

Ethnic-Peasant Resistance in South America and Mesoamerica to the 4.0 Agriculture of Catastrophe Capitalism

The Amazon is becoming wiped out due to the production of industrially processed foods for humans and animals

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Introduction

The ethno-peasant economy extended to indigenous peoples in voluntary self-isolation leads to the concept of Mother Earth. This is incompatible with agriculture 4.0 of the Global North in South America and Mesoamerica (SA-MA) in areas of territorial expansion towards the Pan-Amazon Region made up of nine countries: Brazil, Venezuela, French Guyana, English Guyana, Suriname, Colombia, Ecuador, Peru and Bolivia. These peoples have full respect for and dependence on land, water, air and forests as sources of life. Unlike the concept of Western economic growth with its linear and fragmented

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approach, the integral vision of the natural economy, as Karl Marx said, is about "living well" and is on the opposite side from the passions and feelings of greed that have emerged from the unlimited accumulation of transnational landowning capital. The concept of Mother Earth is omnipresent in the ethnic worldviews shared by the peasantry.

In each ethnic group the past is updated and the origin orients the future. It includes not only the problems but also the human potentialities and strengths. "We are always speaking a language from before, from our people who have already died, but who inhabit our words (...), so we still have a continuous, millennial relationship with our seeds that come to us as a great gift (...) from their conversations with the crops. These seeds end up being new because they are so old.¹ It is the dialectic of transformation in movement between the old and the new. Add to this the concept of the "Mapuche people, whose original territory is in the southern part of Argentina and Chile, who consider themselves people of the earth (Mapu-che); this is how their language, Mapudungun, is the language of the earth".² An unprecedented act of the Government of Rafael Correa, consisted in conferring to the "fertile and fruitful Mother Earth" laws and rights in the Constitution of Ecuador, where the Rights of Nature are established".³ From this vision, the land is a common good like water, wetlands and tropical rainforests scattered in a diversity of ecosystems related to biogeography, climate and the physicochemical characteristics of the soil. Nature is Mother Earth: the tropical rainforests are home to multiple forms of the plant and animal kingdom courted by microorganisms scattered in a diversity of climates and ecosystems, most of which remain unknown to science. "For us, trees are like the container where water is stored, they will continue to originate rivers and lakes. If the forest is destroyed, the rivers and lakes will disappear, generating serious problems for animals and man himself".⁴ The goods of nature used in domestic life are used and replenished. "Without the territory, one cannot think of the existence of the indigenous peoples of Chocó [the biogeographic region of the Pacific coast of Colombia] through food, housing, health, security, and happiness."⁵

The integral vision of the Inca Empire's worldview is another principle with regulatory functions in economic relations based on reciprocity and mutual aid. In the *link of the work*⁶ in the *Marca* or land cultivated by the ayllu with "mysticism and joy", the land acquired an economic value and a sacred connotation through the crops and the dead buried in the ground, with feelings of brotherhood in each of the members of the ayllu.⁷ The concept of Mother Earth was deciphered in economic and political transactions. Earth served as a witness. "The value was given to the word because there was nothing more sacred above it." Likewise, in the pacts the word was enforced by swearing by the land.⁸ "They called the

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¹ ↪ La Alianza Biodiversidad también produce Biodiversidad en América Latina Biodiversidad. Sustento y culturas. Nuestras semillas nuestros saberes: <http://www.biodiversidadla.org>. n° 105, julio, 2020. P. 4

² ↪ Jaquenod de Zsögön, *Antropología ambiental*. Madrid: Dykinson, S.L., 2014.p. 145

³ ↪ *Ibid.* p. 145.

⁴ ↪ El medio ambiente desde la Cosmovisión Embera. Centro de Documentación. Proyecto Biopacífico.

⁵ ↪ *Ibid.*

⁶ ↪ José Antonio del Busto. Perú Incaico. 5ª. Edición. Lima: Librería Studium S.A. 1983. P. 130.

⁷ ↪ *Ibid.* pp. 129-130: The literature of pre-Inca Peru has difficulty in defining an ayllu. However, it can be deduced that it has three links: (i) of kinship, its members recognised each other as brothers. (ii) of government, Curaca being the head of the group and (iii) of work.

⁸ ↪ Jaquenod de Zsögön. *Op. Cit.* P. 145

earth Pachamama and made it goddess of fertility, assigning to it virtues and defects of the female sex. It became a great source of production and within the Tahuantinsuyo—eminently an agricultural empire—a day could not exist without land".

In the original colonisation, the ethnic-peasant vision was radically opposed to the European one. The Spaniards defined in the plantation a productive unit of large-scale markets, handling the metal share plough, the hydraulic mill and the animal traction mill and huge iron implements in the intensive use of the soil unknown in SA-MA. Meanwhile, subsistence agriculture was practised in subject cultures. In the plots, farms or properties⁹ in the cleaning of the land until the present, they have used techniques of controlled slash and burn to maintain the harmony with the natural system of sowing and a vast arsenal of efficient and simple tools. In the Afro-Colombian culture in the Geographic Valley of the Cauca River, the traditional farm "is characterised by the natural system of sowing: "here and there" they sowed cocoa, coffee, beans, plantains, yucca, corn, fruit trees and medicinal plants. They also raised chickens and pigs and kept cows and other animals to work the crops.¹⁰ In other countries, a variety of grain farming systems prevailed, based on vegiculture.¹¹ A basic ancestral postulate in the soil's preparation concerns the sowing, establishment and harvesting immersed in the process of natural cycles with controlled slashing and burning. Intensive agriculture has distorted this technique: the Amazon rainforest is set on fire and burned by indiscriminate sectors in the chain of reconversion of tropical forests into

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large plantations of cereal monocultures, oil palms or cattle raising.

The transatlantic usurpation starts the fragmentations of the so-called "civilisation" in the invaded territories, taking away the natural patrimony, cultures, millennial economies and the conceptions of native well-being. Likewise, in the following centuries it led the region to successive and interminable macro metabolic fractures in benefit of the capital with direct impact in the appearance of the "Cold ICE Age" after the disappearance of over 60 million people. In the current ethnic-peasant struggles in defence of the territories in SA-MA, when different modalities of resistance are observed, it is clear how the integral indigenous vision succumbs to the fragmented capitalist vision in the extractive, livestock and agribusiness economies. This is a vision surrounded by secrecy in the magnitude of looting of the agribusiness of the biosynthetic and prefabricated food distributed in global markets. Behind them are jungle landscapes and multi-verse agricultural fields turned into dry lands, without water, with burning temperatures and environmental and social devastation. The fragmentation of the forest macro-system is reflected in the split between the original integral knowledge and the reductionist and specialised knowledge, in the local and globalised economies, with only one historical loser: the agricultural sector of the SA-MA countries.¹² In short, the integral worldviews and the fragmented or Cartesian vision stand opposition and without points of convergence by the very nature of dispossession.

The peasant economy, a legacy of the pre-Hispanic peoples, has traditionally concerned the local economies in the arrival of agriculture 4.0. Each legume, vegetable, orchard and the range of tropical fruits hide in its seed the millennial cognisance expressed in wisdom, myths, legends, knowledge, technical skills and agricultural procedures transmitted by

⁹ ↪ Change the name according to the pre-Hispanic culture and the region in SA-MA.

¹⁰ ↪ Nubia Barrera Silva. Organícemos nuestra finca. Fundación para el desarrollo integral campesino. Material Pedagógico de Historia Oral en comunidades afrodescendientes.

¹¹ ↪ Jaquenod de Zsögon (2014). Op. Cit., p. 143

¹² Barrera, Nubia. "En la Tierra, ¿el modelo cartesiano responde a las crisis del cambio climático?". P. 128. *En Educación y Neoliberalismo*. Editor Dustin Tahisin Gómez. Bogotá, 2015. pp. 128-161

tradition in permanent updates by the spontaneous empirical advance of knowledge in each of the modes of production throughout history. In each SA-MA country, food sovereignty, which has become a factor of imperialist domination, depends on the quantity and quality of food produced.

For the Vía Campesina Federation, in the globalization of agro-industrial capitalism, food sovereignty is the right of the peoples to produce their healthy food in the preferences of each culture in the region.¹³ It uses sustainable and ecological agricultural systems and methods. This concept goes beyond food security. It guarantees access to food, it exercises democratic control over the food system from production and processing to distribution, to the marketplace and consumption. In the countries of the South, the ethnic-peasant sector is in favour of the recovery of national food production and protection from transgenic seeds, as well as the recovery and adaptation of climatic conditions with its own agricultural techniques and crop diversification system in the care and conservation of soil, water, forests and sustainable seeds. The Intergovernmental Panel on Climate Change (IPCC) states: "The use of indigenous and local knowledge to combat desertification could contribute to climate change adaptation strategies".¹⁴ From the most general perspective, it shows the common feature of peasant economies subordinated to the capitalist economy in the transfer of the net value of their production, unlike the different aspects of the primitive modes of production with their relations of solidarity and mutual cooperation:

'simple commodity production has reigned in all its purity', it has always been mixed with the feudal and monopoly economy of corporations. Likewise, the law of value has had a partial action, and has brought about during its performance, in concrete limits, a regular production of elements that produced for the free and of mutual concurrence market.¹⁵

Finally, in the construction of the narrative of ethnic-peasant agriculture, one begins with the legacy of the latifundium - minifundium model [large and small landholding model] installed in the first transatlantic invasion of the "new world". Eduardo Galeano,¹⁶ in *the exploit of the discovery of the Americas*, moves to the roots in the "military tradition of warfare of the dominant crusades in medieval Castile (...). Pope Alexander VI, who was Valencian, made Queen Isabella the master and mistress of the New World. The expansion of the kingdom of Castile extended the kingdom of God on earth".

In the conquest, the most decisive facts in export agriculture and farming technologies, mediated by the scourge of inhumane slave exploitation relations, are addressed. Everything was valid in the extraction of gold and silver and the beginning of the first monoculture plantations throughout five centuries. Later, briefly, the period from independence to agricultural modernisation promoted by US imperial interests represented by the agri-food multinationals, could fit into the capitalism of dispossession of David Harvey, albeit the landlord rentier model with feudal agricultural relations in the agricultural sector continues to be sustained. The digital capitalism of the agro-industrial sector defines an unprecedented role in the usurpation of land, the expropriation of seeds and the territorial geo-referencing, the digital form par excellence in the expropriation of lands protected by customary law; and, in the same way, the robotisation,

¹³ ↪ Eric Holt-Giménez, *Food First. De la crisis alimentaria a la soberanía alimentaria. El reto de los movimientos sociales*. https://www.academia.edu/42976157/De_la_Crisis_Alimentaria_a_la_Soberan%C3%ADa_Alimentaria_El_Reto_para_los_Movimientos_Sociales

¹⁴ ↪ La Alianza Clima y Desarrollo. El Informe Especial del IPCC sobre Cambio Climático y la Tierra. ¿Qué significa América Latina? 2019. <https://cdkn.org/wp-content/uploads/2020/04/WEB-IPCC-Land-Latin-America-Spanish-24March2020.pdf>. p. 16

¹⁵ ↪ Kautsky, Karl. *La cuestión agraria*. Ediciones la Chispa. Berlín. 1898. P. 67.

¹⁶ ↪ Eduardo Galeano. *Las venas abiertas de América Latina*, septuagesimosexta edición, Siglo Veintiún o Editores, S.A. de c.v. corregida, 2004. p. 28.

the incursion of synthetic biology and genetic selection in human and animal nutrition. The cult of digital technology could not hide the harmful consequences on human health of this mode of food production since its unlimited consumption in global markets.

Subsequently, the particularities of the ethnic-peasant economy are presented, especially in the last two hundred years of resistance and struggle in defence of land, native seeds and food sovereignty. The Global Movement Via Campesina promotes agroecology with technologies that oppose the use of agROTOXINS, GMOs and exploitation of the labour force, which are part of the global industrial food system that is subject to the dictates of a corporate concentration unprecedented in human history. The value chains of the agri-food system are in direct contradiction with food sovereignty, expressed in millenary knowledge and know-how adapted to the time of climate crisis without return. The resilience of ethnic and peasant agriculture emerges as a global option capable of mitigating the global climate emergency.

