

Ravaging Pan-Amazonia

Deforestation, socio-economic contradictions and eco-environmental conflicts of hegemonic capitalism with global impact

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Abstract

The Pan-Amazon region occupies 4.9% of the world's continental area. It has three shared characteristics: (a) its borders extend to the frontiers of eight countries in South-Central America;¹ (b) it has been hijacked by hegemonic agri-food, mining and energy capitalism, transnational drug trafficking crime, chemical precursors, arms, munitions and explosives; (c) it unleashes promiscuous relations with Colombian guerrillas, legal armies, paramilitaries, politicians, state agents and corrupt national elites; and (d) it is subject to the most humiliating slavery regime of migrants, indigenous peoples and peasants previously expelled from rural territories and properties. The corporate enclave subjects migrants, indigenous peoples and peasants previously expelled from rural territories and properties to the most humiliating slavery regime.



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Under the slogan of anything goes, the imposition of the extractive model of deforestation advances unstoppably in remote areas of the rainforest, a refuge for uncontacted indigenous peoples. Behind it, ecocide and human tragedies are left behind through contradictions between capital, nature and the owners of indigenous and peasant reserves. Ultimately, all destructive natural impacts deepen the advance of climate collapse on Earth.

¹ ↪ The Brazilian Amazon occupies 60% of the total geographical area, followed by Peru and Colombia, which have 13% and 10% respectively, without ignoring other ecological and environmental fractures in the rest of the countries.

Introduction

This paper addresses different narratives of dependent capitalism in South-Central America (CSA). We focus on how hegemonic capitalism imposes the narrative of the economic development model in Pan-Amazonian countries without taking into account the eco-environmental damage and fractures and the lethal exploitation of migrant and local labour. Deforestation replicates a model of intensive destruction of tropical rainforests. Among the most revealing consequences, science has uncovered dangerous disruptions to biogeochemical cycles deeply internalised in the soil by large-scale agriculture. In turn, the rise in global climate temperature is accelerating. In effect, the web of economic and social conflicts branches out into other disruptions related to the dispossession of rural agriculture. In the next phase, they establish extensive monocultures of cereals and concentrations of cattle by the millions in response to the growing demand for bovine food and human and industrial uses in the Global North.

The approach to the issues addressed is backed up by up-to-date figures and data, such as soy monocultures in four South American countries, exports of palm oil producers, etc., the main raw materials also examined in previous writings. We emphasise the visibility of the crimes and strategies of the enclave *Brasil Fuels* and *Vibra Energía*, biodiesel giants of the Brazilian Amazon under trivial conceptions of development, supposedly contributing to the region, as opposed to the conservation of the rainforest, which is of planetary importance. This is the colossal imposition of global capitalism through another model reiterated in the Global South under the dispossession of lands, territories, crimes against humanity, and uncontrolled slavery in Amazonian cross-border areas. We therefore address the most deplorable situations of underdeveloped capitalism, euphemistically, "developing countries", a particular form of dependent capitalism, emerging from the relational processes that gave life to the world system.²

The environmental liabilities resulting from oil spills from the Norperuvian oil pipeline located on the border with Ecuador are similar to those left by Texaco-Chevron. In addition, deforestation under the construction of the Interoceanic Highway between Peru and Brazil, especially the Madre de Dios section, an area of convergence of miners, migrants, drug traffickers and irregular armed groups attracted by the illegal gold rush superimposed on legal mining. Regarding deforestation in the Venezuelan Amazon, a case we have called *suigénis*, it has resisted the enormous harassment of the Global North, without being able to bend the political convictions of the government and the people, who are reluctant to hand over their natural heritage to foreign power.

Finally, the summary of the economic scope of transnational drug trafficking from the Pan-Amazon region gives imprecise figures, as well as those of so-called illegal immigration, human trafficking and the illicit export of forest

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² ➔ Jaime Osorio Urbina. "Ley del valor, intercambio desigual, renta de la tierra y dependencia". En *Teorías del Imperialismo y la Dependencia*. Desde el Sur Global. Comp. Néstor Kohan. 149-175. Ciudad Autónoma de Buenos Aires: Instituto de Estudios de América Latina y el Caribe-IEALC, 2022. ISB 978-987-4066-03-9. 149

The Cerrado is Brazil's "water tank", one of the continent's largest aquifers, and the source of several Amazonian rivers. In recent years, the Cerrado has become the main scenario of deforestation, a foundation of the agribusiness boom, and is responsible for dangerous secondary impacts on streams and rivers in the direction of the Amazon River.

resources and wild species. Notably, the absence of figures is also part of the concealment of the profits of the multinational agro-food and mining-energy extractive companies. Finally, we must point out that the narratives, data, and analyses only constitute the tip of the iceberg for the immense destruction of the Pan-Amazon region.

Deforestation in the Cerrado and Brazilian Amazonia

The Cerrado is also known as the Brazilian tropical savannah, "although it does not have the 40-metre high itaúbas of the Amazon, it is one of the most biodiverse regions in the world", with more than 12,000 species of flora, mainly palm trees, low trees, fauna, jaguars and anteaters. The Cerrado is Brazil's "water tank", one of the continent's largest aquifers, and the source of several Amazonian rivers. In recent years, the Cerrado has become the main scenario of deforestation, a foundation of the agribusiness boom, and is responsible for dangerous secondary impacts on streams and rivers in the direction of the Amazon River. In 2023 alone, logging rose by 44%, the third consecutive annual increase and the largest since records began in 2018, while native vegetation in 2023 fell by half in the Amazon—although it rose in the Cerrado—destroying 7,852 km². According to official data, between 2019 and 2022, under Bolsonaro's mandate, 40% of Brazilian deforestation was concentrated. At present, less than half of the native vegetation remains.



Fuente: Mapa: Red Amazónica de información Socioambiental Georreferenciada

On the other hand, the Forestry Code forces Amazonian rural landowners to preserve 80% of native vegetation. However, in the Cerrado, only 20% of them do so, as most of the logging is carried out on private property, favouring agricultural expansion with severe damage to the region's water resources. Likewise, 54% of the country's agricultural production is irrigated from there.³ The political parties represented in Congress protect the major interests of the landowners who prevent the Forest Code from being tightened.⁴ Despite the importance of the savannah, according to the complaints, there is a "scenario of a very great lack of protection" due to the scarcity of conservation areas and very permissive legislation. In addition, the lack of transparency "undermines its application and makes monitoring difficult".⁵

³ ↪ Cullel, Jhon Martín. "La ignorada sabana brasileña sustituye a la Amazonia como foco rojo de la reforestación". <https://efeagro.com/sabana-brasil-deforestacion-24/> 18 de enero de 2024.

⁴ ↪ Washington Castilhos. SciDev.Net. <https://www.scidev.net/america-latina/news/agricultura-ilegal-es-el-principal-impulsor-de-la-deforestacion/> 24 de agosto de 2021.

⁵ ↪ Cullel, Jhon Martín. "La ignorada sabana brasileña sustituye a la Amazonia como foco rojo de la reforestación". 18 de enero 2024. <https://efeagro.com/sabana-brasil-deforestacion-24/>

Adverse impacts of deforestation and the conversion of fertile land to cereal monocultures

Firstly, the deforestation of the Amazonian forest floor eliminates the land use vocation and initiates the degradation and loss of the abundant and diverse presence of living organisms essential to ecological sustainability.⁶ Under similar conditions, the deficiency or omission of the special territorial management regime means that 42% of the Amazonian forests have been in danger of extinction since 1985.⁷ The other half, i.e. the 'stable forests', still maintain their status as protected natural areas or are part of indigenous territories. According to the warnings of the Amazonian network (RAISG), between 1985 and 2022, 80 million hectares of forest have disappeared, while 168.7% of this area has been lost due to the growth of economic activities in the region. Secondly, agribusiness shows constant increases in global palm oil production. We can verify this in figures up to 600%, from 14.72 million tonnes in 1994 to 80.58 million tonnes in 2021. The area under cultivation also increased dramatically from 7.86 million ha in 1994 to 28.91 million ha in 2021. Consequently, as 84% of palm oil production concentrated in Malaysia and Indonesia faced land shortages, the industry expanded in South America and West Africa.⁸

Table N° 1 Export destinations of the main Latin American palm oil producing countries in 2022

	European Union	United States	South America*	Other
Colombia**	41,70%	4,90%	48,80%	4,60%
Guatemala	67,10%	0%	31,90%	0,01
Honduras	53,80%	19,30%	26,80%	0,001
Brazil ****	53,60%	9,30 %	30,30%	6,80%
Ecuador ***	13,80%	17,10 %	66,80%	2,30%

*Most of South America's exports go to Mexico, which is destined for the production of ultra-processed food, which has increased in recent decades under NAFTA. ** It is South America's leading palm oil producer, with 500,000 hectares in territories where armed groups are present. *** It accounts for 4% of GDP. ****200 thousand ha, Pará state. Sources consulted: Trade Map, 2024. GRAIN

In Colombia, alarm bells are ringing in the Amazonian departments of Caquetá, Guainía, Guaviare, Putumayo and Vaupés, where one million hectares of arable land are in the hands of 30 foreign companies from the USA, EU, Mexico, Chile, Israel and the Virgin Islands, converted into monocultures of palm oil, maize, soya, timber and Hass avocado (the third most exported product with 30,000 ha planted), handed over by neoliberal governments.⁹ Currently, the titles of 113 Mha are being reviewed, and other serious crimes related to the activities of Green SuperFood and the Italian-Spanish company Poligrow are being investigated.¹⁰ On the other hand, according to the IGAC, 25% of the rentier

⁶ ↪ Clara Patricia Peña. "Biología de suelos amazónicos". Instituto Amazónico de investigaciones genéticas Sinchi. <https://sinchi.org.co/files/SUBDIRECCION%20CIENTIFICA/ECOSISTEMAS/EN%20EJECUCION/2021/Biologi%CC%81a%20de%20suelos%20amazo%CC%81nicos.pdf>. 2020. 144-151.

