

THE AMAZON AS THE EPICENTER OF THE GLOBAL ACCUMULATION PATTERN AND PROCESSES OF DETERRITORIALIZATION

Giliad de Souza Silva

Gilead de Souza Silva*

THE AMAZON AS THE FOCAL POINT OF GLOBAL ACCUMULATION PATTERNS AND PROCESSES OF DETERRITORIALIZATION.

(Economic Policy Brief N°19). TRANSFORMA/UNICAMP.

This note was developed in collaboration between the Friedrich Ebert Foundation and Transforma.

***Giliad de Souza Silva** - Professor in the Graduate Program in Urban and Regional Planning and Development in the Amazon at the Federal University of the South and Southeast of Pará (PPGPAM/Unifesspa). Coordinator of the Amazon Regional Accounts Laboratory (Lacam) and researcher at the Political Economy Research Group (GPEP). Email: giliad.souza@unifesspa.edu.br

The translation of this document involved the use of AI-assisted tools to generate a preliminary version. The translation was then carefully reviewed, revised, and validated by Transforma's research team. Subsequently was reviewed and approved by the authors.

SUMMARY

INTRODUCTION	5
1. THE CENTRALITY OF THE AMAZON IN THE ACCUMULATION PROCESS AND ITS IMPACT ON AMAZONIAN PEOPLES	6
2. HOW ARE THE MAIN ECONOMIC ALTERNATIVES IN THE AMAZON SHAPED?	17
3. HOW SHOULD THE CONSTRUCTION OF ECONOMIC ALTERNATIVES IN THE AMAZON BE APPROACHED? WHAT INSTRUMENTS AND STRATEGIES ARE REQUIRED?	24
FINAL CONSIDERATIONS	27
REFERENCES	28

EXECUTIVE SUMMARY

- The Amazon has become a key component of Brazil's primary export-oriented accumulation pattern: its importance stems from the combination of resource abundance, international demand for commodities, and an institutional-logistical arrangement that enables extraction and export. This pattern is not neutral, but rather the result of political choices and territorial reorganization.
- The logic underpinning this model is, at its core, exclusionary and incompatible with the continued presence and ways of life of forest peoples. From the perspective of the global market, these populations are often treated not as productive agents, but as obstacles to the expansion of extractive and agro-industrial ventures.
- The dynamic axis of the current accumulation pattern is the export of commodities, especially iron ore, oil, soybeans, corn, and meat. The Amazon stands out as a privileged territory for this dynamic due to three interrelated factors: the presence of large high-grade mineral reserves; its importance in the expansion of the agricultural frontier; and the existence of vast forest areas susceptible to conversion into economic assets through the expansion of this frontier.
- Economic concentration is explicit in practice: in 2022, just four municipalities — Parauapebas, Canaã dos Carajás, Marabá, and Curionópolis—accounted for 69.3% of Vale's operating revenue in Brazil. Similarly, five of the country's ten largest soybean-producing municipalities are located within the Amazon biome, reflecting the advanced agricultural encroachment into areas previously occupied by forest.
- The imposition of this pattern produces structural impacts on Amazonian peoples that manifest in two interrelated dimensions: (i) the opposition between the predominant economic activities—mining and agriculture—and the ways of life, practices, and knowledge of these peoples; and (ii) the construction and reproduction of processes of deterritorialization, both at the physical level (displacement, loss of access to land) and at the symbolic level (delegitimization of traditional knowledge and the weakening of territorial identities).
- Breaking with the neo-extractivist model requires the construction of alternatives rooted in socio-environmental justice and in the valorization of local capacities. Experiences such as the Nova Economia da Amazônia (NEA), Amazônia 4.0, and initiatives in community-based bioeconomy, agroforestry, and clean energy highlight viable pathways for territorially grounded, low-carbon development with a more equitable distribution of benefits.

INTRODUCTION

The Amazon occupies a central place in the contemporary dynamics of capitalism, emerging as the epicenter of an accumulation pattern marked by the intensification of natural resource exploitation and the expansion of economic frontiers, where the generation of super-profits through commodity extraction comes into contradiction with environmental degradation and the violation of territorial rights.

This process is grounded in a primary export-oriented logic and in logistical integration into global markets. The intensification of large-scale infrastructure projects—such as hydroelectric dams, highways, railways, and ports—enabled by public policies and by the action of the state in coordination with large corporations, has deepened processes of both physical and symbolic deterritorialization.

Understanding the centrality of the Amazon in this context requires a multiscalar approach^[1], capable of articulating the economic, institutional, and territorial dimensions that underpin the expanded reproduction of capital and its various impacts.

This analysis is structured into four sections. First, we examine the theoretical foundations of the accumulation pattern and, additionally, analyze Brazil's historical transition from an industry-based model to a primary export-oriented one, while also incorporating the spatial dimension, which is sometimes neglected in certain analyses. Second, we analyze the centrality of the Amazon in this process through economic and territorial indicators. In the third section, we critically assess the alternatives that have been proposed and implemented.

Finally, in the fourth section, we present possible pathways for a paradigm shift, based on solutions and proposals built from the territory.

[1] The concept of multiscalarity refers to a relational framework that articulates processes and phenomena across different scales—local, regional, national, and global—as developed by Castro (2000) and Brandão (2012).

1.THE CENTRALITY OF THE AMAZON IN THE ACCUMULATION PROCESS AND ITS IMPACT ON AMAZONIAN PEOPLES

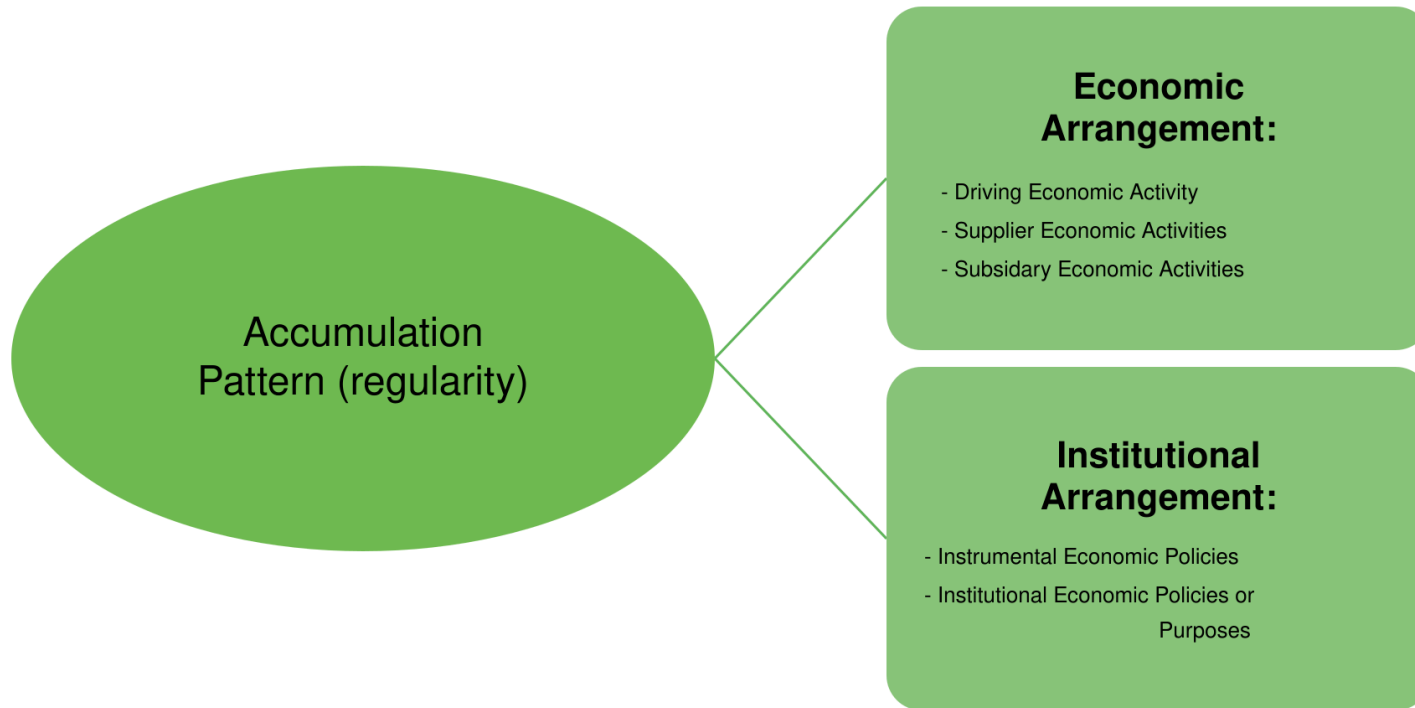
The concept of a pattern of capital accumulation is a central element in political economy and in Marxist theory, used to characterize the historical and structural way in which capital expands, reproduces itself, and organizes the economy and society in a given period. The concept brings together the regularities related to how capital combines production, consumption, distribution, and financing to ensure the continuity of the accumulation process—that is, the transformation of profit into new investments and the expansion of the system within a specific historical context.

