

Agroecological Resistance from the Interstices of Peasant Agriculture in Latin America

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Abstract

The consolidation of agribusiness leading to the homogenization of agricultural landscapes and production systems is triggering a major process of displacement of the peasantry, which in Latin America is considered a key stronghold of traditional agriculture and agrobiodiversity with a major role in regional food self-sufficiency. Despite ongoing agricultural modernization, a large peasant population still persists and, in some areas, even flourishes, mostly where capitalist agriculture has not yet penetrated due to topographical or climatic difficulties, in areas where peasants are socially organized in settlements or cooperatives, in areas where local governments or NGOs promote rural development projects or in areas with strong peasant-consumer solidarity links. This article explores the agroecological significance of these “interstices” of peasant agriculture within the context of the challenges posed by a planetary polycrisis.

Introduction

In recent decades, the penetration of corporate capital and the consolidation of agribusiness in Latin America have radically transformed the economic and social relations of production in rural societies, as well as the ecological matrix in which they are embedded [1]. The dominant modes of food production, transportation, processing, and consumption has led to massive migration of people into urban areas, diminishing the rural labor force and further locking a pathway towards biotechnological, robotic and digital agricultural development [2]. The rural sector is rapidly reaching a point of no return towards widespread land consolidation and concentration of corporate power in food systems.

On the other hand, the peasant sector which still constitutes an important provider of staple food and rural employment, is declining as many peasants become marginal producers, condemned to a process of subsistence, semi-proletarianization and structural poverty [3]. Although neoliberal agricultural modernization progressively excludes the vast majority of the peasantry, a large peasant population still persists and, in some areas, even flourishes. In such “interstices” peasants stubbornly keep their traditional farming systems as islands of diversified crop production, thereby exerting their historical role of cheap food suppliers for an increasing urban population [4]. In this article we explore the agroecological significance of these “interstices” of peasant agriculture as refuges of traditional knowledge, unique agrobiodiversity, ancestral agricultural practices, complex farming systems and heterogeneous agrarian organizational structures in the midst of homogenizing forces.

The Advance of Agribusiness

The profound transformations of the rural economy and society were precipitated by the opening of Latin American economies to global markets and the proliferation of free trade



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agreements. The shift toward export crops (non-traditional fruits, vegetables) and flex crops (such as soybeans, sugarcane, and palm oil) was driven by new capitalist entrepreneurs linked to the mining, industrial, commercial, and financial sectors fueled by domestic and foreign investments. This, in turn, accelerated a new process of land concentration, land grabbing and foreignization of agriculture. In Paraguay, around two-thirds of the land cultivated with soybeans (3 million hectares in 2008) belongs primarily to Brazilian capital (the so-called "brasiguayos"). In eastern Bolivia, Brazilian soybean farmers have a substantial presence, and in Uruguay, soybean capital is mostly Argentinian. In Colombia, avocado plantations are advancing by Chilean and Peruvian companies and in Chile, Chinese companies are progressively investing in the production of grapes (wines) and cherries [5].

The advance of this industrial model is not only testing planetary ecological and health boundaries, but progressively overwhelming peasant and family farming, as the expansion of agro-exports slowly erodes peasant knowledge and traditional farming systems, reducing crop and nutritional diversity by lowering production of food for domestic consumption [6]. For example, in several western municipalities of the Brazilian state of Santa Catarina, historically based on family farming, modern soybean plantations are gradually engulfing agro-landscapes. In 2018, in the municipality of Abelardo Luz, soybean plantations reached an impressive total of 42,000 hectares, covering 89% of the territory [7].

The expansion of soybean cultivation in the southern cone has been possible thanks to the introduction of genetically modified crop varieties resistant to the herbicide glyphosate. In Brazil alone, more than 217,000 tons of this herbicide were applied on soybeans in 2019, resulting in pesticide resistance triggering the emergence of more than 20 species of "superweeds", leaving weed control in soybean in a precarious and vulnerable state [8]. Glyphosate is also associated with human health problems, and has been classified by the International Agency for Research on Cancer (IARC) as a probable human carcinogen based on experimental studies in animals, as well as correlational assessments in humans that reveal associations between glyphosate exposure and certain types of cancer, particularly hematological malignancies [9]. The soybean model is already showing signs of exhaustion due to its diminishing returns. In 1994, to obtain 1,000 reais (R\$1,000.00) of soybean production, required the application of 0.30 kg of pesticides. In 2023, to obtain the same 1,000 reais, 0.98 kg were needed [10].