⁷ ↪ Marcelo Sayao. "El 42 % de los bosques vírgenes de la Amazonía no tiene protección y pueden desaparecer". <https://efeverde.com/bosques-virgenes-amazonia-no-proteccion/>. 28 de noviembre de 2023

⁸ ↪ GRAIN. "La palma de aceite en América Latina: monocultivo y violencia". <https://grain.org/es/article/7118-la-palma-de-aceite-en-america-latina-monocultivo-y-violencia>. 12 de marzo 2024.

⁹ ↪ GRAIN. "La palma de aceite en América Latina," 4, 5

¹⁰ ↪ El Espectador. "Un millón de hectáreas de tierras cultivables están en manos de empresas extranjeras". <https://larazon.co/nacion/un-millon-de-hectareas-de-tierras-cultivables-estan-en-manos-de-empresas-extranjeras/>

landowners own 95% of the territory in 2022, most of which is dedicated to extensive cattle ranching for export and oil palm cultivation, linked to paramilitary groups that are responsible for armed violence.

Agribusiness intersperses legal operations with illicit deeds. In this sense, the state monopolises violence through its

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definitions of legality aimed at privatisation, endorsed by some government entities.¹¹ As if this were not enough, they circumvent the national constitution and international norms on territorial and human rights from the moment the foreign companies enter the country. In opposition, the alliance between regional governments and corporations confronts small and

medium-sized owners of the rural economy and the commons in contradiction with the agro-industrial model.

Furthermore, the illegitimate seizure of the agriculture of Buen Vivir not only takes cosmogonies but also sweeps away political-social organisations aggravated by ecological fractures and the contamination of land, freshwater, and rivers, without ignoring the fact that women are the primary victims of the agro-industrial production model.

In short, deforestation and cereal monocultures contribute to the (...) *depredation of global environmental goods (land, air, water) and the proliferation of environmental degradation, which prevents anything but capital-intensive modes of agricultural production, have resulted from the total transformation of nature into a commodity.* In this way, deforestation

routes guide illicit land grabbing, the subsequent expulsion of entire peoples from their territories under the stigma and other violence of organised crime, the main ally of hegemonic capitalism. In this area, the idea of dependency defended by Marxist theory understands the process of accumulation on a global scale as a dialectical unity between development and underdevelopment. Or rather, this process presupposes that certain economies scale up according to the general laws of the capitalist mode of production at different rates of acceleration. Consequently, the international division of labour configures a dependency in which the ultra-liberal economy determines the development and expansion of another that is subordinated.

Finally, the dominant economy is contradictory and self-sustaining, a characteristic of capitalism. In contrast, the dependent economy can respond to the reflection of this expansion or be constrained by the situation of dependency, with positive and negative effects on its development.¹² Table 2 shows a brief comparison of deforestation caused by soya in South American countries based on TRASE data: "Most of the soya-producing regions are stained by deforestation and conversion caused by soya".

Table N° 2. Deforestation for soybean crops

Países	Total de deforestación causada por la soya (ha)	%*
Brasil (2020)	562.333	4.6
Bolivia (2021)	105.562	31.8
Paraguay (2019)	49.918	5.9
Argentina (2019)	49.621	0.9

*In relation to production (Ha/1,000 tonnes). Source: TRASE. "Soybean expansion causes deforestation in Bolivia".

In Bolivia,¹³ soya and its derivatives represent the third largest export, with revenues exceeding USD 2 billion, intensified in 2024. The total area of soybeans planted also increased from 778,600 ha in 2020 to 1,088 Mha in 2021. By 2022, there is a 32% increase in primary forest loss, representing 385 567 ha of primary rainforest and 595 996 ha of tree

¹¹ ↪ Harvey, David. "El 'nuevo' imperialismo: acumulación por desposesión". (Buenos Aires: CLACSO, 2005), 16. 17.

¹² ↪ Marcelo Días Carcanholo. La importancia de "Dialéctica de la dependencia", en *Teorías del imperialismo y la dependencia*, compilado por Néstor Kohan (Buenos Aires: Instituto de Estudios de América Latina y el Caribe-IEALC, 2022), 136.

¹³ ↪ TRASE. Expansión de soja impulsa deforestación en Bolivia. <https://trase.earth/insights/soy-expansion-drives-deforestation-in-bolivia> 23 de agosto de 2023.

cover. Forest loss occurs mainly in the Chiquitano forests, Amazonia, and Bolivian Chaco. Protection of the threatened Chiquitano dry forest is urgently needed, intensified by the permissiveness of the so-called "incendiary" regulations that have kept Bolivia in third place on the podium of the nations with the highest deforestation rates for the last three years. This expansion is due to exports, preferably to Colombia and Peru.¹⁴

In 2022, coca cultivation in Bolivia occupied an area of 29,900 ha. In the Yungas region of La Paz, 18,149 ha of coca cultivation decreased by 3% compared to 2021. Similarly, in the Northern region of La Paz, an area of 405 ha was recorded with a decrease of 13%. That is, 23 protected areas, close to 16% of the national territory. Six protected areas have been identified as affected by coca cultivation.¹⁵ The Amboró National Park is home to 289 species of butterflies, 109 fish, 105 reptiles, 820 birds, 127 mammals and almost 3,000 plants.¹⁶ Day after day, this unique ecosystem in Bolivia is decimated by organised crime led by loggers and drug traffickers. The State and the nine municipalities that share it do little to reverse these anomalies. It is enough to review one key fact: nine park rangers are in charge of 636,000 hectares of land, an impossible task for adequate surveillance. There are thousands of detours, if not along the roads, then along the rivers. At night, they move coca without any authorisation (...), and this includes the protected area. The Amboró, close to the borders of the Cochabamba tropics, is located in Carrasco Park, one of the areas most affected by drug trafficking. In contrast, the Bolivian regions of La Paz and Cochabamba¹⁷ grow coca legally; however, there are plantations in the Ichilo province of Santa Cruz, as well as transshipment of precursor chemicals and cocaine factories. The government is aware of its inability to combat drug trafficking. Furthermore, in the province of Ichilo, a red zone for drug trafficking, large cocaine processing factories, chemical precursors, sulphuric acid, lime, acetone and petrol required in cocaine processing and refining laboratories have been found. Out of 7,000 hectares nationwide, only 15 per cent has been eradicated in Yapacaní, Chapare and six federations. Drug trafficking activity intensifies at night, and in the absence of roads, drug traffickers move around in canoes and boats.

The Yungas of La Paz are part of the transition zone between the Amazon and the Altiplano. The habitat is tropical highland broadleaf rainforest, including mountain cloud forests and other types of evergreen forests. This area has suffered great damage in terms of biodiversity, water cycle, soil degradation, and high rates of slash and burn (chaqueo) to make land available for intensive exploitation, worsened by omitting crop rotation. As a result, the productive capacity of the soils has been reduced, resulting in low crop yields. Moreover, 55% of the cultivated land is dedicated to coca (*Erythroxylum coca*), which accounts for more than 81% of the gross value of agricultural production in the region. A similar situation occurs in the Cochabamba Tropics region in the Amazon basin, which extends into the tropical rainforest zones and is in similar conditions to the Yungas. In the Cochabamba Tropics, it is common to find "coca fields" surrounded by a diversity of agricultural plantations of banana, citrus, pineapple, palm heart, yucca, rice, and pitahaya tea, in some cases reaching industrial levels destined for commercialisation and exports within the framework of integral development. We point out that the sources consulted lack concrete data on coca-cocaine conversion factors in Bolivia on potential illicit production values of narcotics extracted from coca leaves.¹⁸

¹⁴ ↪ TRASE. Expansión de soja impulsa,

¹⁵ ↪ Oficina de las Naciones Unidas contra la Droga y el Delito. UNODC. Estado Plurinacional de Bolivia. Monitoreo de Cultivos de Coca 2022. 2023. https://www.unodc.org/documents/bolivia/Survey_2022/Informe_de_Monitoreo_de_Cultivos_de_Coca_2022.pdf octubre 2023. La Paz-Bolivia. 22,38, 40.

¹⁶ ↪ Nelfi Fernández Reyes. "Bolivia: el narcotráfico opera en el corazón del parque Amboró". <https://es.mongabay.com/2020/05/bolivia-narcotrafico-en-el-parque-amboro/> 13 de mayo de 2020.

¹⁷ ↪ Nelfi Fernández Reyes.

