



Estudio de caso



Environmental and territorial transformations through the collective praxis of recovery of degraded areas in the rural settlement Nova Esperança, Euclides da Cunha Paulista/SP

Transformaciones ambientales y territoriales a través de la praxis colectiva de recuperación de áreas degradadas en el asentamiento rural Nova Esperança, Euclides da Cunha Paulista/SP

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Abstract

This text deals with the materialization of reflective thinking, based on the concept of praxis, in which the authors discuss the social and environmental transformations that have occurred in the territory of Pontal do Paranapanema-SP, by various social agents, including the Landless Rural Workers Movement (MST), in the Nova Esperança Rural Settlement, having as its pillar the decolonial and territorial thinking of peasant women. The concrete fact is expressed in projects to recover areas degraded by water erosion, where nature is transformed by various social actors, but also by human beings themselves, who become alienated from their own awareness of also being nature. In this case, especially peasants who maintain a topophilic relationship with the land: a relationship of affection, identity, belonging, which also guarantees society's food and nutritional security, are the resistance.

Keywords: Praxis, territory, regeneration, decolonial.

Resumen

Este texto aborda la materialización del pensamiento reflexivo, basado en el concepto de praxis, en el que los autores discuten las transformaciones sociales y ambientales que se han producido en el territorio de Pontal do Paranapanema-SP, por diversos agentes sociales, entre ellos los Trabajadores Rurales Sin Tierra Movimiento (MST), en el asentamiento rural Nueva Esperanza, teniendo como pilar el pensamiento decolonial y territorial de las mujeres campesinas. El hecho concreto se expresa en proyectos de recuperación de áreas degradadas por la erosión hídrica, donde la naturaleza es transformada por diversos actores sociales, pero también por los propios seres humanos, que se alienan de su propia conciencia de ser también naturaleza. En este caso, la resistencia son especialmente los campesinos que mantienen una relación topofílica con la tierra: una relación de afecto, de identidad, de pertenencia, que también garantiza la seguridad alimentaria y nutricional de la sociedad, son resistencia.

Palabras clave: Praxis, territorio, regeneración, decolonial

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Introduction

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Concrete poetry “Terra” by Décio Pignatari (1956)

We start this chapter inspired by the concrete poetry TERRA, by Décio Pignatari (1956) which, in addition to poetic expressions, takes us back to the historic struggle, mainly for vacant lands, and denounces, without a doubt, the environmental and social problems, with the which peasants dealt and deal with daily in the rural settlement Nova Esperança, municipality of Euclides da Cunha Paulista, Pontal do Paranapanema/SP.

In this experience report, we share the methodological path based on praxis, which by definition presupposes the unity between theory and practice, geographic, integrated, and integrative doing, from the perspective of historical materialism and complex thinking, where the production of geographic knowledge was put to the test, in such a way as to identify possible degrading agents, propose and transform realities in the field, in nature, in society. Here’s the contribution!

When we observe the poem with due attention, it is possible to identify a sinuosity, a cut downhill, from northwest to southeast, you see? It expresses the earth being overturned for planting, having its entrails shamelessly exposed, in the name of which the plants will sprout and become food for society. This is quite optimistic, considering the fact that this same land, especially after the supposed modernization of agriculture, eminently from the 1950s and 60s, becomes a genuine “object” of interest to the great agricultural industrial capital. Plowing, harrowing, subsoiling = intense mechanization; fertilization, correction, “agro intoxication”, poisoning of soil and water organisms, more plowing, more harrowing; genetically modified seeds to withstand “pests and diseases”, although Primavesi (2016, 133) states that fighting them “eliminates the symptoms, but does not control their causes”. In addition, the aforementioned author says that plants become ill when there is an imbalance in nature and, once consumed, resulting in a sick man/society, whether of the body and/or the spirit.

In this sense, these processes feed themselves: degraded soils/plagues/mechanization/agricultural inputs/compaction/erosion/degraded soils/degraded society/plagues/mechanization. This perverse system increases the technological package consumption, it’s that easy.

At the same time, the abstract thought of the poem also becomes a concrete thought, materialized in the critique of colonialist thought and historically degrader of environments, since it explains the most perverse way for capital to profit and transform territories, plundering local cultures, the peasant organizations and agroecological processes of symbiosis with the land.