This dynamic does not occur in a homogeneous or deterritorialized manner. It requires institutional, economic, and spatial conditions that enable its materialization. In short, to accumulate is not merely to generate profit, but to transform this surplus into new capital, thereby conditioning the expansion of productive forces, the organization of territories, and the configuration of social relations. In this sense, the dynamics of accumulation always unfold in concrete territories, whose geographical, institutional, cultural, and economic specificities profoundly shape the possibilities for the expanded reproduction of capital.

From this perspective, the configuration of an accumulation pattern involves two major arrangements: the economic arrangement and the institutional arrangement. The economic arrangement corresponds to the set of activities that constitute the dynamic core of the economy, including leading sectors—such as mining, agriculture, industry, and services—as well as supplying and supporting activities, responsible for providing inputs, logistics, credit, technology, and labor.

The institutional arrangement, in turn, refers to the set of public policies, legislation, regulations, and state structures that ensure the stability and operation of the accumulation pattern. These policies can be classified into two groups: instrumental policies—fiscal, monetary, exchange rate, and wage policies—and structural policies, which include regulatory frameworks, infrastructure investments, mechanisms for productive financing, and environmental and labor regulation (FONSECA, 2003).

Figure 01 – Accumulation Pattern – Synthesis of the Two Arrangements



Source: author's own elaboration

However, no pattern of accumulation can be understood without considering its insertion into the international division of labor. The spatialization of capital accumulation is therefore a constitutive feature of capitalism. Activities such as mining, export-oriented agriculture, forestry, and energy generation cannot be relocated arbitrarily, as they depend on specific supply conditions—availability of natural resources, logistical access, and favorable institutional frameworks—as well as demand conditions—consumer markets, global value chains, and the requirements of international trade. Thus, an accumulation pattern is also a set of structural arrangements that articulate a multiscalarity of social and economic phenomena, with processes unfolding simultaneously at the global, national, regional, and local scales (BRANDÃO, 2012).

This perspective makes it possible to understand that the accumulation pattern is not a technical or neutral configuration, but rather the result of political choices, power relations, historical constraints, and spatial determinations. In contemporary Brazil, the transition from an industrializing pattern to a primary export-oriented model, beginning in the 1990s, reflects a profound reconfiguration of economic and institutional arrangements, with direct impacts on territories—especially the Amazon.

The Amazon occupies a strategic and central position in Brazil's current primary export-oriented accumulation pattern. This centrality results from the combination of three structuring elements: the abundance and quality of natural resources, international demand for mineral and agricultural commodities, and the existence of an institutional and logistical arrangement that enables the intensive exploitation of these resources.

The current accumulation pattern has commodity exports as its dynamic axis, especially iron ore, oil, soybeans, corn, and meat. The Amazon stands out as a privileged territory for this dynamic due to the availability of large high-grade mineral reserves, its role in the expansion of the agricultural frontier, and the presence of vast forest areas that can be converted into economic assets through the expansion of this frontier.

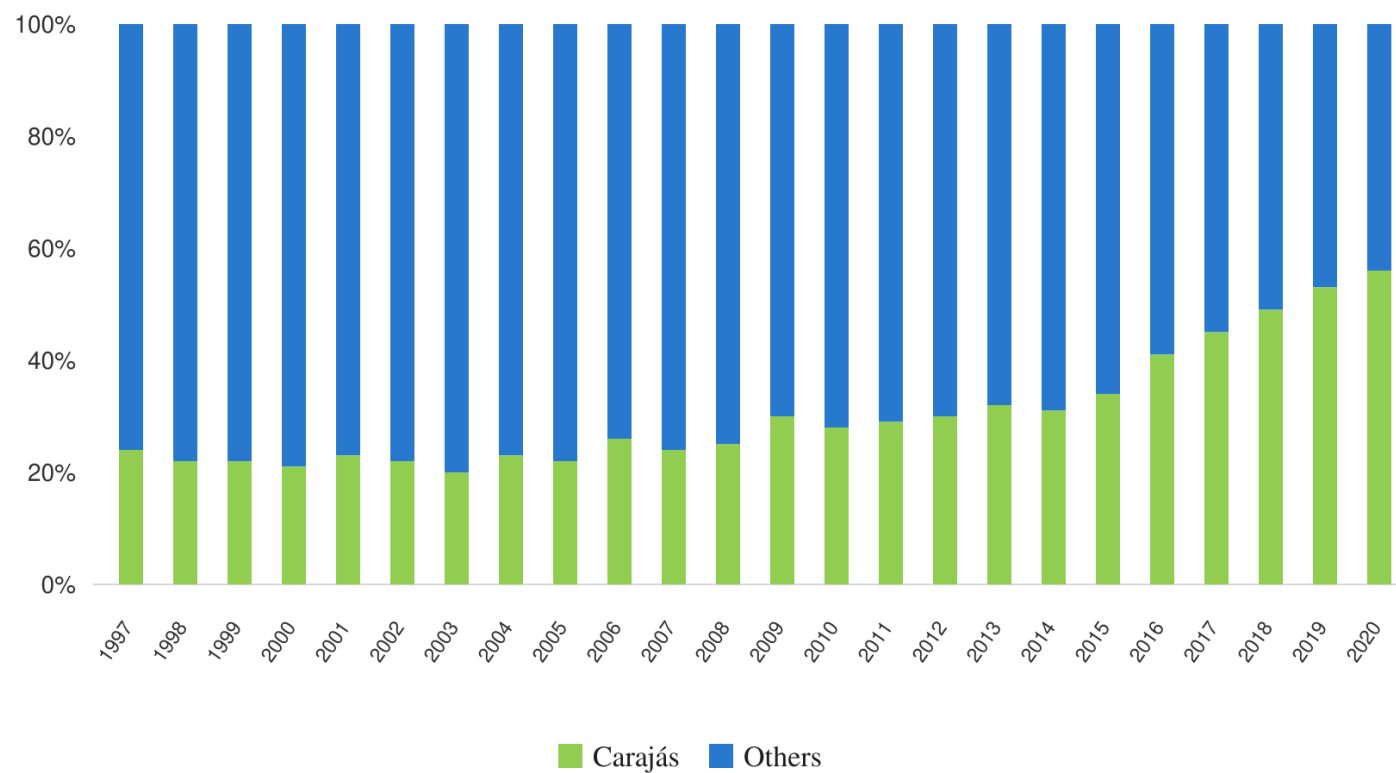
The expansion of mining in the state of Pará clearly illustrates this dynamic. Just four municipalities—Parauapebas, Canaã dos Carajás, Marabá, and Curionópolis—accounted for 69.3% of Vale's operating revenue in Brazil in 2022 (ANM, 2023). Table 01 and Figure 02 illustrate the growing share of Pará in mineral exports.