¹⁸ ↪ Oficina de las Naciones Unidas contra la Droga y el Delito. 10,11,20

Crimes and strategies of the enclave Brasil Fuels and Vibra Energia, biodiesel giants in the Brazilian Amazon

On its website, BBF (Brasil BioFuels) claims to be South America's largest palm oil producer. It has almost 70,000 ha under cultivation in Roraima and Pará. It adds other areas mapped for new palm oil cultivation in Rondônia, Amazonas and the island of Marajó. According to director Milton Steagall, the multinational plans to plant 120,000 ha of palm oil by 2026 in areas yet to be defined, meaning an increase of 60% of the area destined for this crop. Vibra Energia, formerly Petrobras Distribuidora SA, agreed to sell the fuel that will soon be produced at the BBF refinery in Manaus and reserve it for aircraft. The strategy is to grow the palm in remote areas, and Vibra will be responsible for transporting it at reduced costs.¹⁹ In 2021, they announced another joint project to build the 'green' diesel refinery in Manaus. In 2022, it controlled a cultivation area of more than 63,000 ha, of which it indirectly intervened in 7,000 ha owned by family farmers, without taking any responsibility for the deforestation of 667 ha. In addition to this, the supply of palm oil to the following multinationals: Bunge, Cargill, General Mills, Grupo Bimbo, Hershey's, Kellogg's, Mondelez, Nestlé and Unilever is already internationally financed, according to BBF's managing director Milton Steagall.²⁰

Since the 1980s, violence in the region of Baixo Tocantins, 150 km from Belem, the capital of the state of Pará, has intensified under the rhetoric of 'national development', without the participation of the people directly affected. However, *'development' advances by murdering, poisoning and expelling local populations in a gruesome way even in the 21st century.*²¹ BBF has a significant track record: (i) Charges of environmental crimes (contamination of rivers and soil, damage to the livelihoods and health of invaded peoples). In April 2022, the Quilombola communities of Bujaru and Concórdia, residents of Pará, denounced in an open letter the heavy pollution and drought of the Bujaru River. (ii) Violence in the territory. The communities have denounced the longest history of murders, labour crimes, human rights violations and so many other cruelties in the name of "sustainable energy and palm oil" production. The crimes range from the suffocation by enclosure of the palm plantations inside the indigenous territory of Turé Mariquita, two Quilombola communities in Alto Acará and Nova Betel, in flagrant violation of the ten kilometre buffer zone that was to be left between the monoculture plantations and the community territories, in absolute impunity.²²

According to the Federal Public Prosecutor's Office, in the Turé Mariquita Indigenous Territory and the Quilombola communities, BBF still claims areas that are said to have been purchased but correspond to territories claimed by Quilombola and indigenous peoples. Similarly, complaints have reported similar violence in the Virgílio Serrão Sacramento Settlement. There are no limits to the siege, attacks and threats through the use of drones. The multinational operates with extraterritorial enclave operations similar to CEDES in Central America,²³ regulated by regulations issued outside the state and enforced by outsourced surveillance squads. Security operations are frequently deployed using furtive and intimidating guards, taking photographs of villagers, leaders, houses and crops, and demanding the withdrawal of communities from their territories. The most critical moment came during the Covid-19 pandemic. In 2022, the Small Farmers Movement (MPA) peasants received a precautionary measure and the restitution of their land from BBF. However, the community remains in permanent resistance. In the same way, the families of the Virgílio Serrão

¹⁹ ↪ WRM. Desiertos verdes: el avance de los monocultivos de palma aceitera en la amazonia en Pará Brasil. Boletín 261. <https://www.wrm.org.uy/es/articulos-del-boletin/avance-de-los-monocultivos-de-palma-aceitera-en-la-amazonia-en-para-brasil> 16 de junio de 2022.

²⁰ ↪ WRM. Desiertos verdes: el avance de los monocultivos.

²¹ ↪ Biopalma da Amazônia SA, was sold to the BBF group (Brasil BioFuels) in 2020, led by foreign investors.

²² ↪ WRM. Desiertos verdes: el avance de los monocultivos.

²³ ↪ Nubia Barrera Silva. Secuestro y saqueo transnacional en Centroamérica. <https://www.jussempre.org/Inicio/Recursos/Info.%20econ/Recursos/NubiaBarrera-SecuestroSaqueoCentroamerica.pdf> Alianza Global Jus Semper. 24 de enero de 2024. 16,17

Sacramento Settlement have denounced that, in the Brazilian Amazon, destruction projects and crimes of influential business people are being carried out and ignored by the justice system.²⁴

Quite similarly, in the Colombian Amazon, according to the Institute of Hydrology, Meteorology and Environmental Studies (IDEAM), 102 of the 230 reserves deforested 12,081 ha in 2022, across 27 Mha, equivalent to 56 % of the country's biome under the control of organised crime: illegal mining, forest loss and coca cultivation (those with at least 1% of their territory within the Amazon biome), 218 were affected by the loss of tree cover.²⁵ Geospatial analysis has revealed that at least 88 reserves have allocated more than two ha or are affected by coca cultivation. Of the total 230 reserves in 2022, the Global Forest Watch satellite platform showed more than 3,200 ha depletions in 218 reserves. In total, Amazonian reserves lost 19,181 ha of forest.²⁶

Concentrations per million cattle in Brazil and Colombia

Official data indicate that the size of the cattle ranch in 2022 reached 220 million head, increased in the Legal Amazon and decreased in the rest of the country. Standardised agriculture and extensive cattle ranching have hidden opaque administrative procedures in collaboration with local authorities to benefit global agribusiness. The large gaps in vegetation cover and the destruction of the traditional economy of dependent capitalism underpins the food sovereignty of urban settlements adjacent to rural communities. Although Brazil²⁷ ranks among the world's top fifteen cattle producers, its focus is not on reducing methane emissions from the cattle sector. Cattle emissions from manure and gastroenteric releases are estimated to account for 32% of methane emissions. In turn, it is the main contributor to the formation of ground-level ozone, *a dangerous air pollutant whose exposure causes one million premature deaths each year, a potent greenhouse gas. Over 20 years, its warming capacity is 80 times more potent than carbon dioxide.*

Cattle land area tripled between 1985 and 2021, incorporating 13% of the Brazilian biome area. In 2020,²⁸ according to IBGE data, São Félix do Xingu (PA) and Porto Velho (RO) had the largest cattle herds in their respective provinces, with 2.3 million and 1.2 million each, respectively.

Even though Brazil produces 28% of the planet's indirect CO2 emissions, this calculation from the perspective of climate justice is still a pending task in terms of separating the emissions of the multinationals of the Global North from those of the populations, the socio-economic and industrial sectors and infrastructures.

Altamira was home to the fourth largest herd in Pará, with 797,000 head. In the same perspective, deforestation in livestock production has been the primary vector of destruction of the forest mass. It has come to occupy 73.5 Mha of Panamazonia, equivalent to 98.5% of the total deforested area in

the region in the last three and a half decades. In comparison, gold mining²⁹ has taken over 5,965 ha, and other mining

²⁴ ↪ WRM. Desiertos verdes: el avance de los monocultivos.

²⁵ ↪ Tree cover loss is defined as the complete removal of forests, plants and vegetation either by capital intervention or natural phenomena.

²⁶ ↪ Dora Montero. "Deforestación, minería ilegal y narcotráfico acorralan a resguardos indígenas de la Amazonía de Colombia". <https://es.mongabay.com/2023/11/deforestacion-mineria-ilegal-narcotrafico-acorralan-resguardos-indigenas-amazonia-colombia/>

²⁷ ↪ En Juan Chiummiento. Diálogo Chino. "¿Puede América del Sur reducir sus emisiones de metano en ganadería?" <https://dialogochino.net/es/clima-y-energia-es/56531-puede-america-del-sur-reducir-sus-emisiones-de-metano-en-ganaderia/> julio 20 de 2022.

²⁸ ↪ INFOAMAZONÍA. "Brasil fue responsable del 70% emisiones de cO2 por deforestación en la Panamazonia en los últimos 35 años". <https://infoamazonia.org/es/2022/11/18/brasil-fue-responsable-del-70-de-las-emisiones-de-co2-por-deforestacion-en-la-panamazonia-en-los-ultimos-35-anos/> 18 noviembre de 2022.

²⁹ ↪ Marcos Piveta. "Se duplican en la Amazonia las emisiones recientes de dióxido de carbono, el principal gas de efecto invernadero". <https://revistapesquisa.fapesp.br/es/se-duplican-en-la-amazonia-las-emisiones-recientes-de-dioxido-de-carbono-el-principal-gas-de-efecto-invernadero/> NOVIEMBRE 2022.

activities have taken 1,128 ha of iron, copper, graphite, lithium, nickel, phosphate, potassium, uranium, and rare earth elements.

Based on the above, even though Brazil produces 28% of the planet's indirect CO₂ emissions,³⁰ this calculation from the perspective of climate justice is still a pending task in terms of separating the emissions of the multinationals of the Global North from those of the populations, the socio-economic and industrial sectors and infrastructures, etc. On the other hand, the tragic dispossession of mining is treated tangentially on the global environmental agenda, especially lithium in the energy transition of the USA, the European Union, China and the global technology industry, air and vehicle transport, among others. However, the policies of the Green Pact include soil contamination, the destruction of ecosystems, the dangerous scarcity of water in the countries of the Southern Cone, and the ominous and exclusionary treatment of indigenous peoples living on the borders of extractive territories.³¹ The focus is on new uses, technological advances, and future failed promises of zero emissions by 2050.³²

Moving to Colombia's northwestern Amazonian arc includes part of the country's largest continental protected area, the Chiribiquete National Park. Based on data from NASA and NOAA, 741 hot spots were recorded in 2023, while for the same period in 2024, they reached 2260 hot spots. These figures indicate an increase of 205%,³³ i.e. the trend of repeating the same activities during periods of drought continues. The objective is to convert virgin forest into pastureland, to concentrate and monopolise indigenous lands as if they were their own, in flagrant violation of the Magna Carta and the laws of nature. Our paper³⁴ analyses the reprehensible burdens of cattle ranching footprints in Chiribiteque. In this region, the tracing of value chains, the devastation of Nestlé through illicit operations in the Pan-Amazon Region and the aftermath of deforestation with its contradictions and eco-environmental conflicts remain unresolved. In short, the data on the alienation of fertile land in Colombia are alarming because of the imminent danger to food sovereignty.