The Inheritance of the Latifundium-minifundium Model of Original Capitalism

Primordial capitalism has shown among its most violent versions, the looting, the smuggling of gold and the trafficking of human slave meat under the rule of England and Holland. Relative to the export of food raw materials, the northeast of Brazil went from being the richest zone to the poorest. Barbados and Haiti remain today in blatant poverty. Sugar

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subjected Cuba to the domination of the United States. It is the same story of cocoa for the benefit of the Caracas oligarchy and the sudden rises and falls in the price of cotton in Maranhão. The Amazonian rubber plantations buried peasants recruited in the devastated quebracho forests of northern Argentina and Paraguay in exchange for a few coins. The same thing happened with the henequen farms in Yucatán and with the extermination of the Yaqui

Indians. In the case of coffee, its expansion turned the land into a dessert. The same happened in the fruit plantations in Brazil, Colombia, Ecuador and the Central American countries, open to exports of leather, meat and wool shipped via the Río de la Plata to their international trade.¹⁷ It follows that *the more coveted the world market is, the greater the misfortune that a product brings to the Iberian American people who, with their sacrifice, produced it.*¹⁸

In the period of transatlantic colonisation, in little less than three centuries, sugar boosted the progress of trade and industry in Holland, France, England and the United States. In the domain of large scale plantations, small farms and slave labour brought from Africa to northeastern Brazil proliferated, extending to the Caribbean islands—Barbados, Jamaica, Haiti, the Dominican Republic, Guadeloupe, Cuba, Puerto Rico—, Veracruz [Mexico], the Peruvian coast and Cuba.¹⁹ Indeed, from the first contact of the countries of the North with the countries of SA-MA, the latifundia expanded the landowning power of the capitalist inner workings tailored for the exploitation of labour with payments of derisory wages in kind or in free labour in exchange for the rent of a meagre piece of land. "This is one of the bottlenecks that strangle the economic development of Iberian America and one of the main factors in the marginalisation and poverty of

¹⁷ ↪ *Ibid.* p. 85

¹⁸ ↪ Eduardo Galeano. *Ibid.*

¹⁹ ↪ Galeano, Eduardo. *Ibid.*

the Iberian American masses.²⁰ Under this perspective, one understands the deep-rooted nature of the agricultural, military and mining colonial enterprises with the introduction of mercantile production in the most 'cunning-ised' zones of South America. The circulation of merchandise preceded the self-consumption economy in some colonies. Initially stimulated by metropolitan merchandise, it takes the nuclei of subsistence production by surprise before "transforming them into merchandise producers".²¹

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During the period of independence in South America, the power of large Spanish lineage producers was consolidated at the cost of the dispersion of indigenous communities from the start of the transatlantic conquest and the gradual abandonment of slavery. This process turned the communal farmers and slaves into landless peasants, or with little land in marginal areas, leaving them free for the next recruitment in the haciendas as

abundant and cheap labour commodities in areas dedicated to the export economy. "The capitalist agriculture in its initial stage of development cannot do without the recruitment of labour; on the contrary, the less developed it is, the more varied and accentuated is the character of coercion with which the demand for arms is coated" for the recruitment of "bondage agents" or "enablers," and the customary lurk of piecework, "advances," vouchers, etc.²² Any mechanism of pressure seemed valid in sustaining the labour force as a commodity in the large agricultural mercantile enterprise.²³ Nonetheless, the so-called traditional rural gatherers [understood as agricultural pickers] and the small producers of the natural economy resisted because of their isolation or geographical and economic limitations and the relative invulnerability of the cultural patterns inherent in the peasant mentality. This sector of the rural population was perceived as an obstacle to the development of capitalist production.²⁴ On the other hand, El Salvador, Mexico and Guatemala managed to increase and diversify the production of the internal market for merchandises, causing violent breaks in the traditional behaviour of societies. Thus, the emergence of new agricultural products destined for the market—coffee, wheat, sugar, bananas and meat—would reinforce in the following decades, the process of development of the area based on mercantile [capitalist] production.²⁵

Some SA-MA countries linked liberal revolutions inspired by the dynamics of 19th century capitalism to the process of liquidation of the small agricultural producer from the natural economy. The dispossession of peasant lands resorted to different mechanisms and even extended the violence towards the monopolisation of the factors of production. This concentrated in a few hands large amounts of land, capital and technology. The small businesses of consumptive agriculture in the countries of the Central American area were sinking into ruin. The peasant subsists with primitive working tools, because his needs are lower than those of the wage-earning agricultural workers and moreover they work harder than these agricultural workers.²⁶ The monopolisation of the factors of production and intensive use made the land lose its agroecological characteristics with negative consequences in the soil's recovery. The addition of excessive

²⁰ ↪ Galeano, Eduardo. *Ibid.*

²¹ ↪ Clodomir Santos de Morais. "Población rural y desarrollo capitalista: La marcha hacia las ciudades" Selección de Antonio García. México: Fondo de Cultura Económica, 1981. p. 122

²² ↪ *Ibid.*, p. 125: Terms may change depending on the country of SA-MA

²³ ↪ This system of oppression has deepened since the Free Trade Agreements imposed by the countries of the North on the Global South.

²⁴ ↪ *Ibid.*, p. 121-125

²⁵ ↪ *Ibid.* P. 124

²⁶ ↪ Clodomir Santos Morais. *Op. Cit.* P. 127

rental fees and the reduction of scarce capital resources, made poverty levels in the peasant populations unsustainable, with only migration and proletarianisation as the only alternatives.²⁷

Political Changes Define Contexts and Trends of Agrarian Reforms

From the extensive literature on agrarian reforms in SA-MA, I have chosen countries of the most representative modalities. First, we have the structural agrarian reforms in Mexico and Cuba; second, the bankruptcy of reform processes in the face of untimely changes in the policies of Bolivia and Chile; third, the varied and temporary agrarian reforms in Argentina and Central America; fourth, the particular case of Colombia. They all share the redistribution of land between the landless peasantry and smallholders, because of situations of social struggles or the creation of political conditions favourable to the political interests in power coinciding with the demands of the rural sector.

First, the Mexican revolution is the oldest and most recognised in the history of SA-MA. Since 1910 it distributed over 20 million hectares in ejido farms.²⁸ In the 1920s and early 1930s, there were social conflicts between landowners versus settlers, peasants and landless harvesters in conditions close to slavery, and manipulations and deceptions of peasants and their representatives in the management of administrative agents and difficulties because of constant changes in the law's application.²⁹ The uncontrolled excesses showed the reluctance of the old landowning aristocracy to give up an inch of land; anything went if it prevented the objectives of the revolution from being fulfilled, without the peasants backing down from their demands for distribution of land ownership. However, between 1934 and 1940, Mexico's subsequent governments facilitated the reconstitution of neo-latifundia with a great concentration of land in a few hands and a balance of millions of landless peasants. The rapid growth of the rural population influenced these developments, despite the increasing rural-urban and peasant migration to US labour markets. Starting with the government of President Salinas de Gortari, Mexican governments practically halted the agrarian reform in the 1990s.³⁰

The Cuban Revolution in 1959, unlike other countries, found the farmer as a harvester of crops in the months of "harvest", turned into an agricultural proletarian of the latifundium exploited for many decades with capitalist rationality. In this way, the direct transfer of land was advancing, including wasteland and under-utilised land to the State.³¹ Similar to the Mexican Revolution, the direct intervention of the peasant population was decisive in the triumph. The agrarian conflict between the peasant classes and the agrarian bourgeoisie was resolved in stages: In the first (1961-1962) the government decreed the free right to land for tenant farmers, sub-tenants, apparitions and squatters, who were working on lands of less than 67 hectares.³² In the second, the expropriation of some ten thousand local and US landowners began because of their incompatibility with socialist development.³³ They were remnants of former large landowners,

²⁷ ↪ Clodomir Santos de Morais. *Op. Cit.* "According to studies by the Inter-American Committee on Agricultural Development, in the last decade [1963 - 1985] the smallholder sector in seven countries that represented approximately two-thirds of Iberian American agriculture, a total of 5.3 million rural producers have a total of 11.4 million hectares of which 6.3 million are agricultural land. At the other end of the spectrum of large multi-family farms, 3.7 million producers have 285 million hectares, of which 40.7 million are under cultivation. P. 126.

²⁸ ↪ Jacques Chonclol. *La reforma agraria en América Latina En: Proceso agrario en Bolivia y América Latina*. La Paz: Cides-UMS, 2003. *La Revolución Mexicana inició en 1910 contra la dictadura de Porfirio Díaz "en el cual se destacan las luchas zapatistas y el gobierno de Lázaro Cárdenas (1934-40)".* P. 208.

²⁹ ↪ Thomas F. Carrol. *El problema de la reforma agraria en la América Latina*. <https://dialnet.unirioja.es/descarga/articulo/2494449.pdf>. p. 311.

³⁰ ↪ Jacques Chonclol. *Op. Cit.* 208

³¹ ↪ Carlos Rafael Rodríguez. "La revolución cubana y el campesinado". *En: Desarrollo agrario y la América Latina*, Coordinado por Antonio García. Pp. 24. México: Fondo de Cultura Económica. 1981. P. 299.

³² ↪ *Ibid.* "Peasants who were on a plot of land subject to the alleged benevolence of its owner and at the expense of his determinations. Thousands of landless peasants also became squatters who occupied them decidedly (...) *Ibid.* p. 299.

³³ ↪ *Ibid.* Of those ten thousand owners, six thousand had extensions between 67 and 134 hectares, for a total of 607,500 hectares; three thousand occupied extensions between 134 and 268 hectares - within the limit of the 400 permitted - to accumulate among them 500,000 hectares". p. 305.

owners of sugar mills, rice, capitalist ranchers and rich farmers, who were part of the most influential forces prior to the revolution, the most prepared old chieftains and politicians. This powerful economic sector unleashed the most violent struggles with the intervention of the CIA. After the Cuban Revolution, the government controlled 84 per cent of the lands and the rest remained in the power of the peasant sector, distributed in three types of organisations: peasant associations, credit and service cooperatives, and agricultural production cooperatives of technical, financial and agricultural supplies management activities.³⁴

Second, the modernisations of commercial agriculture regarding land ownership receded because of the lack of political will of the Governments. During the Bolivian Revolution of 1952, "the peasants of the altiplano distributed to themselves most of the haciendas, legalised in subsequent governments".³⁵ Governments made progress in the redistribution of land to the peasantry. However, the absence of constitutional regulations, as in Mexico, left a bitter taste to the peasant struggles. In this modality, the national government missed on its political commitment, as it did not recognise the agrarian reform as an important problem. Therefore, it did not allocate technical, financial and administrative resources and planning designs in the agrarian reform's management. The result of five years of agrarian reform left great economic disorganisation, unbridled inflection, and political struggles. Insecurity in the defence of peasant rights produced a decrease in agricultural production.³⁶

During the Chilean Revolution³⁷ in the period of the Popular Unity, the agrarian reform gained a character of structural change in the problem's resolution of the concentration and redistribution of lands with alterations in the relations of power in the rural environment. The political aim was to convert the peasant sector into the basic foundation of the agrarian reform in the governments of Eduardo Frei Montalva (1964 - 1970) and Salvador Allende (1970 - 1973), which sought to convert the most just rural society through peasant economic development. This process was torn apart with the arrival of the military dictatorship (September 1973), subordinated to the interests of certain political leaders in power of the State in the face of pressures for modernisation of foreign capital in the export economy, and the execution of economic and social development policies without significant changes in land distribution. This modality is the most recurrent in SA-MA, reaffirmed in circumstantial responses in Chile, Peru, Nicaragua and Colombia in the following decades.