In this regard, a critical reading of the peasants territory is urgent, also from the perspective of decolonial thinking, as can be seen in Mignolo (2017), Quijano (1999; 2000 and 2009) and Saquet (2021). The latter author clearly describes the meaning of the concept of decolonizing, as follows:

Decolonizing means, succinctly, a process aimed at creating a new man through the struggle for liberation (Fanon 2005; 1961). Freedom to plant and eat, to transform and appropriate the result of one's work, to sing and dance, to walk and teach, to learn and inhabit, to feel safe and healthy, to think and produce knowledge according to each territory and its people. We are, then, in a movement called de-coloniality, as an ethical, social, political, and epistemic response, for example, by indigenous and afro-descendant movements, based on a different thought and another praxis (Walsh 2014; 2008). Decoloniality corresponds to a struggle against coloniality and its material, epistemic and symbolic effects, such as the naturalization of extermination, domination, subordination, land expropriation, death, torture, rape, the colonization of thought, etc. (Saquet 2021, 4).

In this way, if the land is wrongly appropriated, with the sole objective of obtaining profit, not for everyone, obviously, and not respecting its constitution dynamics, the result will be the formation of erosion processes, either in the form of furrows, rills, and gullies.

The erosion process presupposes the transfer of material from upstream to downstream, with rainwater as the primary agent in the tropical climate. Commonly the rains splash and break up the soils without vegetation cover. Unprotected, the smallest particles, clay and organic matter, an active part of the soil, are the first to be transported. It is urgent to clarify that they are not just particles, but nutrients responsible for ensuring the development of plants, the ecosystem and people.

This is the materialization of exploitation and degradation, not only of *naturata*, transformed by the various social actors but also of human beings themselves, who become alienated from their own awareness of also being nature. In this case, especially the peasants who maintain a topophilic relationship with the land: a relationship of affection, identity, and belonging, which also guarantees the food and nutritional security of society, are resistance.

As a counterpoint to agribusiness, which mainly produces *commodities*, raw materials exported predominantly without added value, although the forenamed portion of the rural population has been excluded from access to credit, information, technical support, and other services exacerbating inequalities, even so, they are responsible for almost everything

we eat daily (Altieri 2012). According to that author, there is an urgent need to combat rural poverty and at the same time regenerate the base of natural resources, which requires new approaches to agricultural research, in particular those involving the local population, their traditional knowledge, participatory approach, as well as elements of the regional physical environment.

To understand how the praxis took shape during this work, the facts will be historicized showing the various social agents participating in the process of environmental and social transformation, including the Landless Rural Workers Movement (MST), in the rural settlement Nova Esperança, where the project to recover areas degraded by water erosion was carried out, in partnership with rural producers.

Landless Rural Workers Movement (MST) and its performance in Pontal do Paranapanema/SP

The peasant movement in Brazil is currently represented mainly by the Landless Rural Workers Movement (MST) seeking the right to land or, according to Fernandes (2005), territorialization through confrontation with hegemonic groups that also seek training of their territories, resulting in conflicts inherent to space. Fernandes (2005) reports that in spatial dynamics:

(...) some movements transform spaces into territories, also territorialize and are deterritorialized and reterritorialized and carry with them their territorialities, their territorial identities constituting a pluriterritoriality. The transformation of space into territory happens through conflict, defined by the permanent state of conflicts in the confrontation between political forces that seek to create, conquer and control their territories (Fernandes 2005, 278).

This reveals the complexity of the struggle for land in which different groups seek to transform space into territory. This situation can be seen in the Brazilian countryside, with emphasis on the MST, made up of those who were once deterritorialized, putting pressure/confronting groups of “owners” and even the State, which often becomes complacent in the face of the land issue.

The land issue in Brazil is historically marked by the contradictions of the capitalist system in the countryside, that is, by a production that aims to obtain profit, especially for landowners, whose large-scale production is mainly aimed at the foreign market. This factor is accentuated in the country’s agriculture since the historical formation of the territory “(...) marked by the invasion of the indigenous territory, by slavery and the production of capitalist territory” (Fernandes 2000, 25), favored and strengthened the configuration of extensive agro-export “properties”. In this sense, Wanderlei (2001), when explaining

the large property in Brazil, highlights that: “(...) large property, dominant throughout its history, has established itself as a socially recognized model. It has received the social stimulus expressed in the agricultural policy, which sought to modernize it and ensure its reproduction” (Wanderlei 2001, 36).

