate understanding of how human activities destructively impact the biophysical and built environment, what would be the interventions that could in principle be activated to mitigate these impacts, what types of actions would be considered desirable and how to make them viable, and what types of possible consequences in the short, medium and long term could be detected and in which areas" (VIEIRA, 2003, p. 294).

6 FINAL CONSIDERATIONS

The economic and technological rationality dominant in the current capitalist homogeneity has led to the negative externalities of unlimited growth to a model of unsustainability (Leff, 2000; Harbor; Milanez, 2009). In view of this, the analysis that is made is that there are still deficiencies in the applied knowledge of alternative non-universal methodologies for the planning, evaluation, inspection, monitoring, management and environmental control of the constituent elements of the crisis in the Campos Gerais National Park. In addition to the divergences in the asymmetries of power at the federal, state and municipal levels, as well as in the fragmentation of management programs, in the incongruities of interests and in the deficient self-organization between sectors of government, administration, transnational corporations and local actors.

Seventeen years after the decree creating the Campos Gerais National Park, it still presents as a deficit point and as a barrier to the fulfillment of the objectives set for the category: the field delimitation of the Conservation Unit, its zoning, the elaboration and implementation of the management plan.

The key point for a balanced development is consummated from a progressive strengthening of co-management that is capable of linking guidelines of environmental legislation based on the foundations of environmental law and justice, in advances towards a system adapted to the dynamic interdependencies between environment, society and development (Porto; Milanez, 2009; Vieira, 2003, 2009).

For territorial development, the specificities of each local and/or regional context bring in their essences the efficiency of technical action. In other words, this form of action must pass through the

understanding of social facts that enables a vision of totality arising from the social singularity existing in a given locality, which encompasses elements of various interconnected ideological visions and which, concomitantly, inserts man as an existential element. In this sense, political ecology has taken hold of valuable services for the intercurrent paths of innovative development strategies at the integrated ecosystem level and in the light of sustainability. The accounting of flows between material and energy determines how the main socio-environmental conflicts, including distributive conflicts, are intimately connected to production, consumption and trade patterns (Porto; Martinez-Alier, 2007) in order to reconcile economic efficiency with social cohesion and ecological sustainability (Porto; Milanez, 2009; Bach et al., 2016; Ferreira; Raposo, 2017).

From this and based on the precepts of the Anthropological Sciences and also of sciences such as Sociology, the concern takes shape precisely around the understanding of the human dimensions, of the various social aspects of the human world, expanding the understanding of knowledge as it goes through the history of man inserted and situated as a society in the most differentiated aspects of perception of existential and/or experiential reality so that they would enable them a real framework of effective support for the appropriate choice of a theoretical and methodological area for the final product.

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