Table 01 – Share by State in Exports of “Ores, Slag, and Ash” (1997 and 2020)

States	1997	2020
Minas Gerais	45,03%	34,26%
Pará	28,40%	56,46%
Espírito Santo	23,87%	4,07%
Bahia	0,88%	0,55%
Mato Grosso do Sul	0,84%	0,43%
Minas Gerais	45,03%	34,26%

Source: Comexstat. Author's own elaboration.

Figure 02 – Share of the Carajás Region in Brazilian Mineral Exports (1997–2020)



Source: Comexstat. Author's own elaboration.

Unlike other territories, the centrality of the Amazon in the current accumulation pattern does not stem from industrialization or value addition, but from its conversion into a vast platform for the extraction of natural resources to supply the international market or as inputs for the expansion of manufacturing production in the rest of the country. This dynamic is structurally associated with the intensification of mining, forestry, agriculture, and energy generation—especially hydroelectric power—with a focus on commodity exports.

The expansion of agriculture follows the same logic as mining. Table 02 shows that five of the ten largest soybean-producing municipalities in Brazil are located in the Amazon biome or in transition areas with the Cerrado (Sorriso-MT, Nova Ubitatã-MT, Diamantino-MT, Nova Mutum-MT, and Querência-MT), reflecting the expansion of the agricultural frontier into areas previously occupied by forests.

Table 02 – Ten Leading Brazilian Municipalities in Soybean Production (2021)

Municipalities	Billions of reais
Sorriso (MT)	4,98
Formosa do Rio Preto (BA)	4,64
São Desidério (BA)	4,21
Rio Verde (GO)	3,69
Diamantino (MT)	3,35
Sapezal (MT)	3,30
Nova Mutum (MT)	3,30
Campo Novo do Parecis (MT)	3,26
Nova Ubitatã (MT)	3,22
Querência (MT)	3,12

Source: IBGE. Author's own elaboration

This process directly impacts the configuration of exports. Table 03 illustrates how Mato Grosso surpassed Paraná and consolidated itself as the largest exporter of oilseeds and oleaginous fruits—a shift made possible by the expansion of the agricultural frontier into the Amazon. This position in the production and export of mineral and agricultural commodities also places the region within another rapidly expanding investment logic in Brazil, which links commodity-producing regions for export to major infrastructure projects, especially those related to the so-called Northern Arc (Arco Norte)^[2].

**Table 03 – Share by State in Exports of
“Oilseeds and Oleaginous Fruits” (1997 and
2020)**

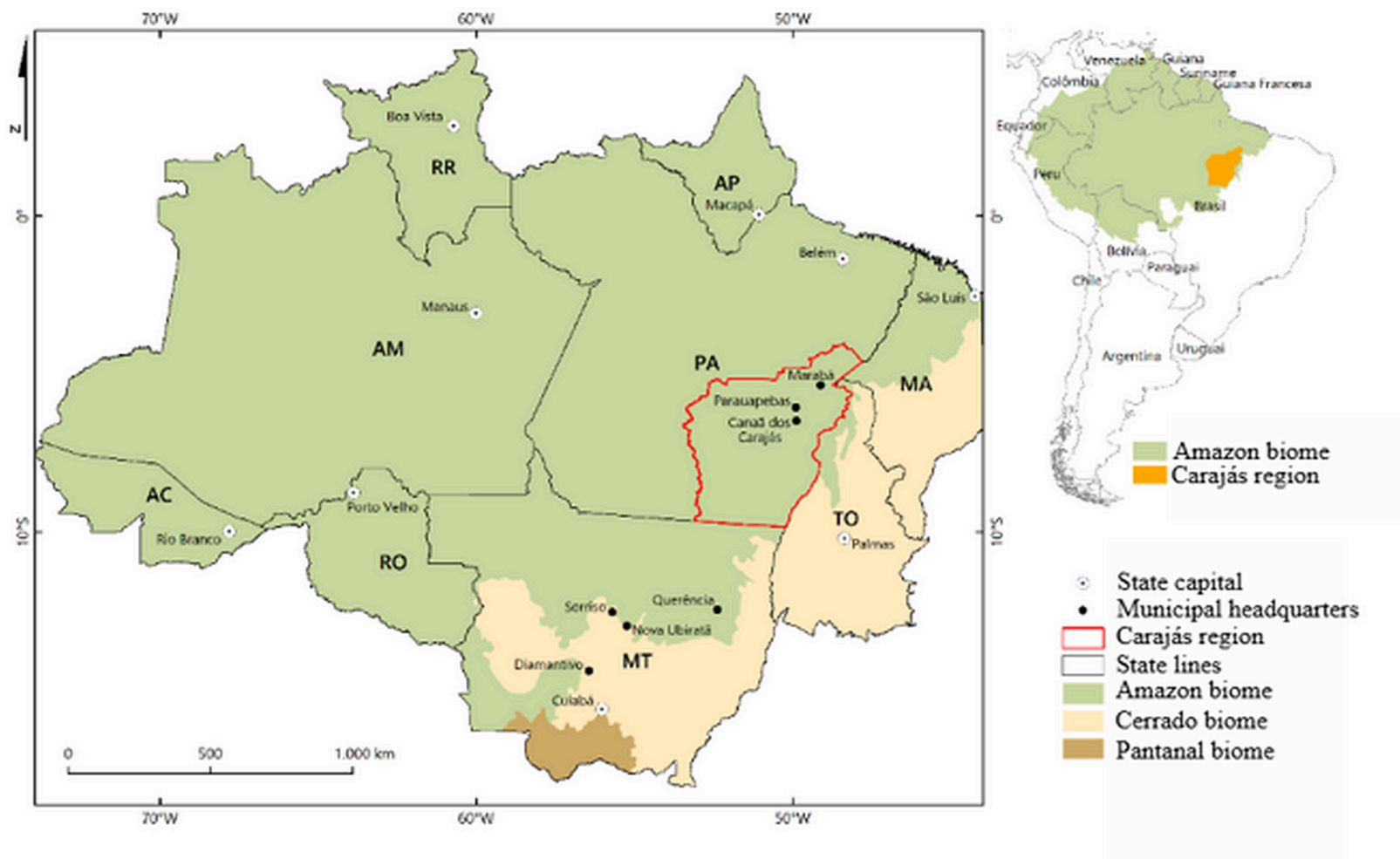
States	1997	2020
Paraná	38,92%	15,93%
Mato Grosso	17,40%	26,52%
Rio Grande do Sul	12,70%	10,17%
São Paulo	11,25%	7,00%
Goiás	5,34%	8,64%
Mato Grosso do Sul	3,58%	5,62%

Source: Comexstat. Author's own elaboration.

[2] See, for example, Arco Norte: um desafio logístico (CEDES, 2016).

The spatialization of this dynamic is evident in Figure 03, which identifies the municipalities of the Legal Amazon with the highest share in exports of primary products. The figure highlights the geographic concentration of the main commodity-producing hubs for export and their location within the biomes that make up the Legal Amazon.

Figure 03 – Location of Municipalities in the Legal Amazon with the Greatest Relevance in the Export of Primary Products



Source: Assis et al. (2019).

The imposition of this accumulation pattern produces a series of structural impacts on Amazonian peoples, which can be summarized in two interrelated dimensions: (i) the structural opposition between the predominant economic activities—mining and agriculture—and the ways of life of Amazonian peoples; and (ii) the construction and reproduction of processes of deterritorialization, both physical and symbolic.