It is worth highlighting the results of the FCDS et al. study, which, after 2018, insists on the illegal appropriation of public lands (in protected areas and Ley Segunda forest reserves) and collective titling (indigenous reserves) as the leading cause of the loss of Amazonian forests. The expansion of road infrastructure, extensive cattle ranches, agro-industry, pastures, coca cultivation, extraction of forest resources and illegal mining follows this loss. So, between 2016 and 2022, cattle ranching had an exponential increase, 909,364 in 2020, equivalent to 48% since 2016. Additionally, more than 1,100,000 head of cattle have entered the region, an operation facilitated by proximity to populated centres, easy-access roads and trade. The construction of new roads in the Amazon has accelerated the loss of forests, enabling access to the forest matrix, the transport of coca crops, and the mobilisation of legal and irregular armies, among others. On the northern border, outside the Nukak-Makú indigenous reservation, the natural savannahs of La Fuga are subject to the

³⁰ ↪ Livia Machado Costa. Diálogo Chino. "La minería busca llegar a territorios indígenas en Brasil". <https://dialogochino.net/es/actividades-extractivas-es/51271-empresas-mineras-buscan-nuevas-areas-de-explotacion-en-territorios-indigenas-de-brasil/> 22 febrero 2022.

³¹ ↪ Nubia Barrera Silva. "El Litio y las contradicciones en la transición energética que devasta el Sur Global en pro del Norte Global. Noviembre de 2021. <https://www.jussemper.org/Inicio/Recursos/Info.%20econ/ellitioylascontradicciones.htm>

³² ↪ Rebelión o Extinción Argentina. "Agronegocio y crisis climática, acceso a la tierra y agroecología". <https://agenciaterraviva.com.ar/agronegocio-y-crisis-climatica-acceso-a-la-tierra-y-agroecologia/> Mayo 17 de 2023.

³³ ↪ Juan Carlos Granados y Pilar Puentes. "Gobierno colombiano declara situación de desastre y calamidad en el país ante el grave impacto de los incendios". https://es.mongabay.com/2024/01/gobierno-colombiano-declara-situacion-de-desastre-y-calamidad-en-el-pais-ante-el-grave-impacto-de-incendios-forestales/?mc_cid=8aa7a28029&mc_eid=9822d5f530 26 de enero de 2024.

³⁴ ↪ Nubia Barrera Silva. "Controvertidas proyecciones demográficas bajo el colapso del clima en 2050. Sud y Mesoamérica en contexto global". <https://www.jussemper.org/Inicio/Recursos/Info.%20econ/Resources/NubiaBarrera-ControvertidasProyeccionesDemograficas.pdf>. Alianza Global Jus Semper. Agosto 2023.

irruption of agro-industrial palm and eucalyptus crops, accelerating the process of transformation of the natural herbaceous and arboreal ecosystems on 4,178 ha.³⁵

Norperuvian oil pipeline, oil spills and indigenous tragedies

The main river is the Amazon, with more than seven thousand tributaries at risk due to alarming contamination levels. One example: Since 1997, nearly 600 oil spills have been recorded, and the state's failure to act forces indigenous populations to live with the economic, health and cultural consequences. A high chemical composition of 30% lead and salt has been detected in the Peruvian Amazon on the border with Ecuador.³⁶ River water carries high levels of chloride, chromium, barium, lead and hexavalent chromium, which have triggered different types of intoxications and severe repercussions for human, animal and plant health with teratogenic repercussions, cancer or death. At the same time, the toxins have poisoned the food chain to the detriment of wildlife and the food resources of indigenous communities dependent on hunting and fishing. Thus, high levels of lead, cadmium and their neurotoxic and carcinogenic compounds were detected in the blood of 45,000 inhabitants of five ethnic groups and the Amazonian soil. In mining, the use of mercury and cyanide in separating gold from other minerals has also been found to cause the disappearance of topsoil that supports plant life. After dredging, mercury-contaminated soil is either washed back into the river or remains in the forest so that pools of mercury and cyanide slowly seep into groundwater sources or enter rivers directly. Thus, the interconnections between different impacts increase the risks of landslides in steep and unstable areas prone to flooding, phenomena multiplied by deforestation and the climate crisis.³⁷

The Norperuvian Pipeline, a "key case," is Peru's longest, most representative, and controversial pipeline. In 1976, it began transporting hydrocarbons from the Amazon to the Peruvian coast. In 1106 km of the total route, it crosses five regions of the country: Loreto, Amazonas, Cajamarca, Lambayeque and Piura. According to reports by the CNDH and Oxfam, 33% of spills in the pipeline between 1997 and 2021 were due to operational failures, 22.33% to corrosion, 31.07% to third parties, and 13.59% to natural causes such as earthquakes and avalanches. However, the disasters caused by deficient technical-administrative management are multiplying throughout the Amazon region, worsened by the government's tendency to ignore complaints, establish corrective measures, prosecute and apply sanctions by environmental regulations.³⁸

Concerning the above, it is paradoxical how quickly the border governments of Peru, Ecuador and Bolivia, to name but a few, are speeding up the consent procedures for the exploration and exploitation of new hydrocarbon concessions outside institutional regulations, not only about nature but also to the legal documentary support of the rights of the ethnic communities affected by the accumulation of environmental liabilities that have not been recorded over time. In Bolivia, between 2023 and 2024, 18 projects are being implemented to reverse the gas crisis and mitigate diesel subsidies, both of which are burdensome policies for the country's economy. Meanwhile, Peru is moving to relax legislation on protected natural areas in response to the directive imposed by transnationals after the coup d'état against President Pedro Castillo. On the other hand, of the 8,278 environmental liabilities and other oil impacts identified in the countries above, a further 6,371 have yet to be remediated. In Peru, in the town of Tumbes, oil residues gushed out from

³⁵ ↪ FCDS et al. Seguimiento de la pérdida de bosques y cambio de cobertura en el Arco de Deforestación en la Amazonia Colombiana (abril 20212-marzo 2022). 45,46,47,54

³⁶ ↪ Yusta García et al. "Walter contamination from oil extraction activities in Northern Peruvian Amazonian rivers". Environmental Pollution. Vol. 225. 2017. 370-380.

³⁷ ↪ Adriana, Erthal Abdenur et al. 2019. *Los delitos ambientales en la Cuenca del Amazonas*. Madrid: El PacCto, 15-16

³⁸ ↪ Jame Tranca. "En Perú, los derrames de petróleo manchan a la Amazonia. ¿Por qué se actúa tan lentamente? <https://dialogochino.net/es/actividades-extractivas-es/53777-en-peru-los-derrames-de-petroleo-manchan-a-la-amazonia-por-que-se-actua-tan-lentamente/>". Diálogo Chino. Mayo 10 de 2022.

a still-active oil spill and, eventually, a fire broke out; the locals, far from understanding the polluting event, turned this place into a tourist attraction, comparing it to hot springs. In summary, since 2014, Peru has counted an inventory of 3,000 hydrocarbon environmental liabilities in nine country regions, mainly in Tumbes and Piura.³⁹ In Brazil, oil spills on more than 500 beaches neglected by the state have been directly intervened by communities in clean-up and conservation work, concerned about the stability of mangroves and coral reefs, critical ecosystems for the survival of

The Ecuadorian Amazon is called the "Chernobyl of the Amazon" and is the most ominous case of transnational capitalism in South America.

species in the area and the economic activity of the inhabitants. As far as the inhabitants are concerned, they have been deprived of tourism; and the family economy, health services, and food systems have deteriorated due to

fish contamination and direct exposure to the spill. In Colombia, although the use of fossil fuels has slowed down as a policy of gradual substitution by renewable energies, we still do not know how the remediation of 106 environmental impacts is progressing.⁴⁰

The Ecuadorian Amazon is called the "Chernobyl of the Amazon" and is the most ominous case of transnational capitalism in South America. For almost 20 years, the affected communities have been confronting US oil company Chevron-Texaco. Let's look at some sections of this case: 1107 pools remain full of oil, pits and hydrocarbon spills. Some of them are almost a kilometre long. In San Carlos, in the province of Orellana, there are people who, without knowing it, have built their homes over pools covered with vegetation. *Imagine consuming water contaminated with crude oil, which is why it is suspected that the high rates of cancer in the province of Orellana are due to this source of contamination.*⁴¹ In February 2019, the Provincial Court of Sucumbios,⁴² through the historic "Lago Agrio" ruling, sentenced the oil company to pay 9.5 billion dollars for polluting the Amazon between 1964 and 1992. However, the Ecuadorian judiciary failed to enforce the ruling. Instead, the government will have to pay multi-million dollar compensation due to an international lawsuit under the global investment protection system. An arbitral tribunal issued an award ordering Ecuador to annul the 2011 Sucumbios court ruling as fraudulent. In response, the Ecuadorian "Union of People Affected by Texaco-Chevron's oil operations in Ecuador", the claimant in the Lago Agrio case, alerted that "in September 2022,⁴³ the Attorney General's Office of Ecuador filed a cassation appeal against the judgment that ratified the 2020 decision by which a tribunal in The Hague ruled in favour of Chevron confirming the 2018 partial arbitral award against Ecuador".

The Southern Interoceanic Highway between Peru and Brazil, illegal mining and deforestation

The Southern Interoceanic Highway between Peru and Brazil continues to be implicated in the biggest corruption and dirty business scandal of the Brazilian company Odebrecht (now Novonor). Together with the Peruvian companies Graña y Montero, JJ Camet and Ingenieros Civiles y Contratistas, they formed the consortium Conirsa to build sections 2 and 3. It cost almost US\$2 billion for the five sections that cross Cusco, Madre de Dios and Puno in the south-eastern

³⁹ ↪ Ivette Sierra Praeli. "Una remediación pendiente: la contaminación de la industria petrolera no se atiende pese a la legislación vigente". <https://es.mongabay.com/2023/06/remediacion-pendiente-contaminacion-industria-petrolera-no-se-atende/>. Junio 27 de 2023.