Thirdly, we have the emergence of various agrarian reforms: (i) In Argentina, for example, they cornered smallholders in some well-defined areas, prevailing over peasants. While El Chaco was reduced to smallholdings, the Upper Valley represented medium property. The territory was divided into fertile lands for production for export and other heterogeneous uses for the domestic market. Two different visions were identified regarding the ownership of land destined to the raw material export economy. In Corrientes, tobacco was produced; in Chaco, cotton; in Patagonia, cattle and goats; and in Tucumán, sugar cane.³⁸ According to Reboratti, the minifundio "does not seem to exist" as a problem to be the object of an agrarian reform. The atomisation of the problems made it possible to treat them with different policies and to prevent changes in the agrarian structure.³⁹ A time bomb was built towards the smallholdings.

³⁴ ↪ Jacques Chonclol. *Op. Cit.* P. 209

³⁵ ↪ Thomas Carrol. *Op. Cit.* p.314.

³⁶ ↪ *Ibid.* 4.2 million hectares were distributed at the end of 1960, including the lands of the haciendas. pp. 315-316

³⁷ ↪ Gac Jiménez, Daniella, Flores Cáceres, Daniel, Thezá Manríquez, Marcel. *Reformas Agrarias en América Latina y Chile: lecciones aprendidas sobre la controversia de la propiedad de la tierra.* n° 47. 2017. P. 7

³⁸ ↪ Reboratti, Carlos. *Reforma Agraria en la Argentina: entre utopía y la indiferencia.* Instituto de Geografía UBA Buenos Aires Argentina. Universidad de la República. Departamento de Geografía de la Facultad de Humanidades y Ciencias. Observatorio Geográficoamericano.org.mx Uruguay. 1989.

³⁹ ↪ *Ibid.* p. 4

(ii) In the Central American region in the 1970s, the policy of modernising agroindustrial technology avoided the agrarian reform, which depended on a model of economic growth without development strategies for the people, which was reproduced in South America until the entry into the third decade of this century.⁴⁰ The scheme of industrialisation as an inward policy of the countries is rejected by the governments that transition to the hegemony of the transnationals, to the bourgeois and landowning oligarchies. Meanwhile, most peasant families remain anchored in economies of indigent subsistence. "Only 5% of the rural population—at the top of the pyramid—receives 31% of the agricultural income; 50%—at the levels of extreme poverty—barely participates with 3%. In terms of annual income per inhabitant, the elite group of landowners obtains an income of 1,760 Central American pesos, whilst the subsistence peasant economies only reach 74 pesos".⁴¹ The Central American governments considered it valid to replace agrarian reforms with transnational agri-food agriculture.⁴² This policy renounced integrated rural development, food sovereignty and the economic framework associated with the peasant economy, marketing cooperatives, agricultural supplies, social services and research.

Since the capitalist modernisation, on the margin of the acute climatic crisis, Mesoamerica has exported its natural heritage as raw materials to Mexico, the United States and the European Union.⁴³ This is happening with the loss of food sovereignty, above all in Costa Rica, Guatemala, and Honduras—where "16,000 of the 18,000 producers are small (and manage 50,000 of the 156,000 hectares (...))—where communities and indigenous peoples were expelled from the territory in the southern Petén, Izabal, Alta Verapaz,⁴⁴ among others. In Costa Rica, palm plantations contribute to the depletion of the soil and contamination with heavy metals because of the excessive use of copper sulphate-based fungicides in banana plantations.⁴⁵ These countries are particularly vulnerable to the increasingly recurrent onslaughts of climate change. In Honduras and Guatemala, Hurricane ETA (2020) led to severe flooding, landslides and heavy rains, leaving thousands of people missing, dozens of deaths, and evacuees, people and children trapped on the roofs of their homes. These natural phenomena have had an impact on the exacerbation of existing social conflicts, including poverty, unemployment, migration and violence, among others.⁴⁶ It is time to add that state entities act in emergencies due to natural events in lands ruined by changes in land use, watersheds and habitat. In social tragedies such as Hurricane ETA, they momentarily assist the affected and impoverished population in vulnerable and inhospitable territories in the peripheral regions. Central America is among the most fragile regions due to the climate emergency.

Work approaches servitude and the land becomes inaccessible to the family unit of the small and medium producers, who are pushed into a pariah migration in their own countries and to the United States, without economic opportunities and losing the historical identity that linked them to a territory.

The decline of the political commitment to peasant agrarian reform towards the latifundia sets limits to regional development with collateral effects in the obstruction of social mobility. This puts in place excessive obstacles in the application of knowledge and empirical skills of the peasant's work with the land, being this a condition of human

⁴⁰ ↪ Antonio García, "El nuevo problema agrario de América Central. Anuario 15, 1979, pp. 111-118.

⁴¹ ↪ *Ibid.* Pp. 114.

⁴² ↪ Nubia Barrera Silva. Capitalism of Dispossession in the Palm Oil Plantations in the Countries of the Global South <https://www.jussempir.org/Resources/Economic%20Data/capitalismofdispossession.html>

⁴³ ↪ Henry Picado Cerdas. "Palma aceitera como política de Estado en Centroamérica". 4 de junio de 2017. <http://agroecologia.org/palma-aceitera-como-politica-de-estado-en-centroamerica/>

⁴⁴ ↪ *Ibid.*

⁴⁵ ↪ *Ibid.*

⁴⁶ ↪ BBC News Mundo. Eta en Centroamérica: su destructivo paso tras dejar decenas de muertos y miles de evacuados. 3 noviembre 2020. <https://www.bbc.com/mundo/noticias-america-latina-54789907>

development in society. Work approaches servitude and the land becomes inaccessible to the family unit of the small and medium producers, who are pushed into a pariah migration in their own countries and to the United States, without economic opportunities and losing the historical identity that linked them to a territory.⁴⁷ When the small farm collapses, the food crisis escalates and basic food security is lost. The commercial overvaluation of the land arises at the same time as work is undervalued. The time for piecework is extended to the detriment of the time that the inhabitants of the ethnic-peasant sector dedicated to their own plots, community lands, or to the search for other complementary activities for family subsistence. In this way, the peasant moves hopelessly towards peonage without property rights and on the margins of the local economy faced with the lack of agricultural supplies on poor, nutrient-depleted and water-poor soils, without access to schools and without communication routes. In the end, the peasant became an easy victim of unscrupulous intermediaries or retail lenders, who subjected them to extortions at high interest rates on impossible terms.

In fourth place, in Colombia, President Juan Manuel Santos promoted the endorsement of the Peace Agreement (2016) with the Plebiscite which granted the victory of the No to the "Integral Rural Reform Towards a new Colombian countryside".⁴⁸ This colossal disaster started a painful ordeal towards the destructive deepening of the countryside and the exacerbation of agrarian conflicts. Simultaneously, the Santos government itself deepened the neoliberal model by continuing to hand over, left and right, natural resources to multinationals in seven provinces in the Amazon with new population displacements and the loss of livelihoods in the affected municipalities. The Agrarian reform in Colombian history has been a top priority. However, Nobel Laureate Santos, in promoting the Zidres Law for the benefit of landowners and agri-food capitalism, created mistrust, uncertainty, and doubts among peasants, indigenous people, and other civil society actors interested in building peace after nearly 60 years of internal war. In Colombia, the concentration of land since 2005 affects more than 56,5 per cent of municipalities, a figure that is increasing due to clashes between dissident blocks of the FARC, paramilitarism and drug trafficking mixed with the armed forces. Colombia's Gini coefficient ranges from 0,801 to 0,89 per cent,⁴⁹ while the concentration of land ownership in the other South American countries is 0,85 and in Central America 0,75 (Oxfam 2017-2018).

The Colombian economy depends on the export of cocaine, coal and oil. It is the foreign appropriation of much of nature itself. For Gustavo Petro Urrego:⁵⁰ "It is an easy and fossil economy. It is based on addiction. There is no market to conquer. Addicted to cocaine and gasoline, they send their billions of dollars to the country and then they distribute them here, I would say, by blood and fire, by blows of vivacity, of fraudulent appropriation. We have a transfer of wealth not worked by our society".⁵¹ In Colombia there are seven US military bases, and as if they were not enough. The number of US battalions in areas close to the borders with Venezuela is unknown, and there are already countless aggressions to the populations of the neighbouring country. President Donald Trump has certified Colombia in the "fight against drugs during the year 2019".⁵² Paradoxically, the major consumer of cocaine in the world, certifies the first

⁴⁷ ↪ García. "Naturaleza y límites de la modernización capitalista en la agricultura". En *Desarrollo agrario y la América Latina*. Coordinado por Antonio García. México: Fondo de Cultura Económica, 1981, p. 13

⁴⁸ ↪ Barrera, N. "El pacto agrario, soberanía y seguridad alimentaria en adaptación al cambio climático". Revista Profundidad. Universidad Francisco de Paula Santander. Ocaña. Colombia. Vol. 4 No 4 (2016). <http://revistas.ufps.edu.co/index.php/Profundidad>.

⁴⁹ ↪ Cristian Sánchez. "Concentración de tierras, paz territorial e impuesto predial rural en Antioquia". Universidad de Antioquia. Medellín. http://bibliotecadigital.udea.edu.co/bitstream/10495/11972/6/SanchezCristian_2019_ConcentracionTierrasPaz%20%281%29.pdf

⁵⁰ ↪ Gustavo Francisco Petro Urrego is a Colombian politician and economist, former member of the former M-19 guerrilla group and current Senator of the Republic for the period 2018-2022, and founder of the political movement "Colombia Humana". [Gustavo Petro - Wikipedia, the free encyclopedia](https://en.wikipedia.org/wiki/Gustavo_Petro)

⁵¹ ↪ Gustavo Petro. "Burbujas, orgías y festines", <https://cuartodehora.com/2020/08/23/columna-gustavo-petro/>

⁵² ↪ Sergio Gómez Maseri. <https://www.eltiempo.com/mundo/eeuu-y-canada/estados-unidos-certifica-a-colombia-en-su-lucha-contra-las-drogas-538198>

exporter of cocaine to the United States, albeit “illicit crops continue at very high and unacceptable levels”. This is because the government has suspended programs to substitute “illicit crops,” a state commitment, to nearly 93.000 families, almost destitute, with no option but to plant coca for the Sinaloa cartel in Mexico, in the supply chain.

Finally, the European Parliament, which boasts of being in the vanguard of human rights, denied Gustavo Petro,⁵³ “the proposal for an amendment requesting—to include the human rights clause in trade agreements—to focus on the economic sectors that benefit from murder and displacement, such as palm oil and banana production”. This exposed the state of the country in the face of worsening human rights violations under the government of Iván Duque: so far in

In conclusion, since the 1970s, development concepts imported from the United States have left knots of problems. None of the changes imposed on the modernisation of agriculture have benefited industry, agriculture and internal trade in SA-MA.

2020, 221 social leaders and 47 former combatants who signed the Peace Accords were assassinated, 65 massacres have taken place and 13 young people have been killed by the public forces, a terrible precedent for the SA-MA. Thus, the balance of the European Union leans toward concessions for the exploitation of natural resources without compensation for environmental liabilities and derisory royalties that form part of 55% of the

environmental services that contribute to Colombia’s GDP (2020).