However, this predominant mode of unequal distribution of land, rights, technology and information is marked by the conflict of groups that try to recover or conquer a part of what is owed to them. As soon as the colonizers arrived, the process of struggle for land would go on for several centuries until the formation of the MST. In this framework, Fernandes (2000) points out that “peasant struggles have always been present in the history of Brazil. Social conflicts in the countryside are not restricted to our time” (Fernandes 2000, 25).

Among the historical episodes that marked the conflict over land in the country, the 19th century stands out, marked by the beginning of the establishment of “free work” caused by the extinction of the slave trade and the enactment of the Land Law of 1850. This law, in the first instance, aimed at spontaneous immigration to Brazil and the regulation of tenure so that the State would have greater control over the agrarian situation (Feliciano 2007). About the Land Law, Fernandes (1994) notes:

(...) law nº. 601 of 1850 - the land law - made it possible to legitimize land occupied before 1850 and prohibited the occupation of vacant land except through acquisition by purchase. Landowners were given a deadline to register their possessions, which ended in 1856. Since this law, unregistered and legitimized lands were considered vacant, that is, because they were not required, they should be returned to the Public Heritage (Fernandes 1994, 93).

This event marks the beginning of capitalist activity in the Brazilian countryside, characterizing the purchase of land as a valuation reserve or a source of investment. In this way, land grabbing emerges as a “criminal alternative” for accessing land, revealing the act of those who did not want to pay for it (Oliveira 2007).

For the purposes of clarification, land grabbing consisted or does consist of falsifying documents to guarantee land “ownership” after the enactment of the Land Law. These documents, so as not to be questioned, were placed in boxes or drawers with crickets (*Grylloidea*) to give them an aged appearance, realizing the falsification. One of the episodes of this process was the Pirapó-Santo Anastácio farm, one of the largest territorial extensions of Pontal do Paranapanema, where the municipality of Euclides da Cunha Paulista/SP is located today.

The formation of the Brazilian peasantry is marked by the confrontation with colonels, landowners and land grabbers, as well as by opposition to the State that, in a certain way, defends the national aristocracy or is controlled by it. In this sense, in the 20th century, organized groups appeared in search of agrarian reform, among them: the peasant leagues that marked the beginning of a more articulated organization around 1945; then came the

associations, mainly with the Brazilian Communist Party (PCB) that created the Agricultural Workers Union (ULTAB), with the purpose of organizing the association of peasants aiming at union with the workers and; the beginning of institutionalization, in the 1960s, with the Natural Confederation of Agricultural Workers (CONTAG), however, with a weakening of the movements.

From 1940 to 1964, according to Fernandes (2000), struggles to maintain land ownership were frequent; occupation to conquer new land; expropriation actions marked by violence, reactions, and revolts; migration and land grabbing, practiced by landowners and companies, among other events. Amid the series of demonstrations that took place in several Brazilian states during this period, we have the state of São Paulo, which in the 1950s and 60s witnessed many social conflicts in the countryside.

In Pontal do Paranapanema, an intense occupation process with a significant presence of land grabbers resulted in the cutting down of a large part of the native forest for the formation of pasture, in order to justify the use of the land to guarantee the supposed possession. To deforest the region, landless rural workers were exploited, and while cutting down the forest, they only received permission to plant for subsistence. After the formation of the pasture, the workers were violently expelled (Fernandes 2000). This contextualizes the occupation of Pontal, the formation of one of the largest land grabbing acts in the state of São Paulo, and a great process of expropriation, causing an aggravation between the landless and the landowners. In this way, this is one of the territories in which rural social movements are most active.

From the military coup of 1964, there was a setback in the process of social demands due to the great repression, accentuating, even more, the political and economic problems. In the countryside, the advance of capital provided mechanization and industrialization, accentuating the process of dispossession of several rural workers, favoring the growth of salaried work in the countryside, and swelling the landless mass (Fernandes 2000). In this way, Brazil became a paradise for landowners, expanding the conflict over land rights. In the 1960s and 70s, movements arose across the country, and the actions of ecclesiastical communities favored the formation of the Pastoral Land Commission (CPT), strengthening rural movements. On top of that, in the same period, there was a colonization movement promoted by the government, aiming at maintaining control over the agrarian question, favoring landlordism.