The predominant economic activities in the Amazon—mining, agribusiness, forestry, and energy generation—are structurally at odds with the ways of life of Indigenous peoples, Quilombola communities, riverine populations, and other traditional communities. This stems from a profound incompatibility between the logics that structure these economic models and the sociocultural reproduction of Amazonian peoples.

While the accumulation pattern seeks to transform territories into platforms for extraction, Amazonian peoples base their social reproduction on practices that presuppose the integrity of ecosystems, the collective management of natural resources, and the maintenance of cultural, spiritual, and symbolic ties to the land, rivers, and forest (PORTO-GONÇALVES, 2006).

Mining, for example, not only consumes large amounts of water, energy, and land, but also generates severe environmental externalities, such as river contamination, soil degradation, waste emissions, and habitat destruction. The establishment of mining projects often entails the forced displacement of communities, the overlap of mining interests with Indigenous and Quilombola territories, and the intensification of socio-environmental conflicts (ACSELRAD, 2004).

In the case of agriculture, the expansion of the agricultural frontier—driven primarily by soybeans, corn, and extensive cattle ranching—entails deforestation, wildfires, degradation of watersheds, and the intensification of processes of private land appropriation. Monocultures expand over collective territories, disrupting ecological chains and undermining ways of life that depend on biodiversity and the multiple use of resources (ASSIS et al., 2019).

Moreover, the logic of agribusiness is based on land concentration, intensive mechanization, and dependence on external inputs—fertilizers, pesticides, and genetically modified seeds—models that are incompatible with traditional productive systems, which are grounded in polyculture, fishing, extractivism, and shifting cultivation.

Therefore, this is not merely a matter of collateral impacts or regulatory shortcomings. The very logic of the primary export-oriented accumulation pattern is, by definition, exclusionary and incompatible with the existence of forest peoples. Within the perspective of the global market, these peoples are not regarded as productive economic agents, but rather as obstacles to the advancement of extractive and agro-industrial projects.

The impact is not limited to physical deterritorialization—forced displacement, expulsions, and removals—although this is a constant reality in the Amazon. It also involves the construction of a sense of deterritorialization that operates at symbolic, cultural, legal, and epistemological levels.

This sense of deterritorialization manifests in the rupture of the ties that Amazonian peoples maintain with their territories, breaking bonds of belonging, cultural practices, and traditional systems of knowledge. The transformation of the forest into a commodity—whether in the form of minerals, grains, meat, or carbon credits—necessarily entails the denial of the social, symbolic, and economic meanings that these peoples attribute to the territory (PORTO-GONÇALVES, 2006; ACSELRAD, 2004).

From a legal standpoint, this process is expressed in the notion of “letting the herd pass,” that is, the flexibilization of environmental protection frameworks, the fragility of land regularization mechanisms, the omission or complicity of the state in the face of land conflicts, and the constant attempts to dismantle the territorial rights guaranteed by the Constitution of 1988.

From a symbolic standpoint, there is a persistent attempt to delegitimize the knowledge, ways of life, and forms of organization of Amazonian peoples, by imposing narratives that associate them with backwardness, unproductivity, or as obstacles to development. These narratives are reproduced not only by economic actors, but also by sectors of the state, the media, and national and international economic elites.

This process also manifests in the reorganization of territories, which come to be reshaped according to the needs of capital. New frontiers are established, no longer based on ecological flows, social networks, or cultural dynamics, but on logistical corridors, global value chains, and the demands of the international market.

Therefore, the process of deterritorialization is not a byproduct of development. Rather, it constitutes a structural condition for enabling the current pattern of accumulation. By stripping territories of their social, cultural, and spiritual meanings, the necessary conditions are created for their conversion into economic assets fully integrated into the logics of the global market.

In summary, the centrality of the Amazon in the current pattern of accumulation does not translate into development compatible with Amazonian sociobiodiversity, nor does it lead to improvements in the living conditions of local populations. On the contrary, this model reproduces a dynamic of dispossession, income concentration, environmental degradation, and the denial of the territorial, cultural, and social rights of Amazonian peoples. In this sense, the international insertion of the Brazilian economy is characterized by a pattern centered on the expansion of the exploitation of natural resources in the Amazon region. Therefore, the process of deterritorialization—both physical and symbolic—is not a collateral effect, but rather a central mechanism through which this pattern of accumulation concretely operates in the Amazon.

This scenario poses profound challenges for public policies, social movements, and academic reflection itself, requiring not only the denunciation of its impacts, but also the construction of alternatives that recognize territorial rights, value traditional knowledge, and confront the structural contradictions of the prevailing economic model in the Brazilian economy as a whole.

2. HOW ARE THE MAIN ECONOMIC ALTERNATIVES IN THE AMAZON SHAPED?

Given the scenario that positions the Amazon as a central actor in the global pattern of accumulation, it is important to identify the key processes that substantiate this condition, highlighting how, over time, the structures that sustain this socio-productive arrangement have been shaped.

The centrality of the Amazon within the prevailing pattern of accumulation has been constructed over many years. This strategic position encompasses elements that not only define the present but also shape the future of this territory. As a peripheral region within the global capitalist system, perspectives on the Amazon tend to prevail over perspectives from the Amazon. This, in turn, reinforces the notion of the Amazon as a “reserve” and an inexhaustible source of resources (PORTO-GONÇALVES, 2017)

Therefore, the structure that establishes the general conditions of production, enabling the consolidation of the Amazon as a center of the pattern of accumulation, is grounded in objective elements that can be exemplified as follows: (a) the reconfiguration of relations among different South American countries, which enabled the creation of the Initiative for the Integration of Regional Infrastructure in South America (Iniciativa de Integração Regional Sul-Americana, IIRSA); and (b) a redirection of the role of the State, in the case of Brazil, through the National Bank for Economic and Social Development (BNDES), financing large Brazilian national corporations to carry out major infrastructure projects (PORTO-GONÇALVES, 2017).

Within the scope of the reconfiguration of relations, the IIRSA initiative was created in September 2000, conceived from the recognition of the importance of developing and strengthening a regional vision that would incorporate and expand national perspectives, with an emphasis on the complementarity between regional integration actions and the development of physical infrastructure. Its conception was based on three fundamental consensuses at the time: (i) the need to maintain and expand the growth dynamics of the regional market and to create instruments to compete under better conditions in the global market; (ii) the existence of a growing deficit in terms of physical infrastructure in the region and the recognition of this as a significant barrier to trade integration; and (iii) the need to expand sources and mechanisms of financing that would enable an increase in the flow of public and private investments (IDB, 2000, cited in COSTA and GONZALES, 2014).

The initial idea, which was structured from the perspective of the region, was subsequently reformulated, such that flows became more important than the space in which events occur. Territorial management came to be based on the Integration and Development Axes (IDAs), that is, axes and corridors designed to facilitate the flow of goods.

Of the ten proposed IDAs, five were directly linked to the Amazon. The practical implications of this new arrangement can be observed primarily in the shifts in scale. After all, the proposed IDAs were designed for physical integration into global-scale markets and do not prioritize local and regional scales (PORTO-GONÇALVES, 2017).

The main outcomes that can be attributed to IIRSA include the identification of a project portfolio and the generation of a body of knowledge regarding the principal bottlenecks and potentialities of South America, in addition to mobilizing technical and financial resources for regional cooperation (COSTA and GONZALES, 2014).

In 2010, UNASUR (Union of South American Nations) assumed control over IIRSA's project portfolio through the South American Infrastructure and Planning Council (COSIPLAN, Conselho Sul-Americano de Infraestrutura e Planejamento), encompassing a total of 544 projects and an estimated investment volume of 130 billion dollars. Of its 31 priority projects, 14 are directly related to the Amazon. It is important to highlight projects in the areas of energy, transportation, and communications, with their primary sources of financing being national development banks or multilateral banks (PORTO-GONÇALVES, 2017).