In conclusion, since the 1970s, development concepts imported from the United States have left knots of problems. None of the changes imposed on the modernisation of agriculture have benefited industry, agriculture and internal trade in SA-MA. The agricultural sector of medium and small properties has been battered by restrictive or evasive policies in the redistribution of land, as the main contributors to food production, care and conservation of common goods. Instead, they have been the object of various agrarian counter-reforms. In this sense, the transnational agricultural developmentalist model promoted “economic growth without development”, which was conceived in the ideology of the Alliance for Progress. Thus the disproportionate advance of the landowning aristocracy and the extension of hegemonic power to “new spheres of the productive apparatus (irrigation and drainage, processing facilities and agribusiness) and to new circuits of the market economy began,” triggering the emptying of the population of certain regions and the occupation and exhaustion of vacant reserve territories (...).⁵⁴ In the epoch of capitalist modernisation, “in the transnational control of agribusiness—particularly of the food industry—there is the contemporary process of the internment of the transnationals in the productive apparatus and in the market economy of Iberian America (...). In the period 1961-1974, the structure of the food industry operated with 80% foreign technology and in more than half of the irrigation area. The average annual growth rates of processed foods have been 6% for wheat, 4,4% for corn, 6% for sugar and 4,1% for milk in LA-MA, aimed at the population sectors with the highest level per capita”.⁵⁵

Ultimately, agribusiness has caused very negative impacts on small producers who are not part of the “export production boom” and the global food model, which was reinforced by governments from the early 1990s to the two decades of the 21st century. Similarly, the mechanical agrindustrial model is being consolidated, with harmful impacts on human and animal health on farms or peasant plots, and the large-scale manipulation of the natural flow and balance of local water

⁵³ ↪ Gustavo Petro. “Parlamento Europeo niega solicitud a Gustavo Petro de aplicar cláusula de DD.HH. en los acuerdos comerciales con Colombia”. <https://cuartodehora.com/2020/10/07/25037/>

⁵⁴ ↪ Antonio García. “Naturaleza y límites de la modernización capitalista en la agricultura”. Op. Cit. P. 22

⁵⁵ ↪ Antonio García. Ibid. P. 29

reserves accumulated in watersheds that provide environmental services to the population.⁵⁶ The agro-toxic tendency does not stop growing over time through the oil palm monocultures in SA-MA. In Central America it is state policy.⁵⁷ In contrast, the Cuban socialist system is based on the diversification of crops in lands of free usufruct in response to national security; a policy created in Castro's Cuban revolution, unlike the political instability of most SA-MA affirmed in coups and military dictatorships in Argentina (1976-1983), Bolivia (1971-1978), Chile (1973-1990), Brazil (1964-1985), Uruguay (1973-1985), Paraguay (1954-1989), Paraguay (2012), Brazil (2016), Bolivia (2019-2020), Peru (2020). For over 20 years Colombia has maintained a civil-military dictatorship with representative democracy sustained by drug trafficking, internal war and electoral fraud. In effect, the agrarian reforms have been distracting with retarded and repressive policies. Antonio García defines them as "tactical diversionary manoeuvres that in no way can change the concentrating nature of the model".⁵⁸ Finally, despite the US trade blockade, the revolution in Cuban agriculture shows that only socialism rooted in nationalist roots can sustain the production of natural foods and, by this means, guarantee free health services and preventive health care.

Biodiversity in Extinction and Privatisation of Environmental Services

Biodiversity immersed in ecosystems generates cycles and systemic rhythms built by nature itself over millions of years of evolution; it is in the process of extinction before being investigated mostly by science. Biodiversity provides water, food, and natural medicines; it provides raw materials for manufacturing, materials for housing, and it is part of most human activities. It intervenes in the physical and mental health of individuals, and shapes aesthetic, spiritual and religious values of communities. At WWF (World Wildlife Fund),⁵⁹ nature provides other benefits: (i) It regulates air quality, climate, water and erosion; it purifies water; it contributes to the cure of diseases and the extermination of pests. (ii) It pollinates and moderates extreme weather events. (iii) It supports nutrient cycles, photosynthesis and soil formation. (iv) It gets involved in economic activities, e.g., recreation and ecotourism.

The UN, ECLAC and OECD have chosen Chile, the model country par excellence of neoliberalism in the region, where water is a private resource and traded in the market.⁶⁰ The Directorate General of Water handed over water rights to new agricultural entrepreneurs, despite the depletion of the Ligua and Petorca river basins. The concession of 1.362 water rights, most of which are subterranean, is suffering from socio-ecological impacts because of intensive land use, deregulation of the hydrological cycle, and the loss of native vegetation. Thirty-nine per cent of avocado plantations on hillside soils are at high risk of erosion. Added to this is the intensive illegal extraction of water in the basins. The discontent of rural communities is increasing, with increasing reports of wells and drones in large business estates irrigating crops with stolen water. In relation to the flow of virtual water in avocado production, water footprint data in Petorca show the requirement of 389,5 litres of water to produce one kilo of this product in the area (INIA, 2013).⁶¹

⁵⁶ ↪ Kill, J., & Overbeet, W. 13 Respuestas a 13 mentiras sobre los monocultivos de palma aceitera. Montevideo, Uruguay. (marzo, 2018).

⁵⁷ ↪ Los pecados de la palma aceitera en Latinoamérica. <https://es.mongabay.com/2019/10/palma-de-aceite-en-latinoamerica-expansion-cultivos-especial/> "They exceed 370,000 hectares. "Malaysia and Indonesia are the primary producers, but four Iberian American countries are in the top 10: Colombia (4), Ecuador (7), Brazil (9) and Honduras (10). In Colombia, for example (...), the Critically Endangered white-headed marmoset monkey (*Saguinus oedipus*) lives in ecosystems where palm is being planted. On an industrial scale, according to FAO data used by IUCN in its report, Colombia has 290,600 hectares planted, Ecuador 24,503, Brazil 114,188 and Honduras 64,084. However, the last figures vary because this analysis does not consider the hectares planted by small producers".

⁵⁸ ↪ Antonio García. "Naturaleza y límites de la modernización capitalista en la agricultura. Op. Cit. P. 47.

⁵⁹ ↪ Grooten. M. y Almond, R.E.A. (Eds.) WWW, Gland, Suiza. Informe Planeta Vivo – 2018: Apuntando más alto.

⁶⁰ ↪ Alexander Panez, Pablo Mancilla, Andrés Moreira. Agua, tierra y fractura socio-metabólica del agronegocio. *Bitácora* 28. (3)2018: 153-160. P. 158: In 1973-1984 the process of agrarian counter-reform concentrated land ownership and the proletarianisation of the peasantry subordinated to the production chain in the hands of large landowners and agribusiness speculators.

⁶¹ ↪ *Ibid.* It is one of the main hidden flows of water in export products. (Martínez-Alier and Walter) In this case, the avocado.

According to the sources of Grooten et al., the production amounts to 25.000 tons for a value of 9.737.500 m3 (9,73 ggaliters) of virtual water that accompanies the production of avocados in the province.⁶²

Forest plantations (Eucalyptus sp. and Pinus radita species) in the region of La Araucanía (Chile) in the basins of Rio Imperial, Rio Tolten and Alto-Bío Bio, concentrate an area of 19,9% in a large part of the productive land of the total region.⁶³ The plantations reduce the productivity of the soil by erosion; the same happens with the quality and quantity of water. The water deficit (data from 2016) in 32 communes of the Region involves 92.461 people, extended to other communes in simulated conditions. 10,6% of the total rural population is supplied with water by water trucks and boats due to the summer drought and changes in land use that prevent water from being stored in the ground. Even though changes in land use increase droughts and GHG emissions, which in SA-MA occupy 67% of the rural area, the deterioration of biological diversity seems unstoppable. These changes engender territorial conflicts over water availability, the detour of rivers and streams, and the expulsion of ethnic peasant communities by monopolising the best lands and subsequent socio-metabolic and irreversible fractures due to intensive production of agri-food and forestry monocultures.⁶⁴

“In terms of agro-biodiversity, in Iberian America and the Caribbean in the last 100 years, 75% of crop varieties have been lost (FAO 2005), disturbing the resilience to pests and possibilities of adaptation to climate change”.

“In terms of agro-biodiversity, in Iberian America and the Caribbean in the last 100 years, 75% of crop varieties have been lost (FAO 2005), disturbing the resilience to pests and possibilities of adaptation to climate change”.⁶⁵ In fact, peasant agriculture and the supply of local markets are under threat and, over time, the commodification of water, soil and native forests has continued, in flagrant contradiction to the laws of nature and sustainable development. Thus, 75% of SA-MA's agricultural land in 2015 presented problems of degradation (FAO and GTIS 2015). From this perspective, the peasant struggles for the territory of the countries of the Global South for the rebirth of the peasant economy, propose “agroecology with local commercialisation and fair exchange circuits, where relations do not prioritise business, but solidarity, the defence of common goods, biodiversity and the construction of fairer relations and spaces free of violence.”⁶⁶

Deforestation in the Amazon and Food Security

The deforestation of the Amazon breaks the natural balance in the interaction of abundant rainfall, fertile and humid soils, and implies sensitive atmospheric changes, whether in torrential rains, floods, storms, droughts or extreme temperatures. The tropical biome is over 50 million years old. Being one of the oldest living macro ecosystems on Earth, millions of microorganisms, plant and animal species interrelate and complement each other in complex ecosystems.⁶⁷ By breaking up into partial areas, it gives way to other fragmented landscapes, converted into isolated patches of natural vegetation. This fragmentation has detrimental effects: it changes the microclimate, breaks up natural biological corridors and even causes the extinction of flora and fauna and diversity in wild species. In this bloody scenario, tens of thousands are burned to death, others are caught up in illegal trafficking or reach cities available for human consumption. Besides

⁶² Ibid. p. 158

⁶³ ↪ Fernanda Andrade. Actualización y relación de plantaciones forestales y déficit hídrico en comunas de la Región de La Araucanía, Chile. Universidad Austral de Chile. 2016. <http://www.mapuexpress.org/wp-content/uploads/2016/03/D%C3%A9ficit-h%C3%ADrico-y-plantaciones-forestales-en-la-Regi%C3%B3n-de-La-Araucan%C3%ADa.pdf>

⁶⁴ ↪ CEPAL-FAO-IICA. *Perspectivas de la agricultura y del desarrollo rural en las Américas: una mirada hacia América Latina y el Caribe*. 2019-2020. San José, p. 41.

⁶⁵ ↪ Ibid. p. 41

⁶⁶ ↪ Acción por la biodiversidad. Agroecología para la soberanía alimentaria. Agosto 2020 - Provincia de Buenos, Argentina, p. 3

⁶⁷ ↪ Procesos que afectan la biodiversidad. <http://eduteka.icesi.edu.co/pdfdir/Biodiversidad07B.pdf>

Agribusiness firms directly finance the spread of fires. In 2020... In the preliminary phase of deforestation in two of the most important biomes, 60 per cent of Brazil absorbs 1 billion tons of carbon dioxide... So, by destroying the macro ecosystems it brings devastating drifts for the planet, incineration wipes out undetermined amounts of flora and fauna.

Covid-19, recent emerging and re-emerging agricultural and food-borne pathogens include African Swine Fever, Campylobacter, Cryptosporidium, Cyclospora, Ebola Reston, E. coli O157: H7, Foot and Mouth Disease, Hepatitis E, Listeria, Nipah Virus, Q fever, Salmonella, Vibrio, Yersinia and a variety of new influenza variants, including H1N1 (2009) among others.⁶⁸

Agribusiness firms directly finance the spread of fires. In 2020, outbreaks culminated in 76.030 fires (citing one case). In the preliminary phase of deforestation in two of the most important biomes, 60 per cent of Brazil absorbs 1 billion tons of carbon dioxide; in Bolivia a record of 5 million tons absorbed is recorded in 2019. The Argentine Chaco has been converted into pastureland and agricultural production. So, by destroying the macro ecosystems it brings devastating drifts for the planet, and incineration wipes out undetermined amounts of flora and fauna. The Pantanal, an ecosystem declared a World Heritage Site by the UN, has recorded the worst fires since 1998.⁶⁹ Amnesty International has called on the JBS company in Brazil to improve monitoring methods for its indirect suppliers by the end of 2020 and aims to prevent illegally raised cattle in protected areas of the Amazon from entering the supply chain.⁷⁰

Since President Bolsonaro declared the “war on indigenous peoples”, the environmental and humanitarian catastrophe has had the Awas in voluntary isolation in the territories of the Papaya Forest on Banana Island, the Ituna Itatã (Smell of Fire) in the State of Para, Arariboia, and Uru Eu Wau in the eastern Amazonian State of Maranhao, all invaded because of the exploitation of timber, agro-livestock and other export products.⁷¹ The companies involved in the fires in Brazil, Bolivia, the Paraguayan Pantanal, Peru and Colombia—McDonald’s, KFC and Burger King—buy Brazilian beef, and all three chains serve soya-fed chicken.⁷² According to the NGO Might Earth, JBS, Bunge and Cargill, Stop & Shop, Costco, McDonald’s, Walmart / Asda, Nestle, Monsanto-Bayer, Burger King and Sysco from the livestock sector are involved in deforestation to cover the high consumption of beef, dairy products and soy.