⁴⁰ ↪ AIDA. "El derrame de petróleo que devora la vida en playas brasileñas" <https://aida-americas.org/es/blog/el-derrame-de-petroleo-que-devora-la-vida-en-playas-de-brasil> 18 noviembre 2019.

⁴¹ Ivette Sierra Praeli. "Una remediación pendiente: la contaminación.

⁴² ↪ Aldo Orellana López. "Chevron vs Ecuador: arbitraje internacional e impunidad corporativa". <https://www.opendemocracy.net/es/democraciaabierto-es/chevron-vs-ecuador-arbitraje-internacional-e-impunidad-corporativa/> 27 de marzo 2019.

⁴³ ↪ CIAR GLOBAL. "Ecuador pierde recurso de anulación contra laudo de Chevron". <https://ciarglobal.com/ecuador-pierde-recurso-de-anulacion-contra-laudo-de-chevron/>

Peruvian Amazon. According to official figures, the investment was US\$1.2 billion more than initially planned. From the beginning, it did not go through the National System of Public Investment under constant modifications of contracts and overvaluations of sections 2, 3 and 4. The road route passes through Arazaire without the community having been consulted. In addition, as the Madre de Dios section is saturated with illegal mining sites, the river remains saturated with mercury in the native village of Arazaire. In 2020, twenty-five families had 658.22 ha of territory and were left with less than 500 ha. Among the losses are forests and farms, plus the damage caused by the diversion of the Inambarie River. In short, Arazaire has become the headquarters of ten mining concessions. In several sectors, the permits have led to enclaves of illegal mining, facilitated by the state's failure to update the territorial limits, an effective procedure in the elimination of legal restrictions and a free hand for the invasion of indigenous territories.⁴⁴

The study by the Centro de Innovación Científica Amazónica revealed that, during the road construction period (2006-2011), the rate of deforestation in 2006 increased from 2,010 ha to 8,536 ha per year in 2011. The same report reports the deforestation of 95,750 ha for gold mining between 1985 and 2017. According to the Ministry of Environment's Forest Programme, 254,153 ha of forest were lost in Madre de Dios between 2001 and 2020. Another study highlights that in 2017 alone, the region experienced forest devastation of 9,860 ha through gold mining, which represents 6.9% of the total deforestation in Peru. Consequently, the countless infractions under the implementation of routine planning procedures, environmental impact studies and other legal chicanery have justified the alleged ignorance of the indirect consequences of forest clearance and the rise of illegal gold mining in the communities, the Madre de Dios River and its tributaries. In this sense, the complaints remain "in institutional limbo", taken to the extreme by the disaster caused by the concessionaires from the moment they rent the areas given to them by the State to the miners. As for the communities, the same distress of the Arazaire people is experienced by the Harakmbut ethnic group, which has also been invaded by migrant settlers from the highlands and northern Peru with their sights set on mining. Thus, the rights to ancestral properties along the road are vanishing, followed by the migration of settlers and forced internal displacement.⁴⁵

In the Peruvian Amazon, in the Loreto region, the mining concession in the Nanay River basin was handed over in August 2023. It adds 38 applications and other concessions overlapping totally or partially in the Marañón River. From the list of mining concessions, Raíces Gaddaffi occupies 1000 ha in areas of the basin. At the same time, they have increased the area of exploitation by 4500 ha, and the rejection of indigenous leaders, civil organisations, and environmental experts is growing under the indifference of the Peruvian government. As a result, they live under constant risk, threats and harassment. In this sense, the MAAP report in Madre de Dios also describes the destruction of 23,000 ha of forest under illegal gold mining and the rise of organised crime since 2021. The Environmental Prosecutor's Office registered more than 100 dredgers in the Nanay River basin alone, operating 24 hours a day and even with satellite internet and clandestine routes for transporting fuel. Climate events in 2023 also left a grim legacy: Cyclone Yaku on the Peruvian coast left a tragic toll of deaths, thousands of victims and millions of soles in economic losses. This was followed by the "Coastal El Niño" phenomenon and that of other jungle areas, which left severe consequences in the form of intense droughts in the Amazonian rivers. At the same time, the Peruvian government announced crop failures in at least nine regions of Peru. The saga of natural phenomena without climate change mitigation and adaptation

⁴⁴ ↪ Brazilian company involved in construction in several South American countries. When widespread corruption was uncovered, high-level figures across the region were implicated, including three former Peruvian and one Colombian president for their role in the contracting of the Interoceanic Highway and the financing of political campaigns. In: Enrique Vera. *Vía Interoceánica Sur: after a decade, communities are worried*.

⁴⁵ ↪ Enrique Vera. "Vía Interoceánica Sur: tras una década, preocupa a las comunidades". <https://dialogochino.net/es/infraestructura-es/52497-via-interoceanica-sur-tras-una-decada-preocupa-a-las-comunidades/> Marzo 31, 2022.

responses and the weakening of environmental legislation benefits large-scale deforestation and normalises the permanent risk to the Amazonian forests and Peru's socio-economic stability.⁴⁶

In 2003, the regional government of Loreto issued the regional ordinance declaring the [Nanay] basin an exclusion zone for mining activities and activities that alter vegetation cover. This was followed by regional ordinances in 2008 and 2009, aimed respectively at the conservation of the Nanay river basin extended to the headwaters of the Mazán and Arabela river basins, an area of over 1,307,358 ha: Firstly, the Ministry of Mines and Energy in the delivery of concessions ignores the regulatory framework and the environmental services it provides as the main source of water for Iquitos, the capital of the region, with coverage of half a million inhabitants. Secondly, the Raíces Gaddafi concession, in the words of José Munayama of the Loreto Water Defence Committee: "(...) is a multiple and treacherous blow because it not only opens up the possibility of legalising the illegal mining that is already in the basin, but also opens the door to other requests that exist in the same basin". In 2023, another 53 concessions were presented, exceeding those of the previous year by 60%. Likewise, the MAAP also identified another 11 in the Loreto region's rivers with dredgers and boats for the illegal transport of gold. The same is true for the impacts on 31 native communities and three protected natural areas: the Yaguas National Park, the Allpahuayo Mishana National Reserve and the Alto Nanay-Pintuyacu Chambira Regional Conservation Area. It is inferred how illegal extraction is camouflaged through mining concessions, turning them into illicit facades, as it has been proven that "the place where they extract the gold does not correspond to the area where the concession was granted or they are installed directly in the rivers".⁴⁷

On the other hand, the population of Iquitos and the communities living along the watershed are directly impacted by illegal mining. Yusen Caraza, former prosecutor of FEMA, has filed an environmental protection lawsuit in the Civil Court of Loreto demanding "the reversal of the unconstitutionally granted concession". Similarly, other non-metallic mining concessions exist, such as the extraction of stones, earth and construction materials. The environmental problem is severe. Through the MAAP, the environmental authority has registered at least 120 dredges in the Nanay River since 2021, most within the Alto Nanay-Pintuyacu Chambira Regional Conservation Area.⁴⁸

For the "state entity, a mining concession does not grant any right to land, forest, watersheds, water, rivers, lakes, lagoons, etc., nor to any other resource or asset discovered or to be discovered in Peruvian territory. Ingemmet specifies that a mining concession is an administrative act that does not mean occupation of the land and that the start of mining activities in a specific area is subject to permits that concessionaires must request from various public institutions".⁴⁹ This conception presents severe inconsistencies in the interpretation of the administrative limits defined by the State concerning the concept of a watershed as a biophysical unit. Environmental damage in a particular area of the basin extends to rivers, tributaries, forests, terrestrial and fluvial ecosystems, etc., since the natural heritage is interconnected in Peru and extends throughout the entire Pan-Amazon region. In the end, transgressing the environmental norms that the authorities have created corresponds to problems of corruption, abuse of power and contempt for institutions, communities, human life and the lives of hundreds of river and land creatures that support the Pan-Amazonian macro-ecosystem.

⁴⁶ ↪ Yvette Sierra Praeli. Perú: autoridades aprueban 39 concesiones mineras que se superponen a cuencas de ríos Marañón y Nanay en Loreto. <https://es.mongabay.com/2023/11/peru-autoridades-aprueban-concesiones-mineras-se-superponen-a-cuencas-de-rios-maranon-nanay/> 6 de noviembre 2023.

⁴⁷ ↪ Yvette Sierra Praeli. "Perú: autoridades,

⁴⁸ ↪ Yvette Sierra Praeli. "Perú: autoridades,

⁴⁹ ↪ Yvette Sierra Praeli. "Perú: autoridades,

Transnationals' Illegal gold mining, financing and profits

The financing of nine mining giants in Brazil includes the British company Anglo-American, the Canadian companies Belo Sun and Potássio do Brasil, the Peruvian Minsur Group's Taboca and Mamoré mining companies, the Anglo-Swiss company Glencore, the South African company AngloGold Ashanti, the Anglo-Australian company Rio Tinto and the Brazilian company Vale. Of the operations already regulated in the country, the concurrence of 225 active mining applications has prompted large indigenous mobilisations under the slogan "territories free of mining". Hence, the *modus operandi* of Vale and AngloAmerican is once again repeated with the decision to postpone the applications and, after a prudent time, return with greater force to revive the predatory requests. We add other relevant data: the companies' profits amount to 54.1 billion dollars (275 billion reais) in the last five years (including the value of loans, subscriptions, investments in shares and bonds). The leading investors are from the US: Capital Group, BlackRock and Vanguard invested a total of \$14.8 billion (R\$75.54 billion) and from Brazil itself, the pension fund Previ and Banco Bradesco through investment of \$11.8 billion (R\$60 billion) in the period. There were also significant contributions from private groups in France, Germany, Japan, Canada and South Africa.⁵⁰