From the standpoint of project implementation, these changes in relations among South American countries, led by IIRSA/COSIPLAN, represent greater effectiveness in terms of a general consensus of ideas and well-defined goals than in terms of actual execution. However, when the redefinition of the role of the State is taken into account, there is a shift in the unfolding of events.

Regarding the redirection of the role of the State in Brazil, it is possible to identify certain initiatives that position the Brazilian State as an agent in the consolidation of the Amazon as a principal reservoir of resources serving the global pattern of accumulation. Two notable examples of the Brazilian State's performance in this new role are the Growth Acceleration Program (PAC) and the National Logistics Plan (PNL).

These two plans operationalize key actions that establish the Amazon as a central node functioning primarily as a supplier of resources to global value chains.

In Chart 01 below, a synthesis of the main projects implemented in the Amazon since 2008 can be observed. These projects are primarily associated with the construction of infrastructure that enables increased flows of goods, particularly mineral commodities and those linked to agribusiness.

Chart 01- Main infrastructure projects in the Amazon (from 2008 onward)

Type of Work	Title of the Project	Primary Location	Implementing Entity(ies)	Financing Entity(ies)
Hydroelectric plant	Belo Monte	Rio Xingu (PA)	Consórcio Norte Energia S.A.	BNDES, Eletrobras, private funds
Hydroelectric plant	Santo Antônio	Rio Madeira (RO)	Consórcio Santo Antônio Energia	BNDES, private investors
Hydroelectric plant	Jirau	Rio Madeira (RO)	Energia Sustentável do Brasil	BNDES, BID, foreign investors
Highway	BR-319 (reconstruction)	Manaus–Porto Velho (AM/RO)	DNIT, regional consortia	Federal Government (PAC, Novo PAC)
Highway	BR-163 (paving e duplication)	Cuiabá–Santarém (MT/PA)	DNIT, Constran, Odebrecht	Federal Government, BNDES, World Bank
Railroad	Ferrogrão (planned)	MT–PA (Sinop–Miritituba)	Rumo, Amaggi	PPP, BNDES
Railroad	FICO (Ferrovia de Integração Centro-Oeste)	GO–MT–PA	Vale, Valec	BNDES, Union Budget
Port	Complexo Portuário de Miritituba	Itaituba (PA)	Hidroviás do Brasil, Bunge, Cargill	Private investment, outside financing
Port	Porto de Santarém (modernization)	Santarém (PA)	Companhia Docas do Pará, Cargill	Federal Government, Cargill
Airport	Aeroporto Internacional de Manaus	Manaus (AM)	Infraero, Vinci Airports	Federal Government, Vinci Airports
Airport	Aeroporto de Santarém (magnification)	Santarém (PA)	Infraero	Federal Government
Bridge	Ponte sobre o Rio Negro	Manaus–Iranduba (AM)	Camargo Corrêa	Amazonas State Government, PAC, BNDES
Bridge	Ponte de Abunã (BR-364)	RO–AC (fronteira)	Regional construction companies	DNIT, Federal Government
Waterway	Hidrovia do Tapajós (project)	PA	Agrobusiness companies (ADM, Cargill)	BNDES, private sector
Waterway	Hidrovia do Madeira	RO–AM	Local logistics operators	private sector, BNDES

Source: ANEEL, BNDES, CARGILL, DNIT, EPE, HIDROVIAS DO BRASIL, NORTE ENERGIA, PAC, PORTAL DA TRANSPARÊNCIA, VINCI AIRPORTS.
Author's own elaboration

As can be observed, most of the projects implemented or planned do not seek to transform the already established productive paradigm. Both the State, through its agencies, and the private sector tend to reinforce and contribute to the centrality of the Amazon within the prevailing pattern of accumulation. One notable aspect of these large-scale projects is the prominent role of the State as executor or financier, particularly through the PAC and BNDES.

In Chart 02, we describe the status of the main infrastructure projects planned for the period from 2018 to 2035, with particular attention to their stages of implementation.

Chart 02 – Infrastructure projects in the Amazon (2018–2035)

Type	Project	State	Status (2024)	Implementing Entity(ies)/ Responsible
Highway	BR-319 (Manaus–Porto Velho) – paving	AM/RO	Planned / in licensing	DNIT / Ministério dos Transportes
Highway	BR-163 (Cuiabá–Santarém) – finishing and upkeeping	MT/PA	Partially done / sections under construction	DNIT / Dealerships
Highway	BR-230 (Transamazônica) – paving sections	PA/AM	In progress	DNIT
Highway	Ponte sobre o Rio Madeira (BR-319)	AM	Planned	DNIT
Railroad	EF-170 (Ferrogrão – Sinop to Miritituba)	MT/PA	In environmental licensing	Ministério dos Transportes / Iniciativa privada
Waterway	Hidrovia do Tocantins – landsliding of Pedral do Lourenço	PA	In environmental licensing	DNIT / Ministério de Portos e Aeroportos
Waterway	Hidrovia do Madeira – dredging and signaling	RO/AM	Study and partial execution	DNIT
Port	Porto de Miritituba – magnification and modernization	PA	Designed / Operational with expansion	Private initiative
Port	Porto de Itacoatiara – operational improvements	AM	Planned	DNIT / Dealerships
Airport	Aeroporto Internacional Eduardo Gomes (Manaus) – magnification	AM	In progress	Infraero / Dealerships
Airport	Aeroporto de Santarém – modernization	PA	Under construction	Infraero / Dealerships
Energy	Linhão de Tucuruí / Interconnection with Manaus	AM/PA	Done (prior to the period)	Eletronorte / Eletrobras
Energy	Linhão Manaus–Boa Vista (interconnection Roraima to SIN)	AM/RR	Under construction (indigenous release in 2023)	Eletronorte / Ministério de Minas e Energia
Energy	Expansion of substations and transmission lines in the Legal Amazon.	Multiple	Planned	Eletrobrás / Aneel

Source: Ministério dos Transportes, Casa Civil da Presidência da República. Author's own elaboration.

As indicated in Chart 02, there is a considerable number of large-scale projects and works either underway or planned for the Amazonian territory. Most of these projects fall within the scope of the PNL 2035 and the New PAC, and follow the same logic as the major projects already implemented in the region, primarily aimed at meeting the demands of the global scale.

The National Logistics Plan 2035 is an initiative coordinated by the Logistics and Planning Company (EPL), with a horizon extending to 2035, prioritizing actions with the greatest impact on national logistics efficiency. The New PAC (2023–2026), in turn, prioritizes green infrastructure and regional integration, with a focus on energy transition, modal integration, and social inclusion. At least in appearance, these two initiatives seem to be more aligned with social, environmental, and regional concerns; however, in essence, they continue to reinforce the role of the Amazon as a space organized through axes, flows, and corridors^[3].

As aptly noted by Porto-Gonçalves (2017), in most cases the projects presented are related to energy, transportation, and communications, and it is also possible to observe the centrality acquired by the concepts of axis, flow, and corridor. This centrality indicates that their primary function is to reduce overall production time and circulation time, thereby increasing total social productivity and enabling a higher turnover of capital.

In summary, it is possible to highlight, above all, the constructed relations and the role of the State as the main coordinator in the provision of the infrastructure demanded—primarily by global value chains—which have little or no alignment with the needs of Amazonian populations. It is also important to take into account the actions carried out directly by the private sector, particularly with the support and coordination of political actors at different levels.

Another aspect to be considered regarding the role played by the Amazon within the economic arrangement concerns the impacts generated by large-scale infrastructure projects. While such developments may promote localized economic growth, they do so at the cost of profound socio-environmental and territorial impacts, with negative consequences for local populations, biodiversity, and the climate, and in some cases, irreversible damage.