Fires in the SA-MA countries start value chains. They are followed by the establishment of agri-food crops that are indirectly validated in international trade in about 140 preferential trade agreements (PTAs) with the US and the EU because of the demand and diversification of raw materials; agreements that leave the burden of meagre royalties on states under the rhetoric of job creation. All of this is to the detriment of productive transformation other than the agrifood sector, with no indicators of internal growth or poverty reduction in the region. The countries of the North systematically plunder the Amazon with direct consequences on the precarious economy of SA-MA and the emission of GHGs. The number of people affected by some kind of environmental disaster associated with extreme weather events increased from 2,7 million in 1990 to 11 million in 2017.⁷³ In summary, the causes of deforestation that stand out,

⁶⁸ ↪ Rob Wallace, Alex Liebman, Luis Fernando Chaves and Rodrick Wallace, “COVID-19 and Circuits of Capital”. <https://www.jussempier.org/Resources/Economic%20Data/covid-19circuitscapital.html> p. 8

⁶⁹ ↪ Noticias EFE. El fuego avanza en la Amazonía y el Pantanal pese al negacionismo de Bolsonaro. 1 de octubre d de 2020. <https://www.efe.com/efe/america/sociedad/el-fuego-avanza-en-la-amazonia-y-pantanal-pese-al-negacionismo-de-bolsonaro/20000013-4357278>

⁷⁰ ↪ Amnistía Internacional. Brasil: Detectado número alarmante de incendios forestales antes del Día del Amazonas. 3 de septiembre de 2020. <https://www.amnesty.org/es/latest/news/2020/09/brazil-alarming-number-of-new-forest-fires-detected-ahead-of-amazon-day/>

⁷¹ ↪ Supervivencia de tribus no contactadas, peligra por incendios forestales. 19 de octubre de 2020. <https://www.ecoportal.net/temas-especiales/pueblos-indigenas/pueblos-originales/tribus-no-contactadas-en-peligro/>

⁷² ↪ Deforestación del Amazonía, las multinacionales con una conciencia sucia, 20 septiembre de 2019. <https://www.ecoportal.net/paises/deforestacion-del-amazonia/>: “About 2.5 million hectares of land were burned in August 2020. National Institute for Space Research (INPE), the Brazilian forest monitoring agency.”

⁷³ ↪ Cepal-FAO-IICA. *Perspectivas de la agricultura y del desarrollo rural en las Américas: una mirada hacia América Latina y el Caribe*. 2019-2020. San José, p. 41.

regardless of the country in question, are the increase in pastureland in areas of extensive cattle ranching and commercial agriculture, without stopping the land grabbing of indigenous people in voluntary isolation.

It is clear that the “America Grows Initiative” launched by Donald Trump in 2019⁷⁴ is another form of neo-colonialism in the SA-MA nations, similar to the Monroe Doctrine which proclaimed “America for the Americans”. This agreement allows Washington to evade parliamentary controls in the countries that accept it and is aimed at modifying the region’s economic, financial, social and political dependence. So far the countries of Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, El Salvador, Honduras, Jamaica and Panama have signed. In a broad sense, US companies are authorised to carry out infrastructure works in the exploitation of oil fields and of all kinds of minerals and natural resources that are beneficial to their interests, as in the period of agricultural modernisation in SA-MA in the last century.

Synthetic Biology, Human Diseases and the Health System

Synthetic biology prepares “high-value, low-volume” production flavours and fragrances, assuming that yeast and algae replace virtually all the 250 most sought-after ingredients by food and cosmetic processors.⁷⁵ Similarly, it aims to replace

Genetic selection predominates in the livestock industry. The growth of animals with higher yields is accelerated, with disastrous effects on health under outrageous conditions. The same applies to other animals in the production chain.

mass consumption products such as coffee, cocoa, tea and bananas. These products add to the danger of eliminating and replacing the diversity of species produced in nature by technological publishing. The technological standardisation and synthetic consumption of food products is deepening. The progress of research shows that new data on the deterioration

in animal health extended to human health from consumption is being taken into account. In GREIN, for example, regarding the increase in milk production per cow over the last 40 years, the European Food Safety Authority (EFSA) states: “genetic selection for high milk production is the main factor causing poor welfare, in particular health problems in dairy cows”.⁷⁶ The lifespan of an abused cow is only three or four lactations. When the production rate drops, it is slaughtered prematurely. Genetic selection predominates in the livestock industry. The growth of animals with higher yields is accelerated, with disastrous effects on health under outrageous conditions. The same applies to other animals in the production chain: The chickens fatten twice as fast, immobilised and squeezed together in cages, they suffer from unbearable leg deformations and pain. Modern laying hens suffer the same fate. The pressure for high productivity causes them osteoporosis with the risk of fractures. Regarding the “efficiency” of intensive livestock farming, it is now known that it is a myth to justify its methods and procedures to cope with the demand for human edible food. Animal feed based on cereals is also inefficient in meat and milk.

For every 100 calories of cereal-based animal feed, only 17 to 30 calories enter the human food chain as meat. The conversion of grain protein into meat and milk is equally poor (...). Using cereals for animal feed is ‘staggeringly inefficient’, ‘a very inefficient use of land for food production’. According to FAO, the use of grain as animal feed could threaten food security, reducing the grain available for human consumption.⁷⁷

⁷⁴ Hedelberto López Blanch, “La «América crece» de Trump: nueva forma de neocolonialismo”. <https://rebelion.org/lamerica-crece-de-trump-nueva-forma-de-neocolonialismo/>

⁷⁵ ↪ Pat Mooney, Grupo ETC. *La insostenible agricultura 4.0. Digitalización y poder corporativo en la cadena alimentaria*. México. Edición Zoe Goldstein. 2018. www.rosalux.org. P. 21.

⁷⁶ ↪ GREIN. Emisiones Imposibles: Cómo están calentando el planeta las grandes empresas de carne y lácteos. <https://www.grain.org/es/article/6010-emisiones-imposibles-como-estan-calentando-el-planeta-las-grandes-empresas-de-carne-y-lacteos>. Agosto 2018. P. 16

⁷⁷ ↪ GREIN. Emisiones Imposibles: Cómo están calentando el planeta las grandes empresas de carne y lácteos. <https://www.grain.org/es/article/6010-emisiones-imposibles-como-estan-calentando-el-planeta-las-grandes-empresas-de-carne-y-lacteos>

What companies have given to society

Companies' promises	Companies' demands	Companies have given society
Increased food choices	Intellectual property rights on crops and livestock	A loss of 75% of the genetic diversity of major food crops
Better nutrition	Transversal fusions between seeds and pesticides.	A nutritional decrease of 5-40% in other foods.
Food security	The absence of competition with the public sector.	Reduction of one-third in the diversity of foods consumed by OECD members
		A world where half the population is undernourished, either through lack or excess of food.

Source: From Pat Mooney, Grupo ETC, *La insostenible agricultura 4.0*. México, September 2019. P. 33 https://www.etcgroup.org/es/content/agricultura-40_p_33

Returning to the Amazon, national and international demand for beef has driven the rapid expansion of the Amazon livestock industry. From 1993 to 2013, livestock grew by almost 200%, reaching 60 million head,⁷⁸ making Brazil the world's leading exporter of beef. "Consumption of red meat and processed meat is directly linked to cancer". Since the World Health Organisation warned us about it, GHG emissions have multiplied. Meat production consumes the planet's water resources. It takes 1.500 litres of water to generate one kilo of grain and ten times that amount to produce one kilo of meat, according to FAO.⁷⁹ On the human life side, this year's theme is "Water and Food Security". Without water, agriculture and thus other forms of life are impossible.

Agriculture 4.0 is tilting the profits of the financial sector against the planet, going after capitalist growth at any price.

Agriculture 4.0⁸⁰ is tilting the profits of the financial sector against the planet, going after capitalist growth at any price.⁸¹ To the old paradigm of establishing profitability and production on domestic demand, grain costs and exports are added to a great extent. To this end, governments are negotiating new trade agreements for the opening of markets in the countries with the greatest governance of large companies. The EU is playing far from its commitments made at COP-25. Instead of implementing policies to reduce the consumption and industrial production of meat and dairy products, in favour of the livelihoods of European farmers, it has negotiated many trade agreements. The agreement with Japan (2017) is deepened by pushing for drastic reductions in tariffs on imports of meat and dairy products from the EU.

⁷⁸ ↪ "Deforestación del Amazonía, las multinacionales con una conciencia sucia". 20 de septiembre de 2019 - ["ecoportal"](#)

⁷⁹ ↪ FAO. Día Mundial del Agua: se requieren 1.500 litros de agua para generar un kg de carne, señala la FAO. <http://www.fao.org/americas/noticias/ver/es/c/229495/>

⁸⁰ ↪ Pat Mooney, Grupo ETC. *Op. Cit.* It includes the Big Data, laboratories equipped with high technology to perform genomic editing tasks, block chains, financial technologies, mergers and acquisitions, which "involve property transfer that links at least two corporate entities, artificial intelligence, the cloud. P. 9

⁸¹ ↪ GREIN. Emisiones Imposibles: Cómo están calentando el planeta las grandes empresas de carne y lácteos. <https://www.grain.org/es/article/6010-emisiones-imposibles-como-estan-calentando-el-planeta-las-grandes-empresas-de-carne-y-lacteos>. Agosto 2018.

Agriculture 4.0 includes the provision of infrastructure, technology packages (inputs and agro-toxins, etc.) and the export of natural resources. From this perspective, transnationals have strengthened the power of economic and political

By 2020, hundreds of people expelled from the agricultural sector have entered the informal economy, a situation reflected at the table by the substitution of vegetables and fruit harvested on traditional farms for ultra-processed foodstuffs...

FAO highlights the increase in obesity in all age groups, especially in extremely poor and extremely vulnerable populations, aggravated by the deterioration of primary health care.

domination in the States and, thus, the cracks in regional development are drastically increased in the logic of economic growth without development, which includes the definitive abandonment of public health, socio-educational and environmental policies. In this way, the capital of state companies is given to the private sector and to foreign service multinationals. The logic of peripheral capitalism ignores the effects of the climate crisis on the regions most affected by plundering and agricultural reconversion. Since the modernisation of agriculture in the 1970s, the same agro-

export model has been maintained, with little or no research of its own, without changes in the redistribution of income, no expansion in productive capacity or business upgrading in small and medium enterprises, where sources of employment and manufacturing development of SMEs have historically been concentrated.

Since the beginning, in the 1970s, subsistence farmers—70% of the agricultural population with 2,5% of the land and a per capita income of \$115—could buy processed foods or those products that became more expensive at the lower levels of urban or rural intermediation in regions remote from urban centres.⁸² By 2020, hundreds of people expelled from the agricultural sector have entered the informal economy, a situation reflected at the table by the substitution of vegetables and fruit harvested on traditional farms for ultra-processed foodstuffs derived from soya and maize for daily consumption: biscuits, breads, alfajores, hamburgers, sausages, sweets, margarines, powdered juices, cereals, chocolates, instant soups, sauces, ice cream, dressings and beers, among other products.⁸³ Soy lecithin is an ingredient used in bakery products, milk powder and cocoa. Soya flour is used in the production of mortadella or meat medallions. From maize, high fructose syrup, glucose, maltose syrup, starches, colouring, gluten and maize oil are obtained. These products contain genetically modified organisms.⁸⁴ In the five Southern Cone countries, States do not control any phase of the value chains of transnational corporations.