According to a study by Escolhas, mining on indigenous lands is exported to the industrial sector of the Global North. In 2020, Brazil shipped 110 tonnes of gold to Canada, Switzerland, Poland, and the UK, an estimated 20% of which was illegal. The central claims are located on Xikrin indigenous lands in Cateté. The Para ethnic group is almost decimated by the Serra Pelada mine operations and the Waimiri Atroari in the state of Amazonas. In addition to land invasion, mining activities have annihilated sacred sites, according to indigenous communities. In 2021, the multinational mining company Taboca, owned by the Peruvian group Minsur, was accused of accidentally dumping tailings in the rivers of the Waimiri Atroari territory.⁵¹ We underline that the Pitinga mine, close to indigenous land, produces tin, an ore shipped from Brazil to the United States, Germany and the Netherlands.⁵² However, not only in Brazil but in the rest of the South-Central Americas, the financialised Canadians are the most involved in the extractive industry, leaving massive ecological fractures and, in response to the crimes and demands for remediation of the affected communities, they receive threats under a reprehensible cloak of impunity. The state of Pará stands out as a clandestine epicentre of mining embedded in the DNA of the city of Itaituba. The "Study by the Federal University of Minas Gerais estimates that 30% of the 158 tonnes of gold produced between January 2021 and June 2022 indicates illegal or potentially illegal origin."⁵³

A peculiar case in the Venezuelan Amazon: drug trafficking, illegal mining and a humanitarian crisis

The Venezuelan government in the south of the country has intensified military incursions against illegal armed groups, including in the Orinoco Mining Arc, an area of almost 112,000 km². Organised crime is not relenting in exploiting the gold deposits and exporting gold through trails, river routes and clandestine tracks. The states of Bolívar and Amazonas in the border areas with Colombia have long been reported to be under the control of Colombian criminal gangs and guerrilla groups, who profit from illegal mining and the recruitment of indigenous people in exchange for precarious

⁵⁰ ↪ Without going into detail, the requests grew exponentially under Bolsonaro's government. We still need concrete data under Lula Da Silva's presidency. The strengthening of legal/illegal gold mining has resulted in blatant violations of ILO 169.

⁵¹ ↪ Mauricio Angelo. Minera brasileña-peruana contamina ríos en la Tierra Indígena Waimiri-Atroari. MongBy Latam. <https://brasil.mongabay.com/2021/05/mineradora-brasileiro-peruana-contamina-rios-na-terra-indigena-waimiri-atroari/> 28 mayo. 2021.

⁵² ↪ Livia Machado Costa. Dialogo Chino.

⁵³ ↪ El País. La ciudad del oro ilegal de Brasil se enfrenta al Gobierno de Lula Da Silva. México. 1 marzo de 2023. <https://elpais.com/internacional/2023-03-01/la-ciudad-del-oro-ilegal-de-brasil-se-enfrenta-al-gobierno-de-lula-da-silva.html>

stipends under a dark horizon of a humanitarian crisis resulting from illicit sanctions by the collective West. Particularly in the last twenty years,⁵⁴ the accelerated expansion of illegal gold mining and the environmental effects of the humanitarian emergency have undermined the forests of the Guayana region and the rest of the country.⁵⁵ Based on data from Global Forest Watches (WGF), from 2016-2020, the decrease in vegetation cover averaged 157,307 ha per year. It

We underline how the severe humanitarian crisis drives the most vulnerable sectors of the population to natural resource extraction.

was more than 58% between 2001 and 2015. In the same period, forest loss reached 35%. Thus, "deforestation in Venezuela in recent years has been directed towards previously undisturbed natural forest ecosystems". Climate 21 points to

commodity extraction, forestry or forest plantations, migratory agriculture, urbanisation and unknown causes as causes of deforestation.

We underline how the severe humanitarian crisis drives - until 2024 - the most vulnerable sectors of the population to natural resource extraction (hunting, firewood, construction materials) and subsistence agriculture as a means of survival. This reality was aggravated in the context of the Covid-19 pandemic and the migration crisis. Between 2001 and 2021, national deforestation was concentrated in Bolívar, Zulia, Monagas, Amazonas and Anzoátegui; incidents doubled in the first decade of the 21st century through illegal gold mining in the Guayana region, followed by Amazonas and Delta Amacuro. This coincides with the beginning of the new national mining policy and the establishment in 2016 of the National Strategic Development Zone of the Orinoco Mining Arc (AMO). According to MapBiomás, between 1985 and 2020, the Venezuelan Amazon lost 1.1 million ha of native vegetation cover. Likewise, the Venezuelan Guayana is one of the most critical deforestation hotspots globally. Incidentally, the state of Amazonas, the most affected, geo-referenced 199 mining points in 2020 with significant damage in the Canaima, Yapacana, Duida Marahuaca, Parima Tapirapeco and Serranía La Neblina National Parks. In short, despite the severe humanitarian crisis that the country is experiencing, research, although deficient, does provide a glimpse of the urgent need for the state to recover its institutional capacities to reduce, at least by half, the degradation and fragmentation of forests, reduce the severe threats to populations due to the impact on water supply, the increase in the risk of socio-natural disasters due to desertification and the population's access to environmental goods and services.⁵⁶

Venezuela has been under repeated and unsuccessful US invasion attempts. Atilio Boron, an expert analyst, has published the successful management of the Venezuelan government after frustrated incursions outsourced through mercenaries hired in Miami off the coast of Macuto, La Guaira state.⁵⁷ He has not escaped intensive patrols by the US 4th Fleet in the Caribbean Sea under the pretext of dismantling networks and capturing an estimated 93% of cocaine brought in from Colombia. The case of Juan Guaidó is another outburst.⁵⁸ On 23 January 2019, he swore himself in as "interim president" of Venezuela at the request of then President Trump; the hostilities have no end: 913 sanctions have exceeded 150 billion dollars in losses with other equivalents in "suffering, deprivation and systematic aggressions that curtail life and collective rights denounced in the United Nations, qualified as "cruel measures and crimes against

⁵⁴ ↪ Informe Bosques en desaparición: Deforestación en Venezuela 2016-2021. Caracas Clima 21. <https://clima21.net/> agosto de 2022. 9

⁵⁵ ↪ According to research, it isn't easy to establish the current situation of forest conservation because there is little research on deforestation and its consequences. Those that do exist are local efforts with outdated information, and there needs to be official information available on these vegetation formations and the scarce environmental management. In Report Disappearing Forests: Deforestation in Venezuela 2016-2021. Caracas Clima 21. <https://clima21.net/> August 2022. 10.

⁵⁶ ↪ Deforestación en Venezuela 2016-2021. Caracas Clima 21. <https://clima21.net/> agosto de 2022. 22

⁵⁷ ↪ Atilio A. Boron. "Trump ensaya la invasión de Venezuela" <https://rebellion.org/trump-ensaya-la-invasion-a-venezuela/> 5 de mayo de 2020. It has not escaped intensive patrols by the US 4th Fleet in the Caribbean Sea, under the pretext of dismantling networks and capturing an estimated 93% of cocaine entering from Colombia".

⁵⁸ ↪ "Centro Internacional de Inversión Productiva. ¿Por qué el oro de Venezuela sigue congelado en el Banco de Inglaterra?". <https://observatorio.gob.ve/por-que-el-oro-de-venezuela-sigue-congelado-en-el-banco-de-inglaterra/> #:~:text=Hace%20cuatro%20a%C3%B1os%2C%20el%20gobierno,en%20el%20Banco%20de%20Inglaterra. 27 de enero de 2023.

humanity".⁵⁹ At the worst moment of the pandemic, the country found acquiring medical supplies and vaccines impossible. The icing on the cake was the theft of 31 tons of gold reserves deposited in the Bank of England, estimated at 1.3 billion dollars.

In conclusion, the anthropic, ecological and environmental impacts, as well as the irreparable fractures to the soil due to the collapse of the national economy, international isolation and sanctions, returned millions of Venezuelans to the indigenous economy. Thus, the natural economy emerged when the Venezuelan inhabitants embraced ways of life similar to those of the uncontacted Amazonian Indian Communities in complete dependence on nature. However, the inhabitants of extreme poverty did not adopt uses and practices for conserving natural capital. Among the fundamental differences, the most vulnerable populations were part of the lower and middle classes rescued from extreme poverty by President Hugo Chávez, with urban lifestyles situated on the opposite side of the context from the indigenous way of life of the tropical rainforest.

Forced labour, organised crime and environmental crime in cross-border areas of Brazil, Peru and Bolivia

In cross-border areas of Brazil, Peru and Bolivia, agribusiness, logging and illegal mining covertly contract or join different factions of organised crime, subjugating migrants and indigenous people previously expelled from their protected reserves after centuries of voluntary isolation into various types of slavery. *Lack of oversight, corruption and the structure in which organised crime operates influence these dynamics. Let us look at some cases of slavery or forced labour strongly linked to illegal mining, money laundering and corruption.* In Brazil, nearly 50,000 workers were freed from near-slave labour between 2003 and 2017 in the legal Amazon. In the Brazilian states of Pará, Mato Grosso and Maranhão, through the trap of paying wages in advance, workers accumulate unpayable debts and thus become captives of the capitalist entrepreneur. The same is true for the "deforestation arc", which covers about 500,000 km² of land, from the south-east of Pará to the west, through Mato Grosso, Rondonia and Acre, where the highest rates of slave labour in the country are concentrated.⁶⁰

In similar situations, migrants and indigenous people are trapped by agribusiness, cattle ranching and coal mining, for example, which accumulate the highest levels of responsibility for deforestation in the country. According to a report by the Walk Free Foundation (2016), in Peru, nearly 200,000 people died as a result of forced labour in logging, illegal mining and domestic work. The country has the third highest rate of forced labour after Mexico and Colombia. Amazonian Peru uses deception and blackmail to trap workers in cycles of debt and servitude under miserable conditions, derisory pay and unlimited working hours. The payments are so low that it is almost impossible to repay the debts, to the extent that they are easily passed on from one generation to the next. Similarly, employers evade the provision of minimum protection and safety equipment, first aid and evacuation to hospitals in the event of serious accidents. In Bolivia, preferably at the Brazil nut harvesting sites, day labourers and indigenous people are also held captive by accumulating debts and do not arrive until the end of the season. Others are not paid on time; worse still, they are fined if they leave the workplace without the manager's authorisation. *Some of the contracts these workers have signed in recent years resemble contracts drawn up a hundred years ago, as defined by Sharma in 2006.*⁶¹

⁵⁹ ↪ Naciones Unidas. "Las 913 sanciones que nos han impuesto son crímenes de lesa humanidad, denuncia Venezuela". <https://news.un.org/es/story/2022/09/1515221> 24 de septiembre de 2022.