An analysis conducted by Transparência Internacional Brasil and WWF Brazil identifies two main types of impacts associated with large-scale projects in the Amazon: their connection to cases of systemic corruption and their severe environmental impacts. Cases of corruption in major infrastructure projects are primarily linked to bribery, illegal campaign financing, and the misappropriation of public funds, distorting decision-making processes, increasing costs, and fostering the capture of the State by public and private actors (TRANSPARÊNCIA INTERNACIONAL BRASIL, 2021).

[3] - The concept of “axes, flows, and corridors” is used in geography to analyze the organization of space and the circulation of people, goods, capital, and information. It helps to understand how territory is structured and integrated according to economic activities. In this framework, axes are territorial strips or directions of concentration and economic dynamism; flows are the movements that traverse these axes and networks, linking different parts of the territory; and corridors are zones of concentrated circulation of flows, generally supported by infrastructure specifically developed for this purpose.

From a socio-environmental perspective, corruption increases pressure on the decision to undertake a given project—despite its risks and impacts—enabling interference in environmental licensing, exacerbating indirect impacts (including those affecting Indigenous peoples, traditional communities, and other affected groups), and generating problems in the management of resources allocated to the mitigation and compensation of impacts (TRANSPARÊNCIA INTERNACIONAL BRASIL, 2021).

In general, the impacts of large-scale projects carried out in the Amazon can be summarized as follows: (a) economic impacts, such as the misuse of financial resources, diversion and corruption, as well as the reduction in energy generation capacity associated with deforestation caused by these projects, affecting the profitability of hydroelectric plants and reducing the national energy supply; and (b) social impacts related to the displacement of local populations, loss of income, threats to livelihoods, as well as changes in traditional ways of life (AMAZÔNIA2030, 2024; GREENPEACE, 2018; NATIONAL GEOGRAPHIC BRASIL, 2023; RIBEIRO E SOUZA JR., 2022; TRANSPARÊNCIA INTERNACIONAL BRASIL, 2021).

Regarding environmental and territorial impacts, the most prominent is deforestation, which leads to biodiversity loss, alterations in water cycles, and increased greenhouse gas emissions. Among the main territorial impacts, the opening of roads and the construction of infrastructure facilitate the expansion of deforestation, land grabbing, and the invasion of protected areas, resulting in the disruption of territorial planning, lack of land tenure regularization, insufficient oversight, the intensification of territorial conflicts, and greater difficulty in implementing damage mitigation policies

(AMAZÔNIA2030, 2024; GREENPEACE, 2018; NATIONAL GEOGRAPHIC BRASIL, 2023; RIBEIRO E SOUZA JR., 2022; TRANSPARÊNCIA INTERNACIONAL BRASIL, 2021).

From this perspective, it is possible to observe that the main alternatives proposed for the Amazon in recent decades have reinforced its subordinate position in relation to the demands of global capital. State action, through measures such as the PAC, PNL 2035, and the New PAC, has prioritized investments geared toward exports—particularly commodities—thereby intensifying processes of deterritorialization and deepening the socio-environmental impacts on Amazonian peoples and ecosystems.

Despite the appearance of modernization and progress, large-scale projects have contributed to consolidating a model that privileges extraction-oriented flows, axes, and corridors, to the detriment of valuing traditional ways of life and local sociobiodiversity. The convergence of state and private interests reveals a pattern of development that not only ignores the needs of Amazonian populations but also perpetuates inequalities, violates rights, and compromises the future of the region.

In light of this scenario, it is essential to reflect on how these economic and social alternatives in the Amazon should be constructed. Such reflection requires a break with the logic of neo-extractivism and the development of pathways grounded in socio-environmental justice, the recognition of traditional knowledge, and the protagonism of forest peoples. It is these possibilities that are addressed in the following section.

3. HOW SHOULD THE CONSTRUCTION OF ECONOMIC ALTERNATIVES IN THE AMAZON BE APPROACHED? WHAT INSTRUMENTS AND STRATEGIES ARE REQUIRED?

The predominance of an economic model based on the extraction of natural resources, which generates multiple social and environmental impacts in the Amazon, makes evident the need to develop alternatives that move away from the current pattern of accumulation and make viable a new development paradigm. Designing economic alternatives for the Amazon requires more than sector-specific proposals; it demands approaches that engage across multiple fronts.

The construction of a new development paradigm must be conceived and built from within the territory itself. In this sense, rethinking the foundations upon which the current productive arrangement is structured is crucial. At the center of the debate should be the rights of Amazonian peoples, the preservation of sociobiodiversity, and the valorization of local knowledge and practices.

The design of a new productive arrangement cannot overlook the strengthening of community-based economies, the collective management of the commons, and the recognition of the plurality of ways of life of Amazonian peoples. In this context, recognizing and strengthening existing practices is of utmost importance. The adoption of practices that combine income generation with environmental conservation, as well as the reorientation of public policies to align with regional specificities and the sociocultural diversity of the Amazon, may constitute viable alternatives for breaking with the prevailing pattern of accumulation.

Some proposals for the productive restructuring of the Amazon have already been under discussion. These proposals primarily involve strengthening agroforestry systems, supporting small-scale producers and extractivists, promoting the bioeconomy, restoring degraded areas—largely associated with agribusiness and mineral extraction—and expanding bioenergy production, among other initiatives.

Among the most important proposals developed for the Amazon is the Nova Economia da Amazônia (NEA) initiative, led by WRI Brasil and other institutions. This initiative recognizes that promoting economic and social development alongside climate mitigation requires profound transformations in the economy, and posits that the Amazon should act as a catalyst for these changes in Brazil (NOBRE et al., 2023).

The proposal demonstrates how investments in the conservation and expansion of natural assets, the strengthening of the bioeconomy, and the adaptation of agriculture and the energy matrix to low-carbon emissions in the Legal Amazon (LA) would result in a more qualified and higher-performing economy than one based on the continued expansion of carbon-intensive activities (NOBRE et al., 2023).

The main findings of the report indicate that the current economy of the Legal Amazon is characterized by deficits in trade transactions and surpluses in emissions, with transactions that are highly carbon-intensive. Thus, within the prevailing economic logic, the region functions as a vast land reserve supplying low value-added inputs to

the national and international economy, exporting primary goods while importing more sophisticated goods and services with higher added value (NOBRE et al., 2023).

The same study proposes a set of recommendations that we believe provide solid guidelines for designing a new productive arrangement. Among these, it is suggested that the public sector should fulfill its redistributive and allocative functions in order to signal the direction the economy should take. The private sector, in turn, needs to enhance its capacity for innovation and assume its role as a driver of the new economy. It is also necessary to establish clear frameworks in the conceptualization of bioeconomy plans and programs compatible with specific products, processes, and productive structures. Additionally, fossil fuel subsidies should be eliminated or reallocated through cross-subsidies toward renewable energy sources. Rural credit should be redirected to gradually transform the Agricultural Plan (Plano Safra) into a Low-Carbon Plan (ABC). Finally, the role of the public sector in territorial management and governance must be reestablished.

Aligned with the proposals already discussed, other initiatives can also be highlighted. A study developed by Instituto Escolhas reveals the potential for biogas production across all states of the Legal Amazon. Biogas production would be based on solid waste from three main sources: municipal waste collection, fish farming residues, and cassava flour production waste. With a potential of 537 million cubic meters of biogas, it would be possible to generate 1.1 terawatt-hours of electricity annually—enough to supply 556,000 households and benefit 2.2 million people (INSTITUTO ESCOLHAS, 2021).