FAO highlights the increase in obesity in all age groups, especially in extremely poor (10.2%: 63 million people in the region) and extremely vulnerable populations, aggravated by the deterioration of primary health care.⁸⁵ On the other hand, in SA-MA "almost one in five children under five years old are undernourished or overweight, which prevents them from growing well". The figures are overwhelming: 105 million people are obese (2016); 24 per cent of the region's population leads the world in excessive caloric intake. Meanwhile, hunger, the other face of malnutrition, has grown by 11% since 2014 and affects 42.5 million Iberian Americans in 2018. In Mesoamerica, it quadrupled from six per cent in 1975 to 25 per cent in 2016, an increase in absolute terms from 760,000 to 6.6 million people. Overweight has doubled since the 1970s and now affects 59.5 per cent of adults in the region, 262 million people in 2016, whereas the rate is 20 percentage points lower globally: 39.1 per cent.

⁸² ↪ Antonio García. "Naturaleza y límites de la modernización capitalista en la agricultura". *Op. Cit.* P. 45.

⁸³ ↪ ATLAS DEL AGRONEGOCIO TRANSGÉNICO EN EL CONO SUR Monocultivos, resistencias y propuestas de los pueblos. Editado por Darío Aranda. Provincia de Buenos Aires. Mayo de 2020. <http://www.biodiversidadla.org/Atlas> p. 118

⁸⁴ ↪ The consumption of these products has also spread to the general population.

⁸⁵ ↪ FAO. Fernando Reyes, "La obesidad se triplica en América Latina por un mayor consumo de ultra procesados y comida". 12 de noviembre de 2019. <https://news.un.org/es/story/2019/11/1465321>

The CAF report for 2020 warns that "The Covid-19 pandemic will leave unprecedented socio-economic consequences in SA-MA with the closure of 19% of the region's companies, some 2.7 million, a contraction of GDP of over 9% and an increase in poverty of approximately 4.4 percentage points".⁸⁶ Some 40% of workers in microenterprises lack social protection, inclusive education and labour rights. Privatisation of the health system has sentenced hundreds of people to death; coverage averages 3.7 per cent of GDP. Privatisation of health has had an impact on the treatment of chronic diseases other than Covid-19, to the extent that the actual mortality rate is unknown.

Finally, among the causes of the impact of synthetic biology on human health: (i) Free trade agreements break up the peasant economy and exponentially increase the profits of agri-food transnationals expanded into middle and upper-class supermarkets and neighbourhood shops in popular sectors. (ii) The substitution of natural foods by ultra-processed food and fast food, which contain excessive amounts of sugar, sodium and fat, grew by more than 25% between 2000 and 2013, while fast food consumption increased by almost 40%. (iii) Low consumer prices hide the fires in the tropical rainforests in the Amazon with their multidimensional escalation of metabolic fractures and subsequent release of all the carbon dioxide consumed, air pollution and a significant increase in particulate matter, which decreases oxygen and increases temperatures. Deforestation annihilates ecosystems, the natural habitat of micro-organisms, plant and animal species in complex networks. On land, it desertifies soils, accelerates erosion and multiplies the sediment load of rivers, allowing seasonal flooding to be more recurrent and intense. In Mesoamerica, Hurricanes Iota and Lota (2020) have left more than 3.6 million people in misery, which overflow the social conflicts over the extreme precariousness of the health system and Covid-19. Furthermore, these phenomena have placed indigenous communities in voluntary isolation in mortal danger. For these communities the tropical rainforests represent natural pharmacies, i.e. food and water factories. The central problem could be improved by taking control of the management and conservation of the natural resources that remain after five centuries of indiscriminate plundering.

Five Centuries of Resistance by Ethnic and Peasant Communities

A brief section is presented on the particularities of the peasant economy, which has been in a constant struggle from

The peasant economy is carried out in small-scale production units, introducing the producer and his family in a direct relationship with the land, using their means of production (tools and implements), without possibilities of accumulation, reinvestment or economic benefits.

the transatlantic colonisation to the supremacy of agriculture 4.0. The origin goes back to the transition periods in the evolution of the Asian and European mode of production: "production is not oriented towards a market, the use of currency is limited, the economy remains natural"⁸⁷ With few needs inherited from primitive communities, the peasant economy, starting with classical European antiquity, passed

through feudalism and industrial capitalism, to some contemporary socialist societies (e.g. Poland).⁸⁸ The peasant economy is carried out in small-scale production units, introducing the producer and his family in a direct relationship with the land, using their means of production (tools and implements), without possibilities of accumulation, reinvestment or economic benefits as defined by Wolf. Its historical aim has been to guarantee family subsistence, and in times of climate crisis, it becomes a priority, not only in the face of the unexpected de-escalation of the Anthropocene but in the face of dangerous digital technologies and 4.0 biotechnologies against food sovereignty in SA-MA.

⁸⁶ ↪ Infobae Newsroom, [Economía-El Covid-19 dejará consecuencias económicas sin precedentes en América Latina](#): 24 de Septiembre de 2020: developed jointly by the OECD, the Latin American Development Bank (CAF), ECLAC and the European Commission.

⁸⁷ ↪ Godelier, Marx, Engels, *Sobre el modo de producción asiático*. 2ª. Edición. Barcelona: Martínez Roca, 1972, p. 20.

⁸⁸ ↪ Rodolfo Stavenhagen. "Capitalismo y campesinado en México". En *Desarrollo Agrario y la América Latina*. Coordinado por Antonio García. Pp.185-198. México: Fondo de Cultura Económica, 1981. Esta definición aplica en Colombia y en países del Área Andina. P. 191.

Before going any further, it is necessary to explore some interpretations of the term ‘peasant’ because of its political significance in national governments and international regulatory bodies in implementing regional development programmes or plans. The positivist approach still prevails. Wolf describes three empirical distinctions with some differences between the countries of the region:⁸⁹ it starts with the definition of the agricultural producer; it goes through

Chayanov developed the theory of peasant property, without hired labour, and identifies a sui generis economic system, independent of any mode of production.

the characteristics of ownership, direct control of land and its production processes, through customary arrangements and family subsistence follows cultural rather than investment patterns. These characteristics distinguish the agricultural producer from the Farmer, who approaches agriculture as a commercial process. Based on data

from the Zemstva of the Soviet Union, Chayanov developed the theory of peasant property, without hired labour, and identifies a sui generis economic system, independent of any mode of production, be it slavery, feudalism, capitalism or socialism. This Cartesian conceptualisation maintains some variations of approach in the correlation between the peasant economy and the capitalist market. Marx, in Volume I of Capital, clarifies: “Political economy seeks, as a matter of principle, to maintain the most pleasant of confusions between private property which is based on personal labour and the diametrically opposed capitalist private property which is based on the annihilation of the former”.⁹⁰ It is the confrontation between the capitalism of dispossession of the agro-industry, the forest and the latifundia of extensive cattle raising, accommodated to the different feudalistic forms of the peasant, indigenous and Afro-Mesoamerican exploitation.

In Chayanov, the organisation of the peasant economy, “is not typically capitalist, insofar as the costs of production cannot be objectively determined because of the absence of the category of wages.”⁹¹ Archete clarifies Chayanov’s confusion—long expanded in Western capitalism—with the analogy established by Marx himself between wages and peasant labour, “the law of value is not fulfilled in peasant production: the transactions of the small producer are not guided by a market price that equals the value or at least the price of production.”⁹² Rolando Astarita, based on Marx, explains the cause of differentiated income: “different [from] labour productivity applied to land of different natural fertility (or different geographical location).”⁹³ It starts with the production price of how the agricultural product is sold. Price is determined by the worst land, i.e. the differential income, which is a form of permanent extraordinary surplus value—as long as fertility or location differentials are maintained—which is appropriated by the landowner.” However, differential income does not depend on private ownership of the land. Private ownership of land allows the landowner to appropriate the rent. But if the land were nationalised, the differential rent would go to the state.⁹⁴

In the last hundred years, the typical peasant property has scarce resources, little land and a low technological level. The labour force does not find full-time employment in the agricultural activity itself and in the absence of other employment options. The level of remuneration is lower than that prevailing in society. So the peasant producer and his family members go out to work outside the property, where labour supply is greater than demand, with meagre wages below

⁸⁹ ↪ Eric R. Wolf. *Una tipología del campesinado latinoamericano*. Nueva Visión. Buenos Aires. 1977.

⁹⁰ ↪ Carlos Marx, *El Capital*, “El Proceso de acumulación capitalista”. t. I, Siglo XXI. Editores, 2002, p. 134.

⁹¹ ↪ Salomón SAL Y Cedo, Ana Paula de la O y Lya Guzmán. El concepto de agricultura Familiar en Las Américas. *Agricultura Familiar en Las Américas: Recomendaciones de Política*. Editado por Salomón SAL Y Cedo y Lya Guzmán. 17-34. (Santiago de Chile. Organización de las Naciones Unidas para la alimentación y la agricultura: 2014). P. 20.

⁹² ↪ A. V. Chayanov. *La organización de la unidad campesina*. Moscú: Nueva Visión. SAIC., 1974, p. 12

⁹³ Rolando Astarita, [“Renta diferencial II y una corrección a “Economía política”](#) 20 de agosto de 2020. Rolando Astarita [blog]

⁹⁴ ↪ *Ibid.*

the legal minimum.⁹⁵ Therefore, “ancillary work” plays the same role in the commodity market as the wage-earner who has only his labour force. As an owner and producer, he does not work for the market, but for himself and his family or “work for himself” as Marx rightly says.⁹⁶ By resisting to sell or mortgage his property, the peasant gives up a part of the work to the society for free, because “he is not aware of it” or for whatever other reason.

In short, a peasant from his natural logic makes rough calculations of short-term profits and losses. With this knowledge, he risks his property in applying for credit (a strategic factor for agricultural development) typically at usurious rates, which put land ownership at risk. This is the Achilles’ heel of the peasant economy, which is sufficiently exploited by banking institutions and by deceptions of supposed strategic alliances with international landowners and land agents. To

Big Data platforms circulate through inscrutable labyrinths of global commerce without restrictions and controls that could stop the lethal incursions into SA-MA’s peasant properties and commons.

be sure, access to credit allows small producers to counteract the poor quality of the soil and improve crop yields. Add to this the instability of income and the confusion of the fine print in documents and contracts from banks, and even the ambiguous language that confuses or goes unnoticed by professionals in other areas of knowledge. Thus, work on the farm or plot does not appear as an “objective” cost. As long as the family’s livelihoods are assured, they will continue to run their farm.⁹⁷

Peasant Seeds on the Big Data Platforms

Big Data platforms circulate through inscrutable labyrinths of global commerce, without restrictions and controls that could stop the lethal incursions into SA-MA’s peasant properties and commons.⁹⁸ It is the most advanced technology for the expropriation of property, transcending the boundaries of free trade agreements that are part of another battleground in the peasant struggles of the Global South. Within this framework, the unlimited use of technological platforms is advancing in its double bet: corporate concentration and simultaneously linked mass data platforms. In Mesoamerica, Monsanto-Bayer bought the seed company Cristiani Burkard in 2008, becoming the owner of the certified maize seed with over 70 per cent, although most of the maize grown uses peasant and farmers’ own seed.⁹⁹ Something similar is happening in Mexico, where the concentration power of the transnational seed companies is strong:¹⁰⁰

Bayer-Monsanto, BASF, Corteva Agriscience and ChemChina-Syngenta own over two-thirds of the commercial sales of seeds and pesticides. After mega-mergers in 2016 and 2018, these corporations control two-thirds of the global seed and agro-toxic market. In Mexico, Monsanto, PHI Mexico (Pioneer, owned by DuPont) and Dow, controlled more than half of the certified seed market in 2015, a percentage that increased after the mergers, and which together with the market shares of Bayer and Syngenta, far exceed the global market share. Monsanto alone has 30 per cent of the seed market operating in Mexico, with twelve per cent being foreign capital, but holding 90 per cent of the national market.¹⁰¹

⁹⁵ ↪ Stavenhagen, Rodolfo. “Capitalismo y campesinado en México”. En *Desarrollo Agrario y la América Latina*. Selección de Antonio García. Pp.192-193. México: Fondo de Cultura Económica, 1981

⁹⁶ ↪ Kautsky, Karl. *La cuestión agraria*. Op. Cit. Ediciones la Chispa. Berlín. 1898. P 177

⁹⁷ ↪ A. V. Chayanov. *Ibid.* 1974, p. 12

⁹⁸ ↪ Pat Mooney, Grupo ETC, Op. Cit: “Las tres dimensiones de la Agricultura 4.0: its hardware, i.e. the robots and their sensors, including satellites and computerized agricultural machinery; its software, i.e. the massive data that make genomic editing and synthetic biology possible; and its fintech, the financial technologies such as blockchains and crypto-currencies”. P. 7

⁹⁹ ↪ *Ibid.*

¹⁰⁰ ↪ *Ibid*: Vertical integration arises when a company moves up or down the food production chain to acquire another company in another sector. Horizontal integration, for example, when Dow and DuPont merge their chemical interests, crops and seeds with other companies in the same line of business.