⁶⁰ ↪ Adriana, Erthal Abdenur et al. 2019. *Los delitos ambientales en la Cuenca del Amazonas*. Madrid: El PacCto, 23-24

⁶¹ ↪ Adriana, Erthal Abdenur et al. 2019. *Los delitos ambientales*, 23-24

Finally, corporate enclaves exacerbate labour exploitation linked to high rates of violence against the local population, forced labour, prostitution, human trafficking and violent social conflict. According to ILO research, in 2017, migrant workers were deprived of their constitutional rights as victims of forced labour.⁶²

Deforestation, drug trafficking and organised crime

Poor institutional oversight has facilitated the conversion of the largest tropical forest into a dangerous arena for bloody disputes over drug trafficking waterways. In Brazil, the main Amazonian drug transport routes are controlled by the most significant criminal organisation, the Familia do Norte (FDN), which has an irregular army of 200,000 members. "It disputes territory with the Primeiro Comando Da Capital (PCC), based in Sao Paulo, and maintains tense relations with its ally, the Comando Vermelho (CV), based in Rio de Janeiro. Direct clashes between criminal factions have left crime, massacres and battles in their wake, especially in the prison system. In 2017, 56 prisoners were killed in Compaj (Manaus), the largest penitentiary in the state of Amazonas."⁶³ The ultimate goal of the PCC, according to the Brazilian Federal Police, is to renew the transnational cartel called 'Narcosur': the Brazilian cities of Manaus, Coari and Tabatinga; Leticia in Colombia; Santa Rosa del Yavari in Peru. The figures are eloquent: 245,047 people share 213,281,229 km² of open border between Brazil, Colombia and Peru. Seventy per cent of the drugs entering Brazil enter via the Solimoes River through the triple border at Tabatinga.⁶⁴

Colombia, Bolivia and Peru are the world's leading cocaine producers, with record cocaine seizures in 2023. Among transit zones, Brazil is the most important point on South America's Atlantic coast, seizing more cocaine than Argentina, Guyana, Suriname, Uruguay and Venezuela combined.⁶⁵ InSight Crime states that "due to differences in the way countries measure and report data, comparisons between countries can be difficult. Drug purity is rarely known, and some countries include cocaine and coca base in their data".⁶⁶ According to the Office of National Drug Control Policy (USA), cocaine production in 2021: Colombia produced 972 tons, Peru 785 tons and Bolivia 49 tons.⁶⁷

Table N° 3. Cocaine seizures in 2023

Country	Cocaine seizures in tonnes
Colombia	739, 5. Drug cartels created a multitude of trafficking routes to get the drugs out of the country.
Peru	4.4% less cocaine, but 53% more coca paste, entering border areas with Brazil and Bolivia to facilitate transport to consumer markets.
Bolivia	10.260
Ecuador	200. In South America, it has become an important exit point. The increase in production in neighbouring countries and the benefits derived from the market led to an increase in homicides, from 6 per 100,000 inhabitants in 2016 to 44.5 per 100,000 inhabitants in 2023.

⁶² ↪ Adriana Erthal Abdenur et al. 2019. *Los delitos ambientales*, 22. 24.

⁶³ ↪ Adriana Erthal Abdenur et al. 2019. *Los delitos ambientales*, 17.

⁶⁴ ↪ Sputnik Mundo. "Las rutas del narcotráfico en la Amazonia". <https://sputniknews.lat/20180924/disputas-por-rutas-fluviales-narcotrafico-amazonia-1082216477.html>. Septiembre 24, 2018.

⁶⁵ ↪ InSight Crime. "Balance de incautaciones de cocaína de 2022" <https://insightcrime.org/es/noticias/balance-insight-crime-incautaciones-cocaina-2022/> 8 marzo 2023.

⁶⁶ ↪ InSight Crime, Balance de incautaciones, 4.

⁶⁷ ↪ Marina Pasquali. Statista. "Colombia, Perú y Bolivia produjeron más de 2.000 toneladas de cocaína en 2021". <https://es.statista.com/grafico/20081/los-paises-que-producen-la-mayor-cantidad-de-cocaina/> 22 de marzo 2023.

Brazil	72,3. Almost 17 tons were seized in São Paulo, the largest state in the Americas and home to Brazil's main cocaine exit point, the port of Santos. This territory is home to one of the world's main cocaine trafficking groups, the First Capital Command (Primeiro Comando da Capital, PCC).
Venezuela	43,7. The state of Zulia accounted for 62 per cent of tons. Zulia borders the Colombian region of Catatumbo, Colombia's largest coca cultivation centre. It has a large presence of sophisticated Colombian guerrilla laboratories.

Fuente: *InSight Crime*. Balance de incautaciones de cocaína de 202 de InSight Crime. <https://insightcrime.org/es/noticias/balance-insight-crime-incautaciones-cocaina-2023/> 5,6,7,8, 10,11,12

Colombia is promoting a policy of eliminating coca leaf cultivation, mainly grown in indigenous territories and some peasant sectors. By 2023, it had 230,000 ha of coca cultivation. On the other hand, the government of President Gustavo Petro reactivated the 2016 peace agreement, which was torn to shreds by the government of Iván Duque, and reinforced it with the 'Total Peace' programme.⁶⁸ Reactivating the chapter on agrarian reform replaces the sowing of coca leaves with the handing over, titling of land and promotion of rural agriculture. For this purpose, it has replaced the violent aerial spraying of glyphosate with manual eradication and the protection of coca farmers. The change in approach in the fight against drugs lies in the fact that, instead of pursuing coca farmers, it is militarily confronting transnational drug capitalists and financial money launderers and dismantling criminal organisations.⁶⁹ In 2023, military authorities seized 740 tons, as well as seizures of coca base and marijuana. The change in approach has positively impacted violence reduction with advances in human rights and the sustainable development of small farmers. In short, despite the difficulties in measuring how much money from the drug trafficking industry returns to Colombia, different studies have estimated that drug trafficking weighs the national economy and could reach 2% of GDP, equivalent to \$19.5 billion.⁷⁰ Significantly, much of what is exported goes to middlemen, so most profits stay in the distribution route.

Brazil is the sixth most polluting country in the world.

Amazonia from sink to source of high greenhouse gas emissions

The Brazilian Amazon biome occupies 61.8% of the bi-regional territory. According to data from the Climate Watch platform, Brazil is the sixth most polluting country in the world, emitting around 1.5 billion net tons of CO₂ per year⁷¹ into the atmosphere, a large part of these emissions coming from the agro-industrial and livestock sectors, almost a quarter of Brazil's GDP.⁷² Thus, 90% of the deforested area of the country in 2022 correlates to the Amazon and Cerrado,⁷³ which grew by 22.3% (Annual Deforestation Report. RAD 2022) with a total of 2,057,251 ha. Between 2019 and 2022, more than 303,000 deforestation events were reported for a total of 6.6 million ha. However, the remaining Quilombola communities and indigenous lands maintain some areas of their well-conserved territories. On the other hand, emissions were concentrated in the south of the states of Pará and in the north of Mato Grosso, an area historically

⁶⁸ ↪ It involves paramilitary organised crime organisations, e.g. the Clan of the Gulf belongs to extreme right-wing politicians embedded in the Congress of the Republic, state institutions and the judicial apparatus wields far-reaching political powers in favour of Colombian illegality.

⁶⁹ 90 segundos. Youtube. MinDefensa Revela La Verdadera Batalla Contra las Drogas en Colombia. <https://www.youtube.com/watch?v=YmTjxCZc0KU>

⁷⁰ ↪ Laura Lucía Becerra. "Narcotráfico pesa hasta \$19 billones en el Producto Interno Bruto de Colombia". 70. La República. <https://www.larepublica.co/economia/narcotrafico-pesa-hasta-19-billones-en-el-producto-interno-bruto-de-colombia-2933774#:~:text=Sin%20embargo%2C%20y%20a%20pesar%20de,equivalente%20a%20%2419%2C5%20billones>

⁷¹ ↪ Climate Watch. Explorador de Datos. <https://www.climatewatchdata.org/>.

⁷² ↪ PIB DO AGRONEGOCIO BRASILEIRO. Centro de Estudios avanzados de economía aplicada. CEPEA. <https://www.cepea.esalq.usp.br/br/pib-do-agronegocio-brasileiro.aspx#:~:text=Pesquisadores%20do%20Cepea%2FCNA%20indicam,PIB%20do%20Pa%C3%ADs%20em%202023.>

⁷³ ↪ MAPBIOMAS. Brasil. "Deforestación en biomas de Brasil creció 22.3% en 2022". <https://brasil.mapbiomas.org/2023/06/12/desmatamento-nos-biomas-do-brasil-cresceu-223-em-2022/>.

known as the deforestation arc, so that logging of native vegetation extends widely into the south of the states of Amazonas, Acre and Rondônia.

