

## TRADITIONAL KNOWLEDGE AND TERRITORIES: THE IMPACTS OF LARGE ECONOMIC ENTERPRISES ON THE PERPETUATION OF KNOWLEDGE



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## **ABSTRACT**

This article analyzes the impacts of large economic enterprises on traditional territories, with emphasis on the dimension of traditional knowledge. The research adopts a qualitative and exploratory approach, based on a literature review in the field of Social Sciences, to investigate the interdependence between territory and ancestral knowledge. Examine how these initiatives affect local communities, compromising the transmission and preservation of traditional knowledge. It is argued that the maintenance of territories is fundamental to ensure the continuity of these practices and knowledge, essential for the identity and resistance of these situations. In addition, the need for an interepistemic dialogue that recognizes and values different forms of knowledge is highlighted, contributing to overcoming coloniality. It is concluded that the recognition and protection of traditional territories are indispensable strategies to strengthen epistemic diversity and ensure the cultural and social sustainability of these communities.

**Keywords:** Territory. Traditional knowledge. Preservation. Ventures.

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## INTRODUCTION

This article seeks to explore the effects of large enterprises on traditional territories, with a special focus on the dimension of traditional knowledge. The relationship of belonging of indigenous peoples to their territories is a fundamental aspect for understanding their cultures, knowledge and ways of life. Indigenous territories are not merely geographical spaces, they are the foundation of the cultural, spiritual and epistemological identity of these communities. The preservation of traditional territories is crucial, as it is in this context that knowledge is practiced, transmitted and renewed. Therefore, it is essential to understand the concept of territory in order to deepen the analysis of traditional knowledge and its interactions with the environment.

Milton Santos (2006) emphasizes that the social sciences and geography consider the territory a space built by social relations and practices. According to this perspective, territory is a social structure that is connected by material and immaterial networks that connect people, goods, services, and data. On the other hand, the natural sciences consider the territory as a place inhabited by living beings, characterized by biomes and ecosystems.

As Haesbaert (2010) states, these complementary conceptions help us to better understand the complexity and multifunctionality of territories, especially when considered from a decolonial and Latin American perspective. It opens space to understand different cosmologies expressed in the societies that occupy the territories, which demonstrate new ways of knowing, living and interpreting reality.

For indigenous peoples, the territory encompasses biological, human and spiritual elements. Authors such as Arturo Escobar (2008) highlight that the indigenous territory is a complex entity with multiple connections and customs that form a community of energy. Everyday practices acquire a ritualistic meaning in this context, reflecting a broader perspective of the world. This idea clashes with Western concepts of territory, which usually consider it only a monetary resource. For indigenous peoples, the territory is a space of existence, identity, and relationship with the cosmos, and is fundamental to preserve their traditional knowledge and lifestyles.

The methodology of this study is essentially qualitative, characterized by a detailed and critical literature review. Works that address the theme of traditional knowledge, the relationship with the territory and the effects of large economic enterprises were selected. The exploratory approach allowed for a flexible and adaptive investigation, essential to

capture the complexity and specificity of the contexts studied, ensuring that the reader fully understands the scope of the research and what will be addressed and evaluated.

## **THEORETICAL FRAMEWORK**

### **TERRITORY AND TRADITIONAL KNOWLEDGE**

The knowledge of indigenous peoples is intrinsically linked to the territory they occupy. This bond is more than physical; it is cultural, spiritual and epistemological. In it, immanence and transcendence (Husserl, 1982) are dimensions of social life in the community. The maintenance of this knowledge depends directly on the preservation of traditional territories, since it is in the daily life of these spaces that knowledge is practiced, transmitted and renewed. Before we enter the indigenous territory specifically, it is essential to understand the concept of territory.

### **TERRITORY**

In the Human Sciences, the concept of territory is related to geography and the space where humans interact socially in groups, while for the Natural Sciences the territory is described as a habitat, for biomes or ecosystem of living beings. In the Social Sciences, the territory is the place of social action and multiple manifestations of the collectivity.