In 1980, a series of occupations took place in response to the “modernization” movement of the countryside in previous decades and the strengthening of the abyss between those who held power and the means of production and the excluded part of the population. This, added to the process of resistance of the peasantry to government measures, favored the formation of the MST, which was founded in 1984, effected with the first national congress of the movement in 1985, which was attended by representatives of 23 Federative Units, marking the expansion of the movement (Fernandes 2007). From 1979 to 1984, the first land occupations took place in several states.

In São Paulo, Pontal do Paranapanema was, once again, one of the movement's pioneering regions. At the time, formed by a "grabbed" plot of more than 1,100,000 hectares. In 1984, the first victory in the region took place when the government decreed the first expropriations favorable to the MST, collecting an area of more than 15,000 hectares to settle about 460 families. This settlement became known as Gleba XV of November (Fernandes 2000). These lots are located in the municipality of Rosana, Euclides da Cunha Paulista, and Teodoro Sampaio. As a result of this action, Pontal do Paranapanema became the focus of attacks by social groups, mainly the MST, seeking to obtain land, and configuring a series of occupations.

Knowing the territory of action

The rural settlement Nova Esperança, located in the municipality of Euclides da Cunha Paulista/SP, presents a significant picture of environmental degradation due to the powerful social insertion promoted by the advance of agriculture and livestock to the west of São Paulo, without the use of adequate environmental management techniques. The region is known for grave land conflicts, which legitimized the presence of the National Institute of Colonization and Agrarian Reform (INCRA) and the Institute of Lands of the State of São Paulo (ITESP), to try to solve the problems related to these conflicts.

Pontal do Paranapanema has witnessed, over decades, an intense process of expansion of pastures and agricultural crops, replacing native forests, predominantly the Sub-Montana Seasonal Semideciduous Forest, popularly known as the Interior Atlantic Forest.

The poorly planned and often illegal occupation, aggravated by the natural characteristics of the territory, resulted in scenes of intense soil degradation, mainly in the form of water erosion, linear and areolar, in soils with a predominance of sandy textural class, enhancing the processes in slope, compromising the agricultural activity and, consequently, the subsistence of the settled families.

Water erosion leads to a reduction in the productive capacity of the soil, promoting an increase in production costs. Bertoni and Lombardi Neto (2005) warn that erosion is one of humanity's most urgent problems. It has already ruined millions of hectares of arable land and left others submarginal. Nowadays, many of our lands are in the process of degradation, referring to the need for intervention to avoid the shortage of areas for planting. Highlighting the importance of soil, Wincander and Monroe (2009) point out that:

From a human perspective, soils are not renewable, so people are alarmed by soil losses that exceed the rate of their formation. Similarly, any reduction in soil fertility and productivity is cause for concern, especially in areas where soils already allow for only marginal existence. For this reason, land degradation, which includes erosion besides chemical and physical deterioration, is a severe problem in many parts of the world (Wincander and Monroe 2009, 139).

Because it is one of the most used natural assets in food cultivation, essential for the maintenance of life, if managed without the proper conservation apparatus, it tends to have its productive capacity compromised. Knowing, therefore, the main factors that favor these losses and knowing how to act to reduce these damages, becomes a primordial task for conservationist planning (Roque *et al.* 2001). Guerra (2007) states that to avoid soil degradation resulting from erosion, it is necessary to know the erosion dynamics from the beginning, that is, from the moment the water droplets come into contact with the soil and initiate the erosion process.

Erosion should be seen as a serious problem, mainly because it can compromise the maintenance of life on Earth. In addition to degrading the natural properties of the soil, such as porosity and structure, among other ones, it also compromises water bodies, in the form of siltation. According to Weill and Pires Neto (2007), silting is:

(...) a process of deposition of debris: clay and/or gravel, which results from the loss of transport capacity of rain flow, a river current, and due to the occurrence of mass movements. Silting causes the burying of springs, river channels, ponds, lagoons, estuaries, dams, dams, and/or lowered areas (Weill and Pires Neto 2007, 52).

Inserted in this context, the appropriation of nature by the various social agents (public and private) in Pontal do Paranapanema, caused an intense change in its dynamics, generating profound environmental degradation, mainly of soils that, due to the implementation of productive cycles such as coffee, cotton, peanuts, and pastures, without proper conservationist care, had their natural structure altered using agricultural implements and intensive preparation (Nunes *et al.* 2006).