The restoration of deforested and degraded areas represents a means of addressing global challenges such as climate change mitigation and biodiversity loss. In this regard, another proposal put forward suggests a method for prioritizing areas for forest restoration. This approach is based on three criteria: biodiversity conservation, climate change mitigation, and socioeconomic return. Ultimately, the proposal indicates that if 10% of degraded areas in the Amazon were restored in an optimized manner, it could generate revenues of R\$132 billion, prevent the emission of 2.6 billion tons of CO₂, and reduce the risk of extinction of threatened species (STRASSBURG et al. 2022)

Finally, it is important to mention the alternatives proposed within the framework of the Amazonia 4.0 initiative. For decades, the debate on Amazonian development has been divided between two opposing visions: on the one hand (the first pathway), the perspective of preserving large areas of the Amazon rainforest for biodiversity conservation; and on the other (the second pathway), a development model based on the intensive exploitation of natural resources, particularly through agriculture, energy, and mining (INICIATIVA TERCEIRA VIA AMAZÔNICA, 2023).

The “Third Way Amazon” Initiative (Iniciativa “Terceira Via Amazônica”) proposes the creation of an innovative alternative through the strategy known as Amazon 4.0. This initiative was conceived to identify new opportunities for research, technology, and learning aimed at valuing and protecting Amazonian ecosystems, while simultaneously serving the interests of local populations, Indigenous peoples, and traditional communities (INICIATIVA TERCEIRA VIA AMAZÔNICA, 2023).

With the objective of transforming the Amazonian economy into this so-called “Third Way,” the Amazon 4.0 program proposes economic growth based on a cutting-edge bioeconomy, supported by four pillars: (i) a new economic model and plan for the states of the Brazilian Amazon; (ii) new governance, including the establishment of an Amazon Bioeconomy Authority; (iii) the generation of new knowledge essential for the sustainable use of the region’s natural resources; and (iv) a new model of business education, including the creation of a forest-based school for sustainable business (INICIATIVA TERCEIRA VIA AMAZÔNICA, 2023).

In light of the scenario presented, it is evident that the construction of economic alternatives for the Amazon must begin with a critical perspective on the current development model, which is centered on the intensive exploitation of resources and subordinated to global value chains—an approach that is incompatible with the preservation of sociobiodiversity and the ways of life of Amazonian peoples. Breaking with the current paradigm requires more than technical and sectoral adjustments; it demands a profound transformation in the logic of production, the role of the State, and the very conception of territory.

In this context, the growing demand for commodities, the increasing valuation of environmental assets, and, above all, the actions of the Brazilian State have intensified disputes over the use and control of Amazonian territories. On the one hand, public policies and legal frameworks for environmental protection and territorial rights—historically constructed—have faced continuous pressure toward flexibilization, legislative changes, or the weakening of oversight and regulatory institutions. At the same time, state investments, particularly in infrastructure and logistics, further reinforce the persistence of the prevailing pattern of accumulation in the Amazon.

As a counterpoint, the resistance of Amazonian peoples has proven fundamental to maintaining the integrity of the territory. Alongside this, social movements, Indigenous and quilombola organizations, among other initiatives, play a central role in denouncing violations, proposing alternatives, and defending economic models grounded in sociobiodiversity, agroecology, and the sustainable management of resources.

Among the proposals analyzed, the main solutions identified for overcoming the current model point toward the valorization of local and community-based economies, the strengthening of a bioeconomy rooted in traditional knowledge and technological innovation, the restoration of degraded areas, and the redefinition of the role of the State as a promoter of socio-environmental justice. Initiatives such as the New Economy of the Amazon, Amazon 4.0, and programs focused on the sustainable production of energy, food, and medicines demonstrate that well-structured and viable proposals already exist—from environmental, economic, and social perspectives.

However, for these alternatives to yield tangible results, it is essential to establish appropriate institutional and regulatory frameworks, redirect public and private investments in alignment with conservation and social justice objectives, and strengthen the decision-making capacity of local populations over their territories. The viability of these proposals depends on cooperation among governments, the private sector, and social oversight, grounded in transparency. Without these conditions, even the most innovative proposals tend to become ancillary to the prevailing model, continuing to generate inequalities, deterritorialization, and environmental collapse.

FINAL CONSIDERATIONS

This analysis has sought to highlight the role of the Amazon as a central element in the global strategy of accumulation. This centrality, however, is grounded in the exploitation of commodities, the reproduction of inequalities, environmental degradation, and the violation of rights in the Amazon. This logic of dispossession, deterritorialization, and subordination to the interests of global capital is far from neutral or inevitable. Rather, it results from political choices, institutional arrangements, and economic interests that privilege extractivist logics, as well as from state and private actions that neglect the rights, knowledge, and traditional ways of life.

The impacts of this model on Amazonian peoples are profound and multifaceted, encompassing physical deterritorialization and the destruction of cultural, social, and symbolic ties that are essential for their reproduction and existence. The transition to a new, sustainable economic model is no longer merely a possibility, but an inevitability.

Large-scale infrastructure works and megaprojects in the energy and logistics sectors have already proven incapable of promoting development compatible with the territory; on the contrary, they have deepened social inequalities, caused irreversible environmental degradation, and compromised the socioecological resilience of the region. The Amazon cannot be reduced to a stock of natural resources, but must instead be understood as a living territory that requires the construction of a development project that respects diversity and enhances its cultural and ecological richness.

Some of the alternatives identified—from the bioeconomy to the restoration of degraded areas—point to viable pathways for building a socio-economic development model that preserves knowledge systems, traditions, biodiversity, and environmental conservation.

In light of this scenario, it is urgent to conceive and implement a new development paradigm for the Amazon. This paradigm must be built from within the territory itself, with the protagonism of Amazonian peoples, respecting cultural diversity, ecological complexity, and the multiple ways of living, producing, and existing in the forest.

The alternatives already exist and are feasible. However, they require overcoming the current model of accumulation and recognizing that there is no sustainable development without social justice, respect for the plurality of knowledge systems, and diverse ways of life. The need for a dialogue on the future of the Amazon thus ceases to be merely an environmental or regional issue and becomes a civilizational choice, underscoring the importance of aligning interests across all scales with the preservation of the rights and dignity of those who have long safeguarded the forest.

REFERENCES

ACSELRAD, H. **Justiça ambiental – ação coletiva e estratégias argumentativas**. In: ACSELRAD, H. et al. (org.) *Justiça ambiental e cidadania*. Rio de Janeiro: Relume Dumará. 2004.

AMAZONIA2030. **Desmatando as hidrelétricas**. 2024. Available at: <https://amazonia2030.org.br/wp-content/uploads/2024/11/Desmatando-as-Hidreletricas.pdf> . Accessed on:: 1 jul. 2025.

ANM - AGÊNCIA NACIONAL DE MINERAÇÃO. **Maiores Arrecadadores**. Agência Nacional de Mineração. Accessed on: 05 de maio de 2023.
https://sistemas.anm.gov.br/arrecadacao/extra/ARRECADACAO/EXTRA/acessoexterno/associacao/Relatorios/cfem/maiores_arrecadadores.aspx . 2023.

ASSIS, L. F. F. G., FERREIRA, K. R., VINHAS, L., MAURANO, L., ALMEIDA, C., CARVALHO, A., RODRIGUES, J., MACIEL, A., CAMARGO, C. **TerraBrasilis: A Spatial Data Analytics Infrastructure for Large-Scale Thematic Mapping**. ISPRS International Journal of Geo-Information, 8: 513. DOI: 10.3390/ijgi8110513. 2019.

BID - BANCO INTERAMERICANO DE DESARROLLO. **Evaluación de la acción del BID en la iniciativa para la integración de la Infraestructura Regional Suramericana (IIRSA)**. Oficina de Evaluación y Supervisión (OVE), 2008.