¹⁰¹ ↪ *Ibid.*

In Mesoamerica, the countries of Mexico and Costa Rica are leaders in Agriculture 4.0¹⁰² with the same global model as the large transnational companies in the sector, Bayer-Monsanto, John Deere and others, in agricultural inputs, machinery, distribution and processing in each country. Mexico ranks first in using fungicides measured in tons of active component and is in the first five places globally in using insecticides and herbicides.¹⁰³

Food Sovereignty, the Common Good and Agriculture 4.0

In the peasant tradition of pre-Hispanic origin, the right to native foods in the SA-MA countries is confronted with

In the peasant tradition of pre-Hispanic origin, the right to native foods in the SA-MA countries is confronted with prefabricated foods against the backdrop of food sovereignty. By ancestral tradition, local communities have efficiently regulated the common goods of nature. They include the biosphere and their cultures, water as a common good... Similarly, “the seed [is] the foundation of peoples’ culture and food sovereignty”.

prefabricated foods against the backdrop of food sovereignty. By ancestral tradition, local communities have efficiently regulated the common goods of nature.¹⁰⁴ The commons are located outside the economic market and the institutionality of the states. They are intangible goods that people use, paying no fee or price. They include the biosphere and their cultures as a subjective heritage and the thought that identifies people with features of the identity of their own and shared with other human beings. In the same way, water as a common good leads to protect

river basins, biodiversity and human beings.

Similarly, “the seed [is] the foundation of peoples’ culture and food sovereignty”.¹⁰⁵ Since ancient times it has been part of the common heritage, and for this reason, in hundreds of generations, it has circulated freely like ideas. From this perspective, the application of pressure regulations in favour of the use and management of transgenic seeds, and the criminalisation of the use of native seeds, is unsustainable. The peasant struggles to recover small and medium-sized land properties, and together with native seeds, are priorities that cannot be postponed in the agro-ecological production in the countries of the South. Transnationals conceive them as commodities, including the availability of common goods. The 4.0 technologies have overcome the existing difficulties because of the complexity of ecosystems, the variety of conceptions and forms of multicultural management, and the enormous biodiversity integrated into traditional agricultural systems, which makes it difficult to eradicate them and homogenise the food seed system.¹⁰⁶

On the other hand, the new bio-patents easily analyse the DNA of seeds or plant cuttings from a field or a forest—taking nothing from the genetic material of the field—from any mobile laboratory and geographical location. The novelty of the Big Data platform is that its automated and ultra-fast processes can manipulate the four nucleotide bases (A, C, G and T) of the double helix of the DNA. Yet it coincides with the categorical rejection by Pat Mooney, ETC Group, of digital seed extraction and patenting without the knowledge of the ethnic-peasant communities. Unconsulted appropriation risks the conservation, multiplication and exchange of native seeds, which represents the agricultural heritage of the regional

¹⁰² ↪ *Ibid.* The governments of the two countries, the universities and the Inter-American Institute for Cooperation on Agriculture (IICA), based in Costa Rica, which is attached to the OAS, are working together to promote the development of industrial, chemical and mechanised agriculture in cooperation with the transnational companies of Monsanto, John Deere and others. It also promotes transgenics and synthetic biology at continental events. Most farmers have mobile phones. Costa Rica, along with Uruguay, has greater access to the internet. In Mexico, 40.6% of rural areas are connected to the internet.

¹⁰³ ↪ *Ibid.*

¹⁰⁴ ↪ *Ibid.*

¹⁰⁵ ↪ Grupo Semillas. “Las leyes de semillas aniquilan la soberanía y autonomía alimentaria de los pueblos”. En *Soberanía alimentaria y agroecología*. Editado por Pérez Zapata. p. 76. Medellín, Colombia. 2014. Obtenido de www.infoagrocolombia.com

¹⁰⁶ ↪ Pat Mooney, Grupo ETC. *Op. Cit.*

peasantry.¹⁰⁷ According to David Dickson, science “becomes the legitimising ideology of power, and technology becomes the legitimising ideology of social control.”¹⁰⁸ Innovations in technology were never neutral, but were part of the political process itself”. Another unpredictable impact on collective and community ethno-peasant properties is the “digital redesign of land use and occupation with a focus on individual and private properties”. GREIN in SA-MA has verified the land standing in five priority areas for expansion and financial investment, succeeding to identify, locate and measure the boundaries of properties through the digitalisation of land governance, natural resources and the agri-food system of the financed economy. Its assessment highlights an unprecedented concentration of the best land by acquisition or contract.¹⁰⁹ The most critical country is Paraguay, where 35 per cent of the land is under foreign direct or indirect control.

Returning to mass data platforms or Big Data platforms, these have an effective connection between geo-referenced cadastre and real estate registration in rapid value transactions in land deals. The geo-referencing of rural real estate properties, in areas of agribusiness expansion, totally or partially hides the collective territories and wastelands that agreed, during political periods, to agrarian reforms.¹¹⁰ Nonetheless, corporate digital redesign overrides the

“living off the land” means the creation, from the solidarity economy, of associative forms of work rooted in the peasant tradition, to contribute to food security and autonomy.

jurisprudential rights of collective property, which cannot support debt guarantees. This limits real estate land markets and financial assets based on rural estates. Among other illegal actions in the countries of the region, public institutions, in complicity with banks, require land registration in common law properties on

illegally owned land. In the digital deception, they superimpose several individual cadastres on collective territories. If the scheme does not work, they simply remove the properties in virtual territories from the map.¹¹¹ The ultimate aim is to open up the land market to foreign investors, who have historically dominated the agribusiness value chain, as in Paraguay.¹¹² There is another conflict brewing: the concentration of private sector agricultural research on maize is causing a lack of knowledge about breeding plans for another seven thousand species of food grown by farmers. This in turn reduces the possibility of developing other technologies, coupled with the ecological, agronomic and traditional knowledge of the behaviour of these species.¹¹³ This circumstance could lead governments to further marginalise other crops in creating space for more commercial crops.

Finally, the Global Movement Via Campesina rejects the incursions of dispossession of financial digital capitalism in peasant territories through genetic editing techniques, synthetic biology and geo-referencing in lands protected by customary law manipulated through big data applications. Now, “living off the land” means the creation, from the solidarity economy, of associative forms of work rooted in the peasant tradition, to contribute to food security and autonomy.

¹⁰⁷ ↪ Ibid.

¹⁰⁸ ↪ David Dickson, *Tecnología Alternativa*, (Barcelona: Ediciones Orbis, S.A., 1985). P. 66

¹⁰⁹ ↪ GREIN. “Cercas digitales: cercamiento financiero de las tierras agrícolas en América del Sur”, 22 de septiembre, 2020. <https://grain.org/e/6530>. I Orinoquía in Colombia (average 10 thousand hectares per property, while the area is controlled by properties between 10 and 20 thousand hectares (By the Law of Areas of Interest of Rural Economic and Social Development (Zidres) they enjoy special privileges of land and credit policies); the Matopiba in the Brazilian Cerrado (16 million 500 thousand hectares), and the transformation of agribusiness securities into movable assets, can be issued in foreign currency and managed in the financial market with the exception of taxes on their transactions; and the regions along the route of the outflow of production of the Paraná-Paraguay waterway, the departments of Santa Cruz de la Sierra and Beni in the Chiquitanos dry forests in Bolivia (6 thousand ha), the Paraguayan Dry Chaco (600 properties with more than 10 thousand hectares) and the Argentine Chaco (36% of the area is controlled by properties between 10 and 20 thousand hectares).

¹¹⁰ ↪ Ibid.

¹¹¹ ↪ Ibid.

¹¹² ↪ Ibid.

¹¹³ ↪ Ibid.

The ethno-peasant organisations of the Global Via Campesina Movement, with the support of civil organisations and regional and international NGOs, advance in the peasant-based agroecological proposal that proclaims itself heir to ten thousand years of agriculture.

Since the emergence of neoliberalism, this movement has defended the food sovereignty of the Global South. Agroecology is a comprehensive discipline that addresses the social, political, and environmental dimensions of healthy food production, governed by cultural patterns of nations. Its rights platform includes the defence of agronomic practices and the elimination of the use of agro-toxins, which make up a mortal risk to achieve a healthy diet; the recognition of ancestral knowledge in productive systems, the struggle for territory, the establishment of local commercialisation circuits and fair trade mediated by solidarity and the defence of common goods, and the right to biodiversity and the construction of fairer relationships and spaces free of violence.¹¹⁴

Conclusions

In the last two hundred years, ethnic-peasant agriculture and without land has written its pages in apparent vicious circles of various and temporary agrarian reforms tailored to the governments of the day, except for the Socialist State of Cuba. In the “Third Agrarian Reform, starting in 1993, Cuba inaugurated a new agrarian model whose primary aim would be to solve the problem of food sovereignty [unique to SA-MA].”¹¹⁵ Each government has left to the next an endless number of problems. Most of them had been socio-agrarian problems without sustainable solutions until they filled the cup to the brim with the irruption of agriculture 4.0 in flourishing regions of biodiversity, natural wealth and ancient knowledge. The Pan-Amazon Region concentrated more than half of the Earth’s biodiversity, providing sustainable environmental services to the surrounding populations. Catastrophe capitalism in nature has a double dimension. On the one hand, it develops to the maximum its natural tendency of unlimited expansion of profits and, on the other, it turns the lush jungle into grasslands. If they don’t extract minerals from the ground, they set them on fire to raise and fatten cattle or establish monoculture plantations. The social cost of exporting natural goods has claimed the lives of hundreds of environmental and human rights leaders in all current and previous generations.

The governments of the region, independent of the economic pressure of free trade agreements, receive donations, pressures or bribes. Any illegal resource is valid in the “negotiation” of transnationals with the leaders of the continent. They gradually surrender fragments of natural heritage from each of the countries that make up the Amazon. The authoritarian ruler reigns with tactics of political-military control, fear and repression. Politicians well-equipped with power assume as their own the interests or businesses of landowning elites and foreign firms. Faced with citizen rejection, they affirm themselves in iron dictatorships backed or promoted by the US in hypocritical complicity with the EU, or substitute military coups for low-intensity ones for the sake of the “well-being of our ruling classes—dominant inward, but dominated from without. It is the curse of our multitudes condemned to a life of beasts of burden”.¹¹⁶ Likewise, representative democracy has become “a parody of what it pretends to be, since they have transformed it into a euphemism of the oligarchic environment in which the demos struggles to survive”, as Álvaro de Regil rightly states.¹¹⁷

¹¹⁴ ↪ Agroecología para la soberanía alimentaria. Tierras, semillas y territorios libre de violencias. Acción por la biodiversidad. Agosto 2020 – Argentina. P.3

¹¹⁵ ↪ Tatiana Wonsik et al, La cuestión agraria cubana aciertos y desaciertos en el período de 1975-2013: la necesidad de una tercera reforma agraria. Polis. Revista Latinoamericana. no. 1 (2017).