The Brazilian area is responsible for 70% of CO₂ emissions from deforestation (...) over the last 35 years. In 2021, for example, it managed to capture less than half of its emissions, releasing a balance of 740 million tonnes of CO₂ equivalent (42% of Brazil's net emissions), according to data from the Greenhouse Gas Emissions Estimation System (SEEG). Under these conditions, 74.6 million ha (Mha) of native vegetation will be lost between 1985 and 2020 in the nine countries, 78% of which is forest. Savannas (14%) and non-forest natural formations (7.6%) were also affected by human action. Finally, the depletion of native vegetation in the Pan-Amazon region between 1985 and 2020 was reflected in the brutal emission of 45.1 billion tonnes of CO₂ equivalent (CO₂e), one of the main GHGs. In the Brazilian Amazon alone, 31.3 billion gross tons were emitted in the period. According to research, the Amazon released one billion tonnes of CO₂ per year between 2010 and 2018.⁷⁴ Without burning and deforestation, it would have removed only 450 million tonnes of carbon dioxide from the atmosphere. Moreover, the southeastern and eastern part of the forest - the already heavily disturbed deforestation arc region - is functioning more as a carbon emitter than a carbon sink. This region is responsible for 72 per cent of the Amazon's total emissions, 62 per cent of which are from fires.⁷⁵

Conclusions

The multinational corporate sector in arbitrary alliances with the region's rulers has prolonged for more than two hundred years, since the transatlantic colonisation, different policies with a single objective, the deindustrialisation of the countries and the auction to the highest bidders for natural resources. In all cases, disconnections, ruptures, serious human rights violations and antagonistic disparity of interests between the rulers of the Pan-Amazonian states and the people they govern are revealed. Their existences and daily lives live parallel realities despite having been elected in representative democracies without binding effects in defence of the sovereignty of the countries of the Global South.

We must "[consider] that the 'backwardness' of the dependent countries has been a consequence of the development of world capitalism and, at the same time, the condition of this development in the great world capitalist powers".⁷⁶ Exports from the Pan-Amazonian cross-border region to the countries of the Global North of raw materials used in the production of prefabricated products of industrial agriculture, cattle and gold mining also conceal an indiscriminate plundering of forest resources, so-called "fine woods", and the illegal trafficking of wild species. In effect, the technological, productive forces of hegemonic capitalism (multinational and transnational) move without limits or obstacles, making their way through fires, logging, and plundering of land in the state or indigenous community territories under the terror and fearful control of different factions of organised crime.

Pan-Amazonian states legitimise the clearing of tropical rainforests and mining and energy extraction as if it were a free and unlimited storage pool for natural capital. That is, the dependent countries receive in exchange certain amounts of royalties with no equivalent value to the natural capital, since for the capitalist economy these are "environmental externalities". In other words, they are side effects without implying any responsibility either to the subordinate country

⁷⁴ ↪ Luciana V et al. 14 julio 2021. Amazonia as a carbon source linked to deforestation and climate change. <https://www.nature.com/articles/s41586-021-03629-6> y Washington Castilhos. "La Amazonia emitió más CO₂ de lo que absorbió. <https://www.scidev.net/americas-latina/news/la-amazonia-emite-mas-co2-de-lo-que-absorbio/> 26 julio de 20212.

⁷⁵ ↪ INFOAMAZONÍA. "Brasil fue responsable del 70% emisiones de CO₂ por deforestación en la Panamazonia en los últimos 35 años". <https://infoamazonia.org/es/2022/11/18/brasil-fue-responsable-del-70-de-las-emisiones-de-co2-por-deforestacion-en-la-panamazonia-en-los-ultimos-35-anos/> 18 noviembre de 2022.

⁷⁶ ↪ Bambirra, Vania (1971). *El capitalismo dependiente latinoamericano*. México, Siglo Veintiuno Editores. 13

or to nature itself. In Colombia, for example, royalties from mining and hydrocarbons barely represent 30% of the investment budgets in municipalities and departments, and the governments of nine countries justify and promote corporate dispossession in the Pan-Amazon region.⁷⁷

The voracious deforestation of tree ecosystems is just the beginning of the North's insatiable ultra-liberal development model for the Global South. It is also fuelled by the plundering of small and medium-sized ethno-quilombola-afro-peasant lands and properties in the Amazonian transborder areas. In this way, the forest mass is turned into piles of unusable undergrowth. When the clearing phase is over, the soil is prepared to receive high concentrations of agro-toxins, which are indispensable for the establishment of large extensions of monoculture cereal plantations or the installation of gigantic stables for the concentration of millions of head of cattle. Thus, after deforestation, 72% is transformed into animal feed, the basis of cattle nutrition, 16% of the world's harvests end up directly on consumers' tables and 11.7% goes to the manufacture of biofuels and industrial materials (FAO 2020) in the Global North.

Hegemonic capitalism perpetuates the precarious and almost century-old development concept analogous to the unlimited extraction of natural resources above and below ground. In the name of development, constructing the Norperuvian oil pipeline on the border with Ecuador has left hundreds of spills and tragedies in five regions of Peru scattered throughout the Amazonian biogeography. Likewise, the Interoceanic Highway in the southeastern Peruvian Amazon crosses Cusco, Madre de Dios and Puno, and its secondary roads go deep into the forests. As a result, a powder keg of socio-economic and eco-environmental conflicts has been unleashed. Without prior consultation, Odebrecht tore the Arazaire indigenous territory to shreds, almost extinguishing the population, and deforestation wiped out hundreds of thousands of hectares of forest. Because of its privileged location, Arazaire has become the site of overlapping gold mining concessions, and it is no longer possible to differentiate between legal and illegal extraction. At the same time, the settlers diverted the course of the Inambari River, which had catastrophic effects on housing areas and community spaces, extending the conflict to the Harákmbut tribe, which was also invaded by settlers intoxicated by gold fever. Along the Madre de Dios stretch, backhoes are multiplying under the rubric of business concessions, also conquered by the gold rush epidemic. In this way, mining concessions are irretrievably devastating the southeastern Amazon.

This paper is only a sketch of the immense tragedy occurring in the Pan-Amazon region. Illegality is of such magnitude that it is almost impossible to address the problem in its entirety.

Consequently, we have dealt with different cases of deforestation linked to the agri-food sector, oil extraction and spills, the construction of infrastructure works, legal and illegal mining, etc. We must make it clear that this paper is only a sketch of the immense tragedy occurring in the Pan-Amazon region. Illegality is of such magnitude that it is almost impossible to address the problem in its entirety. However, we can affirm that ultra-liberal hegemonic capitalism accommodates itself to any form of dispossession, be it drug trafficking, state armies or organised crime organisations under the complicit silence of the Pan-Amazonian states. From these alliances, it makes the most profit through the overexploitation of forced labour in the most outrageous conditions to which a human being can be subjected. Similarly, under a climate of asphyxiating impunity and premeditated governmental inoperativeness, governments weakened by neoliberal pressure, spurred on by corruption and a good dose of illicit enrichment, have exacerbated child labour, prostitution, sexual violence and homicides.

⁷⁷ ↪ Brasil, Colombia, Venezuela, Ecuador, Perú, Bolivia, Surinam, Guyana Francesa y Guyana Inglesa.

Turning to the contradiction between hegemonic capitalism and Amazonian rainforest ecosystems governed by the laws of nature, the ecological physiology of trees shows us that there is no capitalist technology that can replace the creation of natural energy through the miracle of photosynthesis. That is, that science can simulate other artificial ways to sustain human, animal and other organic life that sustain biodiversity, without resorting to the plunder of water, copper, lithium or the 17 rare earth elements of the Global South.⁷⁸ The same applies to the natural functions of "roots, hydraulic redistribution and microbial fungi" in the transport of water, true natural engineering. In this sense, another essential function is attributed to rainfall triggering over hundreds of thousands of kilometres, ineluctable functions in the regulation of rainfall. After all, droughts and floods in different regions of the Earth, despite temperature differences, show serious anomalies in each continent or geographical area.

In former times, the rainforest contained one-fifth of the world's freshwater. Today, the spread of forest fires, deforestation and subsequent technological transformations of the forest floor are causing alarming alterations due to the El Niño phenomenon, with massive fish kills, water cycle disruption, and humanitarian crises in indigenous peoples with higher temperatures and lower rainfall. Similarly, global temperatures are rising, with a high probability of reaching another critical point for the climate system, with triggering and unpredictable effects, including the thawing of permafrost or the increase in the massive destruction of forests, not to mention the 400,000 km² deforested according to data provided by Stalista (2023).

In the Amazon, through armed violence, the conflicts and contradictions of capital with the owners of the indigenous reserves, quilombolas and migrant peasants under the abusive exploitation of the slave labour force are intensified. The foreign imperialist intervention drags behind it the destruction of the largest tropical rainforest on the planet. It accelerates the time of humanity's decline under scorching heat and heavy rains for the time being. An uncertain future of unexpected ecological and environmental catastrophes is looming without technologies guaranteeing adequate responses. In the end, the Marxist thesis is confirmed by Vania Bambirra's "logical conclusion": "the capitalist system cannot resolve the contradictions and in order to maintain itself it needs to resort to more extreme forms of economic, political and social repression, i.e. fascism". However, the regime of scarcity and monetary poverty in the Global South has taught the most vulnerable populations, who are in the infinite majority, a great capacity for resilience and struggle to defend their rights to land and common goods that support security with food sovereignty.

⁷⁸ ↩ Nubia Barrera Silva. "El litio y las contradicciones en la transición energética que devasta el Sur global en pro del Norte global". La Alianza Global Jus Semper. <https://www.jussemper.org/Inicio/Recursos/Info.%20econ/ellitioylascontradicciones.html>. Noviembre de 2021

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