The State of Peasant Agriculture

Today, approximately 16.5 million peasant and family farms remain in the region, with an average size of 2.5 hectares, occupying 23% of total agricultural land. These numbers will probably decline in the coming years due to the expansion of

industrial monocultures and other factors such as the outmigration of young people and the precariousness of rural labor. It is estimated that by 2030, the rural population will represent only 20% of the total population of Latin America and the Caribbean (LAC) (in 1950, it was 58%). In the past, the majority of peasants' income came from agriculture; today it is estimated that this represents less than half, as they increasingly seek income in nearby capitalist farms or outside of farming by engaging in precarious wage-earning activities, deepening a process of proletarianization [11].

The ecological consequences of the disappearance of these peasant agro-landscapes are serious, since many of these systems are considered key ecological refuges, sheltering hundreds of native varieties of crops such as corn, beans, potatoes, cassava, cocoa, coffee, etc, deployed in diversified farming systems that thrive in harsh environments while maintaining acceptable yields without depending on mechanization, fertilizers or pesticides. These systems still provide no less than 50% of the regional domestic food production. In addition to provisioning food, traditional agriculture preserves cultural identity, biodiversity and ecosystems [12].

So, is peasant agriculture disappearing? Could it be that the debate on the agrarian question was won by the de-peasantists (descampesinistas) who predicted that peasants as producers of basic crops would be replaced by capitalist farmers. On the opposite side, the peasantists (campesinistas) argue that a significant portion of the peasantry still persists and that through various pathways it can coexist with capitalist agriculture. One such pathway is comprised by wage income earned off the farm, a subsistence strategy used by more than 70% of the peasants. Another pathway are remittances; no less than 50% of the 63,000 million of dollars in annual remittances sent by Mexican farmworkers from the United States go to rural areas of Mexico [13].

The Interstices of Peasant Agriculture

Given this scenario, a question that emerges is: Are there some areas where peasants survive, resist, and even flourish? There are thousands of small farmers that enjoy acceptable livelihood prospects, and there are many reasons that explain this phenomenon. First, the permanence and development of biodiverse and adapted socio-ecological productive systems in areas where capitalist agriculture has not yet penetrated due to topographical difficulties that impede mechanization, changing and extreme weather patterns, or where transport links and other infrastructure services are deficient. These are areas with steep slopes and fragile soils, dependent on rain and with practically no access to technology. In tropical America these mountainous regions produce between 20 and 40% of total agricultural output,

devote between 20 and 50% of the total agricultural land to annual crops and are home to between 30 and 50% of the agricultural population [14]. But these are the same areas that show a constant process of aggression and systematic pressures from the hegemonic model, which are impoverishing them and which is expressed in the worst poverty rates.

Secondly, peasants also persist in areas where peasants are strongly organized, where unity is based on a common identity, where even with heterogeneous compositions, they share common objectives and strategies that allow them to maintain or build increasing levels of autonomy (i.e. MST settlements in Brazil, Zapatista territories, areas with groups affiliated with the Via Campesina, etc), and also areas where there is some type of legal protection such as peasant reserves in Colombia, or municipalities that have declared themselves agroecological territories free of GMOs and/or pesticides, or where local governments promote rural development projects [15]. A notable example is the process of agroecological transition led by the Municipality of San Nicolas in Chile in collaboration with 27 peasant committees reaching about 10% of the commune's rural population with 0,5 hectare crop diversified modules for food self-sufficiency [16]. In other cases NGOs facilitate agroecological processes, as in the case of the Polo de Borborema, in the State of Paraíba, Brasil, where the NGO AS-PTA together with a network of more than 150 community rural associations, developed collective strategies of agroecological innovation with the aim of consolidating local, diversified, autonomous and resilient agri-food systems [17]. The chances of success of many of these initiatives are linked to the capacity of peasants to organize into associations that enhance their bargaining power.