In this sense, it is worth highlighting the works developed by authors who address the intrinsic relationship between territory and society. Milton Santos, for example, defines territory as a used space, shaped by the practices and social relations that occur in it. Thus, the territory is a social construction that reflects the interactions between the various social actors and the material and immaterial conditions present in the space (Santos, 2006). The author points out that several networks connect territories, interconnecting people, goods, services and information. These networks can be both material (such as roads and infrastructure) and immaterial (such as information flows). To understand how territories are articulated and developed in the global system, it is necessary to understand these networks.

In his studies, Gottman (2012) points out that the evolution of the concept of territory has moved from geopolitical thinking to economic and social thinking. This author points out that "territory is a portion of geographic space that coincides with the spatial extension of a government's jurisdiction" (Gottman, 2012, p.1). For Saquet, the evolution of territories depends on how society reorganizes itself (Saquet, 2007).

According to Raffestin's (1993) perspective, territory is the result of social appropriation by societies, rather than just state power. The author emphasizes that it is "a space where the work was projected [...] it is the prison that men build for themselves" and also, "the territory rests on space, but it is not space; it is a production from space" (Raffestin, 1993, p.144).

From the perspective of anthropology, the concept of territory is intrinsically linked to the cultural and social identities of peoples. According to Bonneimason (2002), territory is a type of cultural and affective relationship with a land. It is both a social space and a cultural space, as it is related to both the social function and the symbolic function. Culture and territory are intrinsically linked. A territory is created by the existence of a culture, and the symbolic relationship between culture and space is strengthened and expressed through this.

The idea of culture, translated in terms of space, cannot be separated from the idea of territory. It is through the existence of a culture that a territory is created and it is through it that the symbolic relationship between culture and space is strengthened and expressed. In addition, it is in the territory that individual, social and cultural identity is formed. For the author, researchers should:

Seek to understand the conception of the world that exists at the heart of the group or society they are studying. This, less for the study of cultural representation itself, but above all for the study of its spatial expressions. It is a matter of rediscovering the places where culture is expressed and, then, the kind of secret and emotional relationship that binds men to their land and, in the same movement, founds their cultural identity" (Bonneimason, 2002, p.103).

Recently, the territory has been treated from a Latin American and decolonial perspective (Haesbaert, 2021). In this sense, it seeks to emphasize dialogues and counterpoints in relation to European and Eurocentric territorial approaches. Among the specificities analyzed, the following are mentioned:

- a) an expanded concept of territory – and, consequently, of power, as already commented – even appearing as a synonym for social or geographical space, as we find in some moments of the work of geographer Milton Santos (1996), and being conceived as an "integral territory of life" (including the natural dimension) in the practical-political action of indigenous groups in the Peruvian Amazon;
- b) the diffusion of the concept of territory not only as an analytical category, in the intellectual field, but also as a category of practice (or native), especially through resistance movements in the "struggle for land and territory", as in the landless workers' movement (MST), among native and Afro-descendant peoples ("traditional peoples" in Brazil), not to mention in the urban peripheries where territory has become a tool for identification and struggle;
- c) the conception of body-territory, present above all in the feminist movement

of indigenous bases, in which the body becomes, depending on the point of view, the last and/or the first space to be defended, also used as an instrument of political struggle to the extent that, notably for women, it is the object of physical and moral violence; it can extend from the individual body to the body of the earth itself (as among the Wayuu Indians of Venezuela);  
d) the notion of multi or transterritoriality (Haesbaert, 2004 and 2021), linked to the articulation (over or juxtaposition) of multiple territories, where the transit between them (including in the sense of legal and illegal territories) can constitute a survival strategy (as in the search for recognition of the condition of transterritorial peoples by the Guaraní indigenous people of the Brazil-Paraguay-Bolivia-Argentina border);  
e) deterritorialization seen above all as territorial precariousness (Haesbaert, 2004), the strength of these processes linked to social exclusion and fragility of territories, emphasizing a social reading of deterritorialization that is little noted in the context of the so-called central countries and which, in a neo-extractivist economic context such as Latin America, also means intense environmental devastation, to the point of creating territories excluded or forbidden to any social usufruct (Haesbaert, 2021).

