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ENVIRONMENTAL POLICY
INSTRUMENTS: HYDROELECTRIC
PLANTS IN THE BRAZILIAN AMAZON**

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USINAS HIDRELÉTRICAS NA AMAZÔNIA BRASILEIRA**

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ABSTRACT

For decades, the Amazon has embodied a multitude of expropriated territories, which have undergone a historical process of expropriation in favor of a discourse centered on progress and development associated with the establishment of hydroelectric power plants. In this article, we analyze the dynamics of environmental policy tools within the context of the harm and disasters created by the construction of hydroelectric dams in the Brazilian Amazon. Our methodological approach started with documentary research encompassing economic feasibility studies, impact reports, basic environmental plans, and inspection reports issued by ANEEL (National Agency for Electric Energy). As our bibliographical analysis deepened, guided by a decolonial perspective, the primary aim of this article was to dissect the colonial rationality that normalized the suffering and social disasters caused by hydroelectric enterprises in the Brazilian Amazon. This rationale is the same that, through the invention of the category of development, legitimizes the use of natural resources and of territories by large capitalist enterprises, at the expense of long standing communities. In the Brazilian Amazon, environmental policy tools, predominantly mitigation and compensation measures, are employed as tactics to endorse the licensing of hydroelectric power plants. Each instance of harm inflicted upon the territory is linked to the licensing process, which outlines ways to mitigate the disaster, as if aspects of life, culture, and food sovereignty could be quantified in the name of a market logic.

KeyWords: Hydroelectric plants. Environmental Policy. Mitigation. Compensation. neocolonialism.

INTRODUCTION

The context of the history of hydroelectric plants (UHEs) in Brazil is associated with a constant series of damages and disasters triggered before, during, and after the process of commercial authorization of these projects. This article analyzes the dynamics of how Environmental Policy instruments are used in the context of damages and disasters caused by hydroelectric plants in the Amazon. This is not supported by a set of dominant discourses that elevate Energy Policies at the cost of expropriated identities and territories. Instead, the analysis is based on Decolonial Epistemology, which confronts power relations and structures that destroy life conditions in affected communities.

The planning for hydroelectric plants is based on the Eurocentric logic of achieving modernity at any cost, even in the face of generating permanent disasters that alter the lives of riverside, agricultural, indigenous, reminiscent maroon societies (*quilombolas*), and fishermen communities, under the allegation of economic development. In this sense, the aim of this article is to analyze the colonial rationality that naturalized social suffering and disasters caused by hydroelectric projects in the Brazilian Amazon.

Throughout Brazil, the generation of hydroelectric energy was historically based not only on the economic interests of large capitalist projects but also on the idea that there would be mitigation of damages and compensation for expropriated territories (Lobato; Castro; Folhes, 2021). The fallacy that supports these statements maintains a structural apparatus that for decades has built large investment projects. In this article, the emphasis is to encourage an epistemological disobedience, in the face of the official discourse of the “inevitability of UHEs”, based understanding the relationships that are shaped, the constitution of the main subjects, and what actions derive from this context.

The adoption of the National Environmental Policy (PNMA) in 1981, with Law No. 6,938/81, initially brought about the inspection of natural resources, the restoration of environmental quality, and the guarantee that this process would ensure Brazil’s socioeconomic development (Brasil, 1981). However, in the following decades, a weakness in the protection of the dignity of human life was noted in the environmental regulatory process.



After the introduction of the PNMA, it was not until 1986 that the National Council for the Environment (CONAMA) introduced criteria to conduct Environmental Impact Assessments (EIAs). CONAMA, as an advisory agency, is part of the National Environmental System (SISNAMA), which should act in a just manner in the face of a destructive production system, such as the capitalist one.

An observable unsustainability involves the existing power relations in this context of environmental regulation. The guarantors do not achieve the objective assigned to them by the PMNA, even after decades of social, legal, and cultural research investigating the continuity of damages and the environmental studies that should mitigate them. The discourse defended a model in which social participation should serve as a consultative moment so that the collected information could be used as parameter to observe the content detailed in the Environmental Impact Assessments and Reports (EIAs and RIMAs), prepared before the hearings.