¹¹⁶ ↪ Eduardo Galeano, Op. Cit. P. 17

¹¹⁷ ↪ Álvaro de Regil Castilla. [True Sustainability and Degrowth in the Citizens Imaginary](#). Alianza Global Jus Semper, 2016.

The climate crisis worsens in SA-MA. Of the “estimated 4,6 gigatons of CO₂ equivalent emitted in Iberian America and the Caribbean in 2012, more than half were associated with agriculture, forestry and other land use”.¹¹⁸ In the last decade, GHG emissions increased at a rate of 1,5% per year and were only briefly stable between 2014 and 2016. In N. GLIGLO, “total GHG emissions in 2018—which include those derived from changes in land use—reached an unprecedented figure: 55,3 GtCO₂e,” attributed to agri-food transnationals.¹¹⁹ Likewise, the net flow of carbon exported to the EU from the Global South accounts for per capita emissions of a carbon footprint above that of China. This data confirms the makeup of the green statistics of the European Union, which debunk the presumption of green seal policies and sustainable practices.

Some climatic phenomena worsen in frequency and intensity, with an emphasis on northeast Brazil. The rise of high temperatures will continue in the region. For example, heatwaves and droughts are more frequent and intense because of GHG emissions with “browning” results translated into less photosynthesis of plants and a general decrease in the

Agriculture, forestry and land-use change produce 42% of GHG emissions, and energy development accounts for 25% of those GHG emissions attributed to large companies.

volume of vegetation in the most affected areas. Currently, the Andes is undergoing changes in weather, gravity and the patterns of the annual climate cycle. For example, in Colombia and Bolivia, climate change affects crop yields, alters sowing times and patterns of use, soil management, and spatial distribution

among crop varieties. Argentina shows more variability in the size of corn and soybean yields. Among the risks, we have water scarcity in dry lands, soil erosion, loss of vegetation, degradation of permafrost, declining yields of tropical crops and instability in the food supply.¹²⁰ We must add the destructive impact of arson fires. The commitment to economic growth as progress, the unrestricted exploitation of natural resources, indifference to issues related to the pollution of air and water, the scant concern about land degradation, the centralised economy and the reliance on market laws as a mechanism for allocation and change, complement the opaque scenario.¹²¹

Agriculture, forestry and land-use change produce 42% of GHG emissions, and energy development accounts for 25% of those GHG emissions attributed to large companies.¹²² In theory, this does not give respite for the strengthening of small and medium agricultural economies, as the climate collapse is devastating the food security of the populations of this hemisphere with irreversible damage to competitiveness and environmental sustainability on the continent.¹²³ In the same way, ECLAC and FAO admit that peasant farmers must double agricultural productivity with acceptable income, access to social protection, rural agricultural, social and financial services because it represents “over 50% of employment in the agricultural sector in 14 of 17 countries in the region with data”.¹²⁴ These demands have been reiterative and always postponed in over two centuries of history.

According to the IPCC, the COVID-19 pandemic overshadowed the alarms of the climate crisis. We are concerned about the outdated projections to 2050 and 2100 of a crisis that occurs in accelerations in the core of ecological and

¹¹⁸ ↪ N. Gligo et al., *La tragedia ambiental de América Latina y el Caribe*. P. 22

¹¹⁹ ↪ *Ibid.* P. 22

¹²⁰ ↪ Alianza Clima y Desarrollo. El Informe Especial del IPCC sobre Cambio Climático y la Tierra. ¿Qué significa para América Latina? 2019. https://cdkn.org/wp-content/uploads/2020/04/WEB-IPCC-Land-Latin-America_Spanish_24March2020.pdf

¹²¹ ↪ *Ibid.* P. 32

¹²² ↪ Cepal-Fao-IICA. *Perspectivas de la agricultura y del desarrollo rural en las Américas: una mirada hacia América Latina y el Caribe*. 2019-2020. San José. P. 41.

¹²³ ↪ Although environmental economics as a discipline is on the rise in government consultation instances, it is also evident that it has methodological flaws in explaining the logic of reproduction of nature with respect to capital in cost-benefit calculations.

¹²⁴ ↪ *Ibid.* , p. 60

The United Nations has stated that estimates for 2050 are dangerously close to 2030 in the face of impending planetary chaos... The technological innovation of catastrophic capitalism has gone as far as it has wanted against the lives of nearly 500 million inhabitants in the Region.

environmental problems summarised in the label of climate change concerning GHG storage. The United Nations has stated that estimates for 2050 are dangerously close to 2030 in the face of impending planetary chaos. Chaos already exists in different remote regions of the Earth in peoples of the Global South because of droughts and hunger, political conflicts between countries over access to water, continental droughts, torrential rains and the destruction of slopes by erosion.

The technological innovation of catastrophic capitalism has gone as far as it has wanted against the lives of nearly 500 million inhabitants in the Region. The conservation of food sovereignty inherent in the agricultural sector is a matter of national and regional sovereignty. If the power wielded by technologies does not exercise socio-political functions in defence of the fundamental rights of citizenship, if it does not place itself at the service of the people in the politics of the finite growth in harmony with the laws of nature, its existence is meaningless.¹²⁵ André Gorz: "The productive forces are shaped by the capitalist relations of production." This means that these forces will doom any attempt to change them unless there is a radical change in the nature of the productive forces, not only in the way they are used but in the objectives they pursue. Michael Löwy rejects the productivist tendency per se, pointing to Marx's insistence "on giving priority to the being of individuals—to the full realisation of their human potentialities—and not to the having, to the possession of goods." In this way the need for free time and its deployment in activities of personal, social and community fulfilment arises. Beyond the ethnic-peasant sector, we do not suggest to go back to the prehistoric way of life, but to be inspired by its principles to redirect the path towards ecological socialism, as a radical alternative in the terms of Michael Löwy.¹²⁶ This way, it imposes the need for free time and its investment in acts of personal and social fulfilment.

Michael Löwy provides another compelling insight from Marx: "In German ideology the productive forces are becoming destructive forces, creating a risk of physical destruction for tens of millions of human beings—a situation worse than the nineteenth century 'tropical holocausts' studied by Mike Davis".¹²⁷ This same affirmation is echoed in the countries of the Region which are caught in a deadlock between the maximisation of profits of rentier and transnational capitalism and the socio-economic distress exposed by the fragility of the health systems in the wake of the COVID-19 pandemic, which is catapulted into the collective memory of 'every man for himself' of the 60 per cent of the populations thrown into the informal economy. In SA-MA a large part of the inhabitants does not understand the impact of the climate emergency on their lives because of the elite's lack of knowledge and information about the climate storm that is taking place.

In the contradiction between nature and financial capitalism, the latter manifests its unpredictable power over technology. Neither abstract knowledge nor private control of innovation can perceive, even approximately, how its laws, cycles and rhythms act. These are interconnected and interwoven, some visible and others not, in the spheres of death, decomposition, regeneration and the birth of the multivariate forms of life present in the ecosystems it houses. This is how the human form emerges at the top of evolution, endowed with language, intelligence and thought provided with natural logic, useful in identifying the basic role of people in the relationships established with nature. When power

¹²⁵ ➔ David Dickson, *Tecnología Alternativa*, (Barcelona: Ediciones Orbis, S.A., 1985). P. 89

¹²⁶ ➔ Michael Löwy. *ECOSOCIALISMO La alternativa radical a la catástrofe ecológica capitalista*

¹²⁷ ➔ Michael Löwy. *ECOSOCIALISMO. La alternativa radical a la catástrofe ecológica capitalista* (Buenos Aires: Herramienta y Editorial El Colectivo, 2011). P. 12

The conflictive storm in the climate emergency has become a hurricane, it has transcended the bio-geographical borders in the countries of the Region with aberrant practices in the digital extraction of seeds, patent usurpation and the geo-referencing of ethnic-peasant lands in areas of territorial expansion towards the Amazon, from each of the nine countries of the Region.

steps in, it hinders the understanding that wealth and material prosperity are finite. Hence the COVID-19 pandemic, with power mediating, has exposed the blindness and inability of leaders and rulers of all kinds to act promptly, boldly and prospectively on unexpected challenges. They are still far from seeing the links between biodiversity and health, public and private health, capitalist food security and ethnic-peasant food sovereignty. In opposition to this imperialist dilemma, Lévi-Strauss and Horton emphasise primitive technologies, based

on the “concrete” that promotes social and ecological stability.¹²⁸

Regarding the above, “Walter Benjamin had chosen the metaphor of the ‘storm’ to describe the destructive progress that accumulates catastrophes.”¹²⁹ The conflictive storm in the climate emergency has become a hurricane, it has transcended the bio-geographical borders in the countries of the Region with aberrant practices in the digital extraction of seeds, patent usurpation and the geo-referencing of ethnic-peasant lands in areas of territorial expansion towards the Amazon, from each of the nine countries of the Region. The macro-ecological-environmental fractures have changed the landscape after fifty centuries with no possibility of return. From space, one can see enormous areas of grassland, cattle pastures, kilometres of rows of oil palm trees and fires in patches of the forest that are advancing unceasingly. A large part of the majestic biodiversity that used to be home to more than half of the planet’s living creatures is disappearing.

The worldview of simple life belongs to the natural economy, it embodies a compelling reason from the ethnic-peasant mentality, which sustains and strengthens peasant struggles without time of rest in defence of their territories inherited from their parents. This conception from the tribal community engenders fear and respect for nature. The property of the small ethnic-peasant farmer offers him a roof of his own with a wide horizon towards infinite nature and the land to sow, harvest, exchange seeds between neighbours, sell the surpluses in the local market for the benefit of other social, cultural and subjective satisfiers that give meaning to the existence and to the communities where they live. Indeed, the “work of food sovereignty as a political dimension is essential in agroecology, as is the Agrarian Reform. When landless, we have to fight for Agrarian Reform, and without agroecology, we cannot conceive of healthy food production for the people”.¹³⁰

Unfortunately, the agrarian reform in the Region has incorporated no sustainable and lasting guarantee of land tenure, caused by the political instability of the governments, as has happened since colonial times. Cuba, a socialist country, is the only one that guarantees food sovereignty despite the difficulties of the US blockade. Cubans have endured closely the power of the invader since the transatlantic colonisation. They are certain that they will not yield a millimetre in the attempt to cede the usurped lands and common goods. This has been attested in internal conflicts, armed and political violence, and in the history of the last century, in the agrarian

The concrete actions of struggle and resistance of the International Movement Via Campesina, its leaders and women leaders gain the strength from the same land that they defend with their own lives... Faced with the imminent collapse, turbulent winds are coming with an opening to another economic system different from capitalism. The most in line with food agroecology is ecological socialism.

¹²⁸ Ibid. P. 51

¹²⁹ ↪ Michael Löwy. Op. Cit. P. 82.

¹³⁰ ↪ Marta Greco. Agroecología para la soberanía alimentaria. Acción por la Biodiversidad. Argentina. Agosto de 2020. P. 14

revolutions in Mexico, Bolivia and Cuba (representative countries). In Colombia, bloody and degraded wars have been the favourite strategies of national and foreign investors against agrarian reform. From this perspective, agri-food firms are concerned about the capacity for resistance and struggle, translated into social confrontations spread to other sectors of civil society. The accumulation of unresolved socioeconomic and territorial conflicts dangerously combines social exclusion, hunger, malnutrition, under-consumption, poverty and climate vulnerability that effect over thirty million people between 2021 and 2030.

The concrete actions of struggle and resistance of the International Movement Via Campesina, its leaders and women leaders gain the strength from the same land that they defend with their own lives. Differential income, food sovereignty, the protection and conservation of biodiversity and natural resources are built around the peasant economy, key to climate resilience. It carries in its essence the foundations of ecological socialism. The spiral of change does not wait. The SA-MA Region is in an explosive situation. The new generations are taking to the streets in defence of inclusive public budgets, the end of corruption of professional politicians, the provision of social services, the end of police repression and so on. Faced with the imminent collapse, turbulent winds are coming with an opening to another economic system different from capitalism. The most in line with food agroecology is ecological socialism.

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