This analysis of the territory, seen and practiced as an "integral" and "living" space, can be understood by the fact that, for many groups on the continent, the defense of territory is a matter of survival. Rooted in a prolonged history of exploitation, domination, and oppression, the defense of territories takes place in its entirety, considering its multiple dimensions, since the (neo)colonial power relations at stake threaten the very cultural survival of the groups involved (Haesbaert, 2021).

### **Indigenous territory**

The territory is fundamental for the survival and cultural identity of indigenous communities. Hunting, fishing, agriculture and traditional medicine and rituals are carried out in this territory, the preservation of biodiversity and ecosystems is indispensable, as they sustain traditional ways of life and the knowledge associated with them (Garnello, 2012).

In this way, the importance of the territory for indigenous peoples goes beyond natural resources, it is also a socio-cultural resource, which has socio-political-cosmological dimensions and constitutes a space for the production, translation and resignification of the knowledge of each people (Ramos, 1986). Relevant comments are made by Colombian anthropologist Arturo Escobar, who characterizes the territories through the biological, human and spiritual dimensions.

They establish connections between the worlds (biological, human, spiritual; bodies, souls, objects) which some have interpreted as "a vast community of energy" or as a theory of all beings (human or otherwise) perpetually being reborn. Ritual is often integral to the interaction between the human and natural worlds. An activity such as the felling of the forest for planting can be seen as bringing together village



dwellers, spirits, ancestors and the crops themselves or their corresponding gods or goddesses (Escobar, 2005, p. 36/37).

From this perspective, the indigenous territory takes on a dimension that goes beyond the simple occupation of space and the use of natural resources. As Arturo Escobar argues, local models of understanding territory show a particular attachment to a multidimensional entity, which results from multiple practices and relationships. This territory is perceived as a vast community of energy, where biological, human and spiritual knowledge are intertwined. Each action in the indigenous territory carries a deep meaning, reflecting a holistic and interconnected view of the world, where living beings relate to each other (Escobar, 2005).

In this way, the indigenous territory is understood as a space of life and continuous rebirth, where daily practices are rituals that reaffirm the connection between the inhabitants and their land, between the visible and invisible worlds. This conception challenges Western notions of territory, which often reduce it to an economic resource to be exploited.

From this perspective, in contrast to Western logic, for indigenous peoples the territory is configured as a space of existence and resistance, in which, after centuries of successive invasions and perpetuation of violence, they continue to reaffirm their identities and (re)establish their worldviews, in order to guarantee the maintenance of their traditional knowledge and ways of life.

## TRADITIONAL KNOWLEDGE

By proposing a reflection on traditional knowledge, we seek to dialogue about the richness of practices inherent to indigenous peoples. Traditional indigenous knowledge is like a network, interconnected with social, political and cultural aspects of these communities. Indigenous peoples have their own processes of organization that establish the practices of use of the resources of their territory, these are sustained by particular knowledge, constantly recreated and accumulated over millennia, forming an invaluable knowledge base that guides their interactions with the environment, safeguarding their cultures and ways of life (Silva, 2011).

According to Santilli (2005), traditional knowledge, developed and transmitted by local communities – indigenous or not – certainly includes natural resource management, knowledge about ecosystems, and sustainable practices. However, this knowledge goes

beyond practiced and useful activities, encompassing, in particular, the magic of rituals and symbolism (Castro, 2000). Knowledge does not aim to dominate and exploit natural resources as occurs in the Western perspective. On the contrary, it seeks to understand the relationship and processes between the various realities.

In the studies of Gallois (2005) and Cunha (1999), traditional knowledge is important, not in its content or antiquity, but in the way it is produced and propagated, in the collective context of these populations in their daily lives. Diegues and Arruda (2001, p. 50) define traditional knowledge as a set of knowledge and skills about the natural and supernatural world, transmitted orally from "generation after generation" that is historically replicated by shared action.

Aware of this knowledge, they are involved with the cosmologies articulated with the environment where they live. The well-being of the community needs these relationships established with the ecological cycles and processes experienced since antiquity. This knowledge guides life on a daily basis, promoting a healthy and balanced coexistence between beings, space and the cosmos (Silva, 2011).

The original peoples are knowledgeable about nature, managing flora and fauna. In this way, they are able to survive in different biomes, climates, over time, accumulating a deep learning about the natural resources of the region where they live (Batista *et al.*, 2020).