COSTA, C. E. L.; GONZALEZ, M. J. F. **Infraestrutura e integração regional: a experiência da IIRSA na América do Sul**. Brasília: Instituto de Pesquisa Econômica Aplicada (IPEA), 2014. Boletim de Economia e Política Internacional, n. 18, set./dez. 2014. Available at: https://portalantigo.ipea.gov.br/agencia/images/stories/PDFs/boletim_internacional/150310_boletim_internacional18_cap_2.pdf . Accessed on:: 26 jun. 2025.

CEDES. **Arco Norte: um desafio logístico**. Brasília-DF: Câmara dos Deputados, Centro de Estudos e Debates Estratégicos, Consultoria Legislativa, 2016

BRANDÃO, C. **Território e desenvolvimento: As múltiplas escalas entre o local e o global**. Campinas-SP: Editora Unicamp. 2012.

BRASIL. Banco Nacional de Desenvolvimento Econômico e Social (BNDES). **Projetos financiados**. Available at: <https://www.bndes.gov.br>. Accessed on:: 26 jun. 2025.

BRASIL. Agência Nacional de Energia Elétrica (ANEEL). **Banco de informações de geração**. Available at: <https://www.aneel.gov.br/> . Accessed on: 26 jun. 2025.

BRASIL. Departamento Nacional de Infraestrutura de Transportes (DNIT). **Obras em execução**. Available at: <https://www.gov.br/dnit> . Accessed on: 26 jun. 2025.

BRASIL. Empresa de Pesquisa Energética (EPE). **Estudos e projetos de geração e transmissão**. Available at: <https://www.epe.gov.br> . Accessed on: 26 jun. 2025.

BRASIL. Portal da Transparência. **Gastos com obras públicas**. Available at: em: <https://www.portaltransparencia.gov.br> . Accessed on: 26 jun. 2025.

BRASIL. **Programa de Aceleração do Crescimento (PAC). Obras por região**. Available at: <https://www.gov.br/casacivil/pt-br/assuntos/pac> . Accessed on: 26 jun. 2025.

CARGILL. **Atuação na Amazônia e infraestrutura logística**. Available at: em: <https://www.cargill.com.br> . Accessed on: 26 jun. 2025.

EMPRESA DE PLANEJAMENTO E LOGÍSTICA - EPL. **Plano Nacional de Logística 2035**. Brasília, 2021. Available at: <https://ontl.infrasa.gov.br/planejamento/plano-nacional-de-logistica/plano-nacional-de-logistica-2035/relatorios/> . Accessed on: 1 jul. 2025.

FONSECA, P. D. **Sobre a intencionalidade da política industrializante no Brasil na década de 1930**. Revista de Economia Política, 89: 133-148. 2003.

GREENPEACE BRASIL. **Hidrelétricas na Amazônia: um mau negócio para o Brasil e para o mundo**. São Paulo: Greenpeace Brasil, 2016. Available at: https://www.greenpeace.org/static/planet4-brasil-stateless/2018/07/relatorio_hidreletricas_na_amazonia.pdf . Accessed on: 1 jul. 2025.

HIDROVIAS DO BRASIL. **Projetos logísticos na Amazônia**. Available at: <https://www.hidrovias.com.br> . Accessed on: 26 jun. 2025.

INICIATIVA TERCEIRA VIA AMAZÔNICA. **Amazônia 4.0**. Instituto de Estudos Avançados da Universidade de São Paulo - IEA/USP. Available at: em: <https://www.iea.usp.br/pesquisa/grupos-pesquisa/pesquisadores-colaboradores/projeto-amazonia-4.0> . Accessed on: 9 jul. 2025.

INFOAMAZONIA. **BR-319: pesquisadores analisam impactos na saúde pública e moradores cobram melhor assistência médica**. 29 jan. 2025. Available at: <https://infoamazonia.org/2025/01/29/br-319-pesquisadores-analisam-impactos-na-saude-publica-e-moradores-cobram-melhor-assistencia-medica/> . Accessed on: 1 jul. 2025.

INSTITUTO ESCOLHAS. **Biogás: energia limpa para a Amazônia**. São Paulo: Instituto Escolhas, 2021. Available at: <https://escolhas.org/wp-content/uploads/Biogas-energia-limpa-para-a-Amazonia.pdf> . Accessed on: 9 jul. 2025.

INSTITUTO ESCOLHAS. **Como a bioeconomia pode reduzir a pobreza na Amazônia? Relatório técnico**. São Paulo, 2023. Available at: em: https://escolhas.org/wp-content/uploads/2023/03/Relatorio-Tecnico-BioeconomiaAmazonia_MA-PA.pdf . Accessed on: 9 jul. 2025.

INSTITUTO ESCOLHAS. **Fitoterápicos: como destravar essa cadeia a partir da agricultura familiar**. Relatório Técnico. São Paulo: Instituto Escolhas, 2024.

INSTITUTO ESCOLHAS. **Solução debaixo d'água: o potencial esquecido da piscicultura amazônica.** São Paulo: Instituto Escolhas, 2024. Available at: https://escolhas.org/wp-content/uploads/2024/08/Sumario-Solucao-debaixo-dagua_o-potencial-esquecido-da-piscicultura-amazonica.pdf . Accessed on: 9 jul. 2025.

MONTEIRO, M. A. **Crescimento econômico e competitividade espúria na Amazônia: O caso da região de Carajás.** Novos Cadernos NAEA, 25(4), 2022.

NATIONAL GEOGRAPHIC BRAZIL. **Quais os impactos ambientais da perda da Floresta Amazônica?** National Geographic Brasil, 20 abr. 2023. Available at: <https://www.nationalgeographicbrasil.com/meio-ambiente/2023/04/quais-os-impactos-ambientais-da-perda-da-floresta-amazonica> . Accessed on: 1 jul. 2025.

NOBRE, C. A. et al. **Nova Economia da Amazônia: relatório.** São Paulo: WRI Brasil, 2023. Available at: www.wribrasil.org.br/nova-economia-da-amazonia . DOI: <https://doi.org/10.46830/wrirpt.22.00034>. Accessed on: 3 jul. 2025.

NORTE ENERGIA S.A. **Usina Hidrelétrica Belo Monte.** Informações institucionais. Available at: <https://www.norteenergiasa.com.br> . Accessed on: 26 jun. 2025.

PORTO-GONÇALVES, C. W. **A globalização da natureza e a natureza da globalização.** Rio de Janeiro: Civilização Brasileira, 2006.

PORTO-GONÇALVES, C. W. **Amazônia: encruzilhada civilizatória, tensões territoriais em curso.** Rio de Janeiro: Consequência, 2017.

RIBEIRO, Júlia G.; SOUZA, Carlos M., Jr. **Mapping Roads in the Brazilian Amazon with Artificial Intelligence and Sentinel-2.** Remote Sensing, Basel, v. 14, n. 3625, p. 1-17, 2022. Available at: <https://doi.org/10.3390/rs14153625>. Accessed on: 1 jul. 2025.

STRASSBURG, Bernardo et al. **Identificando áreas prioritárias para restauração no Bioma Amazônia. Projeto Amazônia 2030.** Instituto Internacional para Sustentabilidade, 2022. Available at: <https://amazonia2030.org.br/wp-content/uploads/2022/02/AMZ-29.pdf> . Accessed on: 9 jul. 2025.

TRANSPARÊNCIA INTERNACIONAL BRASIL. **Grandes obras na Amazônia: corrupção e impactos socioambientais.** Available at: <https://comunidade.transparenciainternacional.org.br/grandes-obras-na-amazonia-corrupcao-impactos> . Accessed on: 1 jul. 2025.

VINCI AIRPORTS. **Concessões de aeroportos no Brasil.** Available at: <https://www.vinci-airports.com> . Accessed on: 26 jun. 2025.