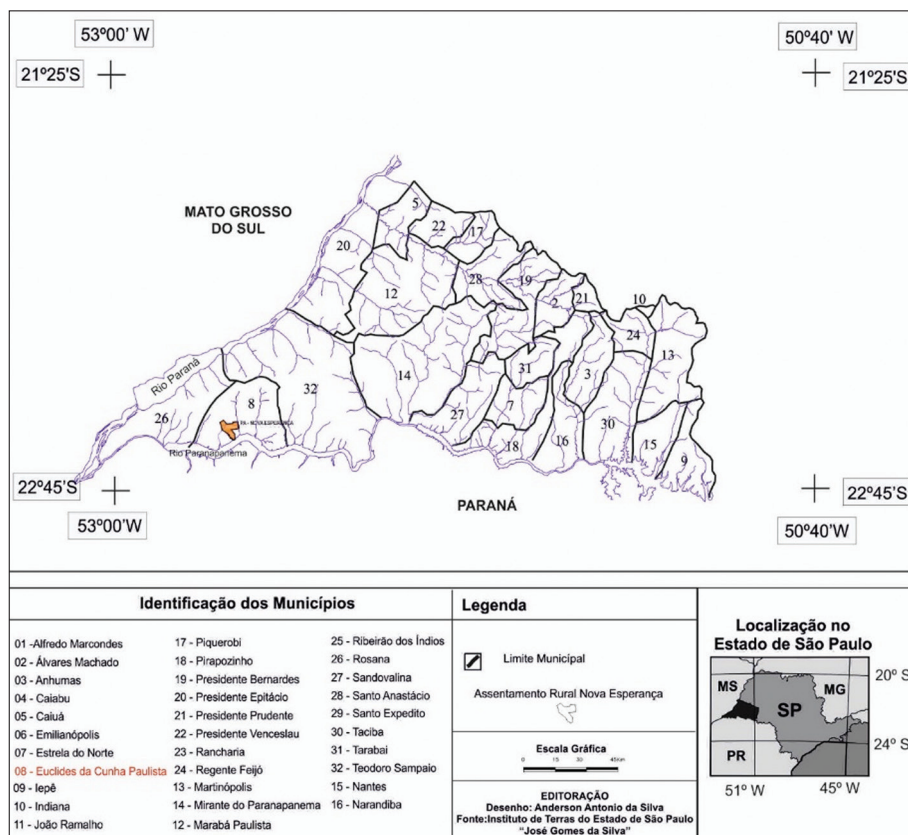
Environmental degradation in Pontal compromises the sustainability of agricultural activities, the subsistence of farmers, or the sale of products from these activities, which affects society and the region's economy. Producers who make their living from family farming are the ones who suffer the most in this situation, as they face many problems related to land, capital, and production management.

In addition to the fact that land, in many cases, is scarce to guarantee a good yield with production, the situation gets worse when the establishments have problems with wear and tear or degradation of the soil. The lack of capital to invest in product diversification, mechanization and conservation practices or recovery in planting areas is an obstacle to production, as well as to hiring labor when family work is insufficient. Management of the establishment is another problem, as decision-making, access to credit, cost control and associative are not always easy or sufficient aspects to promote the producer's economic growth.

In this sense, the experience carried out in the rural settlement Nova Esperança, located in the municipality of Euclides da Cunha Paulista/SP (Figure 1), in addition to providing an understanding of the historical context of social conflicts in the countryside,

also implied the application of recovery techniques in areas degraded by erosion, through edaphic and mechanical methodologies, in the development of a collective and integrative praxis together with the rural settlers.

Figura 1. Location of the rural settlement Nova Esperança,
municipality of Euclides da Cunha Paulista - SP



Fountain. Own elaboration

The Nova Esperança rural settlement was implemented in 2000 and has a total area of 2028 hectares, of which 1481 hectares (73 %) were allocated to 98 agricultural lots, making an average area of 15,5 hectares per lot. The community area occupies 2,5 hectares and the roads, 29,2 hectares, while 93,6 hectares are destined to Permanent Preservation Areas (PPAs) and 422,5 hectares correspond to the Legal Reserve area (LR).

The significant challenges of the rural settlements in Pontal do Paranapanema are the recovery of degraded areas (Figure 2), mainly due to water erosion, and income generation, both intrinsically articulated aspects, since the recovery of environmental quality is of crucial importance for the establishment of social and environmental activities, as well as economically sustainable measures.