Traditional knowledge, even though it generates and guides many of the social practices, is not recognized as science. The knowledge of groups marginalized by society carries knowledge entitled "popular knowledge", thus demonstrating the distance between the sciences (Boscolo and Rocha, 2018). This knowledge encompasses a deep understanding of medicinal plants, sustainable cultivation techniques, and forest and river management practices, which are fundamental to the survival and well-being of these communities.

Possessing a unique bond with nature, indigenous people, manage their lands in a sustainable way and conserve biodiversity by co-producing, protect genetic, species, and ecosystem diversity around the world, accompanying natural processes, creating cultural landscapes with high environmental heterogeneity, and developing and restoring ecosystems combining wild and domesticated species (Garnett *et al.*, 2018).

The preservation of the culture and rights of indigenous peoples is crucial not only for our own dignity and well-being, but also for the benefit of all humanity and for



building a more just, equitable, and sustainable world. Indigenous peoples represent an invaluable cultural wealth, with unique languages, traditions, knowledge and practices. Protecting our culture contributes to global cultural diversity and to understanding the complexity of the human condition (Krenak, 2024, n.p.).

For Carvalho (2013), traditional peoples are considered the guardians of agrobiodiversity due to their daily practice of handling, selecting, storing and sharing genetic resources. This practice is related not only to the agricultural activity itself, but to several other elements of the social and cultural life of these peoples, based on knowledge acquired through the experience that is transmitted from the memory shared with the community (Barros, 2023).

Krenak (2023) highlights that one of the great challenges related to the environment is:

the vast traditional knowledge about ecosystems, medicinal plants, sustainable agricultural practices, among others, that native peoples have. This knowledge is valuable for environmental protection and for developing solutions to global challenges such as climate change. Indigenous territories are home to important ecosystems and significant biodiversity. The protection of the rights of indigenous peoples is closely linked to environmental protection, as we often act as guardians of the land and natural resources (Krenak, 2023, n.p.).

Historically, indigenous peoples have faced marginalization and discrimination, resulting in the loss of their lands, resources, and rights. Protecting their culture and respecting their rights are essential to promoting social and economic justice and fighting inequality. Recognizing and respecting the rights of indigenous peoples is also crucial to foster dialogue and constructive collaboration between different social groups and government, in the search for sustainable solutions to the challenges faced by humanity (Krenak, 2024).

## PROJECTS AND THEIR IMPACTS

According to Ailton Krenak (2023), "the first infrastructure that a nation should consider is its territory", only then should it think about roads, hydroelectric plants, etc. For the author, while Brazil continues to try to imitate rich countries, we remain a poor imitation of a developed nation. Our vast territory, exuberant biodiversity and natural riches are the envy of foreigners. However, many Brazilians, especially those with political power and the ability to articulate, demonstrate a lack of understanding and appreciation of this heritage. This situation represents a tragedy, a mismatch between the natural wealth of our territory,

the Pachamama, and the mediocrity of the authorities and politicians who, instead of preserving our greatest wealth, contribute to the production of poverty (Krenak, 2023).

Most development projects affect indigenous peoples, because they impact on the way of life, culture and relationships of peoples with their environment, modifying the relationship they establish with the territory (Saulo and Brighenti, 2014). Both authors highlight the testimony of Antonio, from the Apinajé People of Tocantins, who reports how much indigenous communities are often surprised,

With the arrival of machines to carry out works for the "development of the country", hundreds of them reach the communities, which quickly watch forests transform into sugarcane and soybean fields; rivers to be transformed into hydroelectric plants; roads and railways tear up the earth; electrical wires from high-voltage lines streaking the sky and, when they realize it, they are cornered by the works (Saulo and Brighenti, 2014, p.12).

The electricity sector has expanded into indigenous areas, causing significant consequences in the territories. These include: the relocation of communities to other regions, often causing discontinuity in their ways of life; the flooding of extensive territorial areas, including sacred sites such as traditional cemeteries; and the decrease in the availability of game and the reduction of cultivation areas (Saulo and Brighenti, 2014). At the same time, responses to the environmental impacts caused do not contemplate dynamics capable of reestablishing how much communities have lost in ancestral forms and practices, generating a disruption in their ways of life.