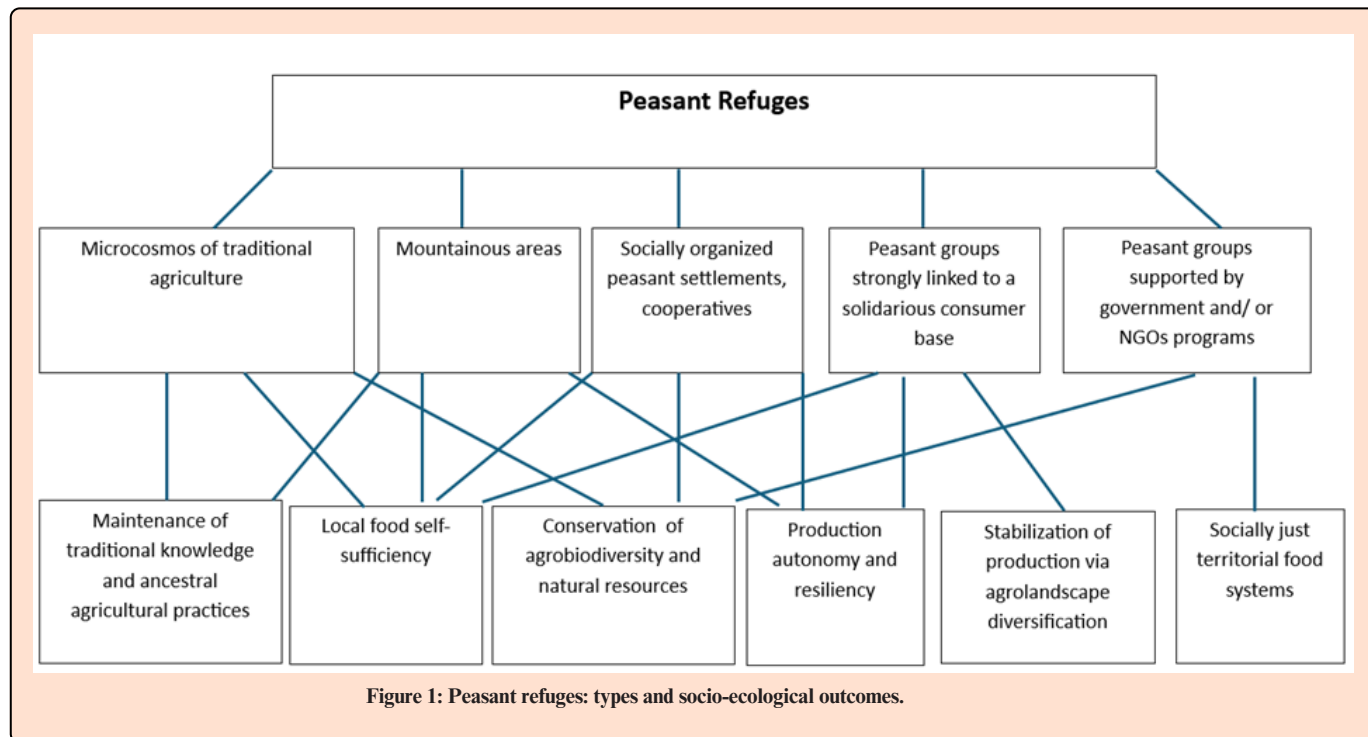
In regions where peasants suffer a process of displacement due to the spread of agribusiness, a survival strategy is to assimilate certain components of modern technology without indebtedness and resisting specialization. In Cautin, southern Chile, where the pine plantation industry advances forcefully displacing small farmers, many Mapuche peasants persist by incorporating pine trees along with annual crops into their farming systems, extending their subsistence strategies, which allows them to interact with the broader economy in more favorable terms, thus maintaining a certain level of autonomy [18].

Another mechanism that enhances the persistence of peasant agriculture is the consolidation of strong peasant-consumer links. An example is the rede Ecovida which operates in the southern region of Brazil, encompassing 180 municipalities and approximately 2,400 families of farmers and several consumer associations and cooperatives. Ecovida members produce and sell hundreds of tons of vegetables, cereals, fruits, juice, fruit-jelly,

honey, milk, eggs and meat reaching thousands of consumers. The ECOVIDA process opened spaces of autonomy for family farmers, by stimulating the diversification of their production while improving their capacity to mold markets based on the reconstruction of solidarity relations with consumers to whom they sell at fair prices [19].

Interstices of peasant agriculture are commonly found in the island of Cuba, where the peasantry survives within a political system that did not embrace capitalism, but where the state controls agriculture and other industries. Since the early 1990s the peasantry has played a major role when the large state-owned agricultural operations succumbed due to a lack of oil, chemical inputs, and tractor spare parts precipitated by the fall of the socialist bloc. Under these conditions, the only hope for food sovereignty was provided by more than 50% of the peasants, who mostly using agroecological practices, produced 70% of the food crops, chickens, pigs, and rabbits consumed in the country [20].