Figura 2. Nova Esperança Rural Settlement (december 2010)



Fountain. Own elaboration.

Note. Gully resulting from inadequate land use, mainly from livestock activity, introduced before the agrarian reform process carried out in the Nova Esperança Rural Settlement.

The advanced case of environmental degradation affecting part of the Nova Esperança Rural Settlement is notorious, especially in the Legal Reserve area and the Permanent Preservation Areas. In this scenario, the struggle for land and, consequently, agrarian reform, took place.

However, the struggle for land now takes place in the sphere of society's relationship with nature mediated by work, whether in the restoration and technical restitution of the nature of the area in question or the engagement of settlers as social agents, in a collective and organic construction process, in which they become transformers of the reality of their life.

Given these circumstances, a collective work was carried out involving, directly or indirectly, rural settlers, INCRA technicians, professors, and undergraduate and graduate students of the Universidade Estadual Paulista, Campus of Presidente Prudente and Ourinhos, to recover the degraded areas in the rural settlement Nova Esperança, through the development and application of low-cost mechanical techniques for erosion control, aiming at stabilizing erosion foci. Part of the proposal was the application of edaphic techniques, such as planting seedlings of species native to the Pontal do Paranapanema region, to restore the environmental and social functions of the settlement. For the work plan, a linear erosion of the rill type and its surroundings was taken as a model for the application of the methodology of erosion control and planting of seedlings.

All information about the local environmental situation of the experimental area and the techniques to be implemented were discussed with the rural settlers, even though not all of them participated in the work carried out, which was intended to present them with the environmental problems related to erosion and, also, to discuss the social function to which the area under study should be destined. Some settlers, however, apprehensive about the intervention in the Legal Reserve area, did not collaborate with the removal of the cattle, claiming difficulties because most lots did not have piped water for the animals to drink.

The use of bioengineering mechanical and edaphic techniques and their social role in transforming the environmental reality of the Nova Esperança Rural Settlement

The recovery of the pilot area began with the implementation of control techniques in the rill erosion, taken as a model for the application of the methodology since to completely recover any of the areas it would take months or years of work focused on this task alone.

Figura 3. Barriers made with raffia bags (sand and pebbles) supported by bamboo, upstream of the erosion (June 2011)



Fountain. Own elaboration

The method used was bioengineering techniques, with the installation of physical bamboo barriers in the most critical areas, identified by the path of rainwater flows (Embrapa 2006). The objective was to reduce the speed of surface runoff and the consequent evolution of rill erosion. Upstream the erosion, two barriers were implanted, fixed on three bamboos stakes, two at the ends and one in the middle. The bamboos, forming barriers about 30 cm high and 5 m long, were arranged horizontally and tied with wire to each stake. Then, raffia bags filled with sand and pebbles were added to contain the flow (Figure 3).

Figura 4. Barrier assembly sequence using bamboo inside the rill erosion (June 2011)



Fountain. Own elaboration

Within the erosion, bamboos were also placed horizontally, fixed on the sides of the ravine, and tied to a central stake, forming a barrier about 1 m high and 4 m long (Figure 4). For the application of this methodology, bamboos (*Bambuseae*) grown in the Settlement itself and common and low-cost materials, such as pliers, hoe, digger and wire, were also used.

Figura 5. Cutting the wire of the fence built to prevent cattle from entering the area where native seedlings were planted (May 2012)



Fountain. Own elaboration

For the implementation of edaphic techniques, a fence was built around the erosion, to allow the planting of 600 seedlings of native species, carried out in October 2012, as a complementary measure of the recovery process. However, for unknown reasons, the fence was cut and allowed the entry of cattle (Figure 5). For this reason, more than 300 seedlings had to be replanted (Figure 6). If no more problems occurred, there would be a satisfactory recovery of the erosive focus.

As a result of the efficiency of the technique, the growth of grasses and bamboo inside the erosive focus, in addition to a subtle accumulation of sediments inside the erosion upstream of the barrier (Figure 7), can be highlighted.

Figura 6. Replanting of 300 native seedlings with the presence of rural settlers (October 2012)



Fountain. Own elaboration

Figura7. Temporal evolution of the erosive process recovery with the combined use of mechanical systems (dam with bamboo) and edaphic systems (planting of native seedlings)



Fountain. Own elaboration

Considerations

The realization of this work, in addition to the theoretical reflection, materialized through geographic praxis, and by a decolonial thought, allowed us to gather an essential range of information on the environmental and agrarian question, both in terms of the struggle for land and the conditions of the producer's family members and also about the historical process of occupation of Pontal do Paranapanema. It was, after all, possible to carry out an environmental diagnosis of the study areas, to subsidize the adoption of differentiated techniques for the recovery of the degradation of the environment.