In Brazil, there are several examples that can be cited, but in this article we will work with the Avá-Guaraní peoples, as a result of the construction of the Itaipu Hydroelectric Power Plant, in Paraná; and Juruna with the construction of the Belo Monte Dam in Pará.

The native peoples who inhabit the western region of Paraná identify themselves as Guarani or as Avá – which in the Tupi-Guarani language means "we", "people", "human" (Alcantara *et al.*, 2019, p. 18). The indigenous territory has great symbolic, cultural importance for these traditional peoples. One of the first settlements for the relocation of the indigenous people affected by the Itaipu Dam was Ocoy. The area located in the Municipality of São Miguel do Iguaçu, on the banks of the Paraná River, was offered to the former Guarani community Tekoha Guasu Ocoy-Jacutinga, located in Foz do Iguaçu.

The forced uprooting of the community was crossed by violations of rights and the production of data and information that harmed the Guarani. Brant de Carvalho (2013) records the entire process of deterritorialization that included the omission of the National

Institute of Colonization and Agrarian Reform (INCRA), the National Foundation of Indigenous Peoples (FUNAI), disrespect for the Statutes of the Land and the Indian and the Federal Constitution of 1967 and the Constitutional Amendment of 1969.

In the process of compensation for the seizure of the lands, Brighenti (2018) describes that the counting of the lands was not carried out correctly, which led to overcrowding of the settlement and making the territories tiny. When they left their territory, the Guarani communities left behind elements of their culture. An example of this are the indigenous cemeteries, submerged by the waters of Itaipu in which the ancestors of the residents of the time rested. The report of working group XV, referring to the construction of Itaipu, reports the existence of indigenous cemeteries and that these would be submerged by the waters, generating spiritual and symbolic losses that the indigenous people (Alcantara *et al.*, 2019).

In addition, the relocation of the community to the settlement generated territorial problems. Due to the reduction of indigenous territory, caused by overpopulation, there was a reduction in the land area of each family, affecting the activities of agriculture and extractivism, community subsistence, elements of indigenous culture and the transmission of knowledge. What can be seen is that there was a rupture with daily activities, others remain with adaptations to the environment in which they are and some permanences that are always stressed by the absence of means for them to be developed within their ways of life.

Another factor that must be considered is that the territory of the settlement does not have the amount of forest as the previous one, harming the community's extractive activity, indigenous cultural element and way of subsistence (hunting, fishing and fruit gathering, etc.), agriculture and, to a lesser extent, handicrafts. In this respect, hunting is non-existent, especially in Ocoy, which occupies a Permanent Preservation Area, the varieties of fish and the quality are limited by the properties of the water in Itaipu Lake. Handicrafts are the main economic activity of families.

Considering the action of other large energy projects, the Belo Monte hydroelectric plant, which dammed the Xingu River in Pará in 2015, removed 80% of the water from a 100-km stretch known as the "Big Bend of the Xingu River". This impact affected two indigenous lands along this stretch, as well as a third located on a tributary that joins the Xingu River in the same area, which also depended on fishing in the Big Bend (Fearnside, 2020).

The indigenous population impacted by the construction of the Belo Monte hydroelectric plant in the "Volta Grande do Xingu" were the Juruna (Yudjá) and Arara peoples of the Volta Grande. In addition, other peoples in the region were also affected, such as the Xikrin, who live nearby and depend on the river for fishing. In addition to forced displacement, the indigenous people faced the loss of fishing areas, the contamination of rivers and the destruction of sacred areas. These impacts not only undermine the livelihoods of communities, but also destroy deep-rooted cultural and spiritual practices (Fearnside, 2015).

The populations around the Xingu River, indigenous people, fishermen and riverside dwellers have the practice of combining agriculture, extractivism, hunting and fishing for their material and social reproduction. These are structured in traditional knowledge and practical knowledge, developed and systematized according to seasonal variations, expressed as follows: ebb and flow/drought/dry season/rainfall. For these riverside and indigenous people, the Xingu is the extension of their way of life, as well as the main means of transport and communication (Oliveira and Cohn, 2014).