These, then, are the interstices where agroecological peasant agriculture endures and remains prevalent in the highlands of Peru, Bolivia, Ecuador, and Colombia; in southern Mexico; rainfed areas of Central America; Northeast Brazil; and parts of Chile [21]. It is there that peasants have remained despite the changes and tensions sweeping through rural areas, facing them with resistance (Figure 1). It is interesting to note that peasants who have been least tied to globalized markets, who rejected or abandoned the Green Revolution technology, who produce for their families and communities on a self-controlled resource base, and who share a common identity and organize themselves, are the ones who have suffered the least the impacts of modern intensification. These peasants, generally considered "poor or marginal," are the ones who still cultivate millions of hectares of agricultural land with native varieties and traditional ancestral technology, using complex polyculture systems, agroforestry systems, animal integration, organic soil management, etc., in biocultural systems that promote biodiversity, thrive on local inputs, achieving stable production in heterogeneous and climatically adverse environments. For example, in the Andean highlands of Peru thousands of peasants still use ancient techniques such as terracing, raised beds (waru-waru) and water reservoirs (qochas) to optimize water use, reduce soil erosion, and protect crops from climatic extremes to ensure food provisioning for local communities [22].



The agroecology that emerges from these experiences constitutes a strong counter-hegemonic strategy that, while confronting systemic rejection, isolation, and co-optation by the dominant system, weaves transformative power within peasant and indigenous worlds, promoting increasing levels of autonomy and sovereignty within tremendously complex socio-economic scenarios.

How is Peasant Agroecology Expanding?

It is notable to observe how from these "agroecological interstices," the successful experiences of hundreds of peasants spread from one region to another, maintaining or consolidating tangible and intangible territories, invisible to the dominant system, but fundamental for guaranteeing the right to food and caring for the commons. This scaling up and scaling out process occurs despite the general lack of conducive policies, the absence or scarcity of agricultural extension and relevant university research, financial support from foundations, NGOs, government loans or incentives, etc.

Without a doubt, the Peasant to Peasant Movement (CAC), which emerged in Mexico decades ago and has spread throughout Central America and now to other countries, has contributed for more than 30 years to allow hundreds of thousands of farmers in Latin America to improve their livelihoods while conserving their natural resources. CAC is a cultural phenomenon that uses pedagogical mechanisms linking peasant communities through

horizontal agroecological learning networks, employing participatory methods that allow for the socialization of the rich store of family and community agricultural knowledge, with a rapid multiplier effect, allowing hundreds of farmers to learn and incorporate agroecological innovations in a short period of time [23]. A classic example of CAC is the rapid conversion by 47,000 farming families in the hillsides of Honduras, who in three years tripled their corn production adopting Mucuna as a cover crop. Another emblematic example is the successful agroecological transition of more than 130,000 farmers in Cuba due to the adoption of the CAC methodology by the Asociacion Nacional de Agricultores Pequeños –(ANAP) [24].

Conclusions

The interstices of peasant agriculture constitute places of resistance where communities struggle to reclaim their seeds, land, water and traditional ways. In these refuges, thousands of farmers, have against all odds, succeeded in revitalizing their productive potential in a way not achievable using contemporary capitalist agricultural techniques. Contrary to homogenizing proposals that undermine the natural functioning of agroecosystems and the autonomy of farmers, peasant agroecology distances itself from the agrochemical, biotechnological, and digital regime, reintroducing elements of nature into agricultural production and leveraging indigenous knowledge to create biocultural, biodiverse, resilient, and sovereign systems.

Evidence shows that these agroecological farms are more biodiverse, more energy-efficient, more resilient to climate variability, and more productive than modern agriculture per unit of energy, water, and nutrients [25].

A major, unrecognized ecological service provided by peasant agriculture is the stabilization of production in scenarios of economic and environmental stress. By growing various crops at different locations, as mosaics within the landscape or watershed or by growing diverse crops at the farm level, peasants reverse the trends imposed by agribusiness towards production system homogenization, rendering agrolandscapes less vulnerable to extreme weather and pest outbreaks [26].

By breaking away from dependence on chemical inputs and globalized markets, peasants promote productive autonomy and agricultural diversification, building increasing levels of food, technological, energy, seed, water and energy sovereignty. There is great geographical unevenness of peasant persistence under capitalism, and the survival of peasant refuges is uncertain when agricultural industrialization processes accelerate in a particular region.

The establishment of local markets characterized by multiple commercialization short-circuit channels for food sale and access, makes peasants and consumers less vulnerable to price changes by reducing their dependence on large corporations that control global supply chains. Farm diversification and reciprocity between production and consumption comprise fundamental elements of local food sovereignty [27].

The paradox is that these interstices of peasant agriculture are threatened by modernization and are declining, yet placing food production in the hands of peasants constitutes a viable way for most consumers to ensure the local supply of fresh food at affordable prices, in the midst of climate change, pandemics, military conflicts or other disruptions. Given today's world ecological predicament, it may be wise to recognize and value peasant agriculture as an inspiring source of solid agroecological designs for food provisioning freely accessible to humanity to replicate and scale up.

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