Based on general empirical observation and living with different social agents, it was possible to verify the social and environmental problems they face in these geographical spaces of struggles, conflicts and contradictions in which they are historically inserted, victims of an exclusionary process generated throughout the time, that involves different dynamics of nature and society.

The rural settlement Nova Esperança exemplifies a conquest of social movements, with an underscore on the MST, given the predominant land concentration in the Brazilian territory. It is observed, however, that the struggle does not end with land ownership, but persists, in an attempt to conquer structural conditions to improve production, the environment, and the quality of life of the settlers.

In addition to the use of techniques, the transforming fact occurred in the relationship of sharing the collective work alongside the various social actors, which, over time together, enabled the junction between academic and popular knowledge, transforming them, at certain times, in a unique understanding. This made it possible to break the subject-object relationship, which is still very much ingrained in geographic science.

The praxis carried out in the work with the rural settlers, showed the heterogeneity of ways of thinking, acting, and conceiving the territory of experience. Proof of this is the collective behavior (of a few) or individual behavior (of the majority), expressed, for example, in the low participation of settlers in the recovery process carried out and in the maintenance of cattle in the Legal Reserve area throughout the entire work. Although to allow the progress of the recovery stages, mainly the planting of native seedlings, a fence was built, it was later cut. This negative fact led to a new planting intervention and the deepening of the dialogue between the different social actors, considering that the settlers are the most indicated to continue the process of recovery of degraded soils, given the direct interference the environmental situation has in their lives.

It is understood, therefore, that cooperation measures involving academia and settlers or small rural landowners can be established through governance policies between social agents inserted in the historical context of a given territory. Rural settlers are victims of the perverse and exclusionary economic system that alienates cooperation, generating

individuality and making room for social and economic vulnerabilities, resulting from dependence on financial capital, which ends up causing food risks in periods of scarcity.

In the scope of Geography, it is necessary to understand the complexity of the natural and social dynamics that constitute the territory and the conflicting geographic space, to promote policies that privilege domestic and collective units, avoiding the increase of income inequality and land abandonment. In this sense, it is possible to articulate the natural and social dynamics in the total space, in which, according to Ab'Saber (2004, 222) the landscape constitutes (...) the mosaic of the inheritances of nature integrated with the positive or negative heritage of the accumulated actions done by generations and generations of men.

Thus, as teachers and social agents, we seek, through work with rural settlers and small producers and action research, to technically reconstruct nature transformed and technified by society, composed of differentiated social agents throughout history, to associate the experimental practice with the theory of knowledge construction, based on the triad: postmodernity as THESIS, materialist dialectics and complexity as ANTITHESIS and Marxist praxis as SYNTHESIS.

Bibliographic References

- Ab'Saber, Aziz. 2004. *São Paulo - Ensaio e entrevero*. São Paulo: EDUSP/Imprensa Oficial do Estado de São Paulo.
- Altieri, Miguel. 2012. "Agroecologia: bases científicas para a agricultura sustentável". São Paulo: Expressão Popular 3: 400.
- Bertoni, José, Lombardi Neto. "Conservação do solo". São Paulo: Ícone 5: 2005.
- Empresa Brasileira de Pesquisa Agropecuária – EMBRAPA. 2006b. Centro Nacional de Pesquisa de Solos. "Recuperação de Voçorocas em Áreas Rurais". Versão eletrônica. <http://www.cnpab.embrapa.br/publicacoes/sistemasdeproducao/vocoroca/index.htm> Acesso em 02/11/2011.
- Fanon, Frantz. 2005. *Os condenados da terra*. Juiz de Fora: Ed. UFJF, (1961).
- Feliciano, Carlos. 2007. "Grilos jurídicos no Pontal do Paranapanema: administrando os conflitos agrários". Revista NERA, Ano 10 nº 11, Presidente Prudente: 48-60.
- Fernandes, Bernardo. 1994. *Espacialização e territorialização da luta pela terra: a formação do MST - Movimento dos Trabalhadores Rurais Sem Terra no Estado de São Paulo*. Dissertação de Mestrado. Universidade de São Paulo (USP). São Paulo.
- 2000. *A Formação do MST no Brasil*. Petrópolis. RJ: Vozes.
- 2005. *Movimentos socioterritoriais e movimentos socioespaciais: Contribuição teórica para uma leitura geográfica dos movimentos sociais*. OSAL: Observatório Social de América Latina. Ano 6, 16. Buenos Aires: CLACSO: 273 – 283.