For the Yudjá people, it is no longer possible to predict the characteristics of the river, making it unknown,

All our life has been around fishing and the Xingu River. Now we are having to adapt to living in the dry, on the land. Our gardens have always been small because the basis of our food consumption has always been fish and tracajá. We were forced, after the dam, to leave the river and live in the dry. This is very bad. We are trying to adapt, but what we really like to do is fish and swim (Pezzuti *et al.*, 2018, p. 41, interview by Bel Juruna).

The Xingu River is part of the very existence of the Yudjá people, one depends on the other. With their practices, they preserved the watercourse, conserving biodiversity, including ornamental fish, while it followed its path towards the Amazon River (Tozi and Ribeiro, 2022).

We, Juruna Indians, from the Paquçamba Community, feel concerned about the construction of the Belo Monte Hydroelectric Power Plant. Because we will run out of transportation resources, because where we live we will be harmed because the water of the river will decrease like hunting, the plague of carapanã will increase with the lowering of the river, increasing the number of malaria, also the forest will feel a lot with the problem of drought and the change in the courses of rivers and streams... [...] (Sevá Filho, 2005, p. 74).

Bel Juruna in an interview with Pezzuti *et al.* (2018), emphasizes that it is necessary to take into account the set of changes in the lifestyle of this population:

having to adapt to living in the dry. This ontological change is a great effort to adapt that has not been made without great regret. Forcing a canoeist people to have to live in the dry is a situation of extreme change in daily, cosmological, cultural and social practices. As Mrs. Jandira said, "we, Juruna, do not have feet, we have canoes to navigate the river, so we are" (idem, p.46).

[...] the mythical narratives reinforce the connection that binds the Juruna (Yudjá) and the Xingu River as inseparable parts of the same expressive regime of existence, showing that it is possible to affirm that the disappearance of one can lead to the disappearance of the other (idem, p.11).

The damage caused to indigenous peoples by the Belo Monte dam was significant and is not limited only to changes in the way of life of these communities, but also to the loss of their identity and the right to preserve historical records. The project endangered archaeological sites, cemeteries and sacred sites, threatening the preservation of the tangible and intangible heritage of indigenous peoples along the Xingu River (Pezzuti *et al*, 2018).

For Chief Mobu Odo, of the Arara people of the Cachoeira Seca do Iriri Indigenous Land (TI), "the damage caused by the plant to the culture of the indigenous people in the region is irreparable. It interfered a lot in our culture. Too many young people in the village no longer want to respect our culture" (Gimenes, 2020, n.p.).

The traditional knowledge of indigenous peoples is deeply intertwined with the environment, and has roots rooted in their territories. For this reason, the developmentalist rage that characterizes Western society, with its large predatory enterprises, sometimes has a disastrous impact on the lives of these peoples.

## FINAL CONSIDERATIONS

This study revealed that large economic enterprises, such as hydroelectric dams, have significant and multifaceted impacts on the territories and traditional knowledge of indigenous communities. These projects often result in deforestation, pollution, and environmental degradation, directly affecting the ecosystems on which these communities depend. In addition, the appropriation and transformation of these territories for economic purposes lead to the disintegration of cultural and social practices that are fundamental for the perpetuation of ancestral knowledge.

The analysis highlighted the urgent need for a decolonial perspective to understand and resist colonial and neocolonial practices that threaten these territories and knowledges. The preservation of traditional territories is essential for the continuity and

transmission of ancestral knowledge, which is an integral part of the identity and survival of indigenous peoples.

In addition, traditional knowledge includes sustainable and conservation practices that are crucial for the preservation of biodiversity. Natural resource management techniques, knowledge about ecosystems, and sustainable cultivation practices exemplify how this knowledge can contribute to environmental management. The valorization of this knowledge can lead to a more balanced and sustainable approach to the use of natural resources, and can contribute to the construction of other models of society and other ways of relating to the land/territory.

Therefore, protecting traditional territories and promoting interepistemic dialogue are crucial steps to combat coloniality, preserve cultural and biological diversity, and create a more sustainable future for all communities. The preservation of traditional knowledge is not only a matter of social justice, but also a necessity for environmental sustainability and global well-being.



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