- Fernandes, Bernardo. 2007. *Formação e territorialização do MST no Brasil In: Abordagens técnico-metodológicas em geografia agrária*. Organizadores: Glaucio José Marafon, João Rua, Miguel Angelo Ribeiro, Rio de Janeiro: UERJ: 139-168.
- Guerra, Antonio, Soares da Silva Antonio, Botelho, Rosangela. 2007. “Erosão e Conservação dos Solos: Conceitos Temas e Aplicações”. Rio de Janeiro: Bertrand Brasil: 2.
- Maldonado Torres, Nelson. 2018. “Analítica da colonialidade e da decolonialidade: algumas dimensões básicas”. In: Bernardino Costa, Joaze, Maldonado Torres Nelson, Grosfoguel Ramón. *Decolonialidade e pensamento afrodiaspórico*. Belo Horizonte: 27-53
- Mignolo, Walter. *Colonialidade: O lado mais escuro da modernidade*. Trad. Marco Oliveira. Revista Brasileira de Ciências Sociais. 2017: 1-18.
- Nunes, João, Perusi María Cristina, Peterlini Gustavo, Tiezzi Rafael, Pisani Rodrigo e Santana Éder. 2006. “Variações texturais dos Latossolos Vermelhos do Assentamento Rural Antônio Conselheiro-Mirante do Paranapanema/SP”. *Geografia em Atos 1 (UNESP)*: 30-39.
- Oliveira, Ariovaldo. 2007. *Modo de Produção Capitalista, Agricultura e Reforma Agrária*. São Paulo: FFLCH.
- Primavesi, Ana. 2016. *Manual do solo vivo: solo sadio, planta sadia, ser humano sadio*. São Paulo/SP. *Expressão Popular* 24: 205.
- Quijano, Anibal. 1999. “Colonialidad del poder, cultura y conocimiento en América Latina.” *Dispositio*, v. 24, 51: 137-148.
- 2000. Colonialidad del poder, eurocentrismo y América Latina. In: Lander, Edgardo; Castro Gómez, S. *La colonialidad del saber: eurocentrismo y ciencias sociales: perspectivas latinoamericanas*. Buenos Aires: Consejo Latinoamericano de Ciencias Sociales CLACSO: 193-238.
- 2009. Colonialidade do poder e classificação social. In: Santos, Boaventura de Sousa; Meneses, Maria Paula. *Epistemologias do sul*: 73-118.
- Roque, Casiano, Carvalho M, Prado Renato. 2001. “Fator erosividade da chuva de Piraju (SP): distribuição, probabilidade de ocorrência, período de retorno e correlação com o coeficiente de chuva”. *Revista Brasileira de Ciência do Solo*, Campinas, 25: 147-156.
- Saquet, Marcos. (2021). “A (im)material Geography focused on popular and decolonial territorial praxis “ *Revista Nera* 57: 54–78. <https://doi.org/10.47946/rnera.v0i57.8497>
- Wanderley, María. 2001. Raízes históricas do campesinato brasileiro. In: *Agricultura familiar: realidades e perspectivas*. João Carlos Tedesco, organizador. UPF Passo Fundo 3: 21-55.
- Walsh, Catherine. 2014. Interculturalidad y colonialidad del poder. Un pensamiento y posicionamiento otro desde la diferencia colonial. In: *Interculturalidad, descolonización del Estado y del conocimiento*. Buenos Aires: Del Signo, 2014: 17- 51.
- Weill, Mara, Pires Neto Antonio. 2007. Erosão e Assoreamento In: *Vulnerabilidade Ambiental*. Rozely Ferreira dos Santos, organizadora. Ministério do Meio Ambiente (MMA), Brasília: 40 – 58.
- Wincander, Reed, Monroe James. 2009. *Fundamentos da Geologia*. Traduzido por Harue Ohara Avritcher; Revisão técnica Mauricio Antônio Carneiro. São Paulo: Cengage Learning.