In its theoretical conception, community participation in hearings is a strategy that should be incorporated in EIAs and RIMAs as a requirement to guarantee that population voices are heard. In practice, however, these instruments have been restricted to demonstrate “environmental problems presented or identified by the entrepreneur in the RIMA”. Furthermore, public hearings are “considered a condition for the next phase, the Installation license. Hence any societal participation becomes irreversible, and the possibility of conflict resolution becomes impractical” (Agra Filho, 2017, p. 357). This occurs because the information that underpins the preparation of environmental programs, which will be included in the EIA and RIMA, is collected when feasibility studies are being performed.

Since 1997, environmental licensing has been regulated through CONAMA resolution no. 237. One of the decisions that falls to the competent environmental agency is the right to modify conditions and even to cancel them, if there is a violation of legal procedures, omission or falsification of relevant information during licensing preparation, or identification of serious environmental and health risks (Brasil, 1997).

The first section of this article describes the methodological path used to produce the research. The second section presents a brief historical analysis of the process of implementation of hydroelectric units in the Brazilian Amazon, observing how the existence of environmental policy instruments within the constraints of colonial rationality, as done in energetic planning, does not



allow for cancellation or modification of conditions even when they are not followed through or are inefficient. The third section discusses how the practice of environmental flexibilization in the state of Amapá is one of the actions reproduced by the polluting agent, who has remained with the same colonial rationality for decades. The last section presents considerations of resistance to and coping with this predatory and destructive logic.

METHODOLOGICAL PROCEDURES

The methodological procedures in this research were based on documentary research in economic feasibility studies, environmental impact assessments and reports, and basic environmental plans. The approach deepened after registration within the SICnet system, obtaining ANEEL reports on the inspection of energy-producing companies in Amapá during the period of survey of economic and technical feasibility studies and licensing.

In addition to these documents, the research analyzed reports dated between the 1960s and 1980s, and monitoring actions by Eletronorte company in the Coaracy Nunes plant, obtained from the National Archives. The database of projects granted by ANEEL was the way to provide details of UHEs in operation and inventoried in the state of Amapá.

After reviewing the public civil complaint and comparing it to the documents cited above, the research found a thorough reproduction of the technical justification for approving the project. However, these documents do not outline measures to minimize disasters that may occur after the construction of hydroelectric power plants.

Verifications during the research preliminarily highlighted the need to rescue voices of local communities in the face of continuous symbolic violence in the territory, as a result of disasters caused by hydroelectric plants in the Brazilian Amazon.



IMPLEMENTATION OF HYDROELECTRIC PLANTS IN THE AMAZON: HISTORY AND DISASTERS

The ideal of progress that sustains the discourse of development that hydroelectric plants could provide is rooted in the modern and colonial rationality that structured the planning of hydraulic energy production. The origins of this implementation can be found in some researches (CMEB, 1988; Lobato; Castro; Folhes, 2021), but in this article we highlight the destructive capacity of these ventures, which represent a major political project created to meet economic growth indicators (Lobato, 2021).

From 1975 onwards, there was an accelerated increase in the generation and transmission of energy produced in the Amazon (Arquivo Nacional, 1972). Table 1 presents the identification of areas associated with the respective hydroelectric plants designed to serve large company projects:

Table 1 | Examples of hydroelectric plants designed to serve large investment projects

Time frame	UHE	Area of interest	Companies
1956–Decree of implementation	Coaracy Nunes-Amapá	Manganese in Serra do Navio-Amapá	ICOMI
1974–Political decision for construction	Tucuruí-Pará (Inauguration in 1984)	Bauxite in Trombetas River, and iron ore in Serra dos Carajás	ALBRAS,ALUNORTE, ALCOA. ALCAN, ALUMAR (MA)
1977	Curuá-Una-Pará	Mining projects in West of Pará	

Source: Lobato (2021, p. 98).

Historically, the association between the implementation of hydroelectric plants and large companies is evident in studies by Eletronorte from 1985 on the main developed and planned projects. In these studies, Eletronorte demonstrates that there is an inventory and viability program not only on the Jari River but also on the Araguari River, both in the state of Amapá (Arquivo Nacional, 1985). According to the document, one of the reasons for carrying out the inventory on the Jari River would be the need to supply the Jari Project. Furthermore, the company that preceded Companhia do Jari had started feasibility studies.



The Coordinating Committee of Amazon Energy Studies (ENERAM), created in 1968, identified rivers with hydrological potential close to iron and bauxite deposits. In 1972, ELETROBRAS continued with studies in Alto Tocantins, in locations that were deemed interesting for the development of the state of Goiás. In the same context, “Vale do Rio Doce company (CVRD), in agreement with the National Department of Ports and Waterways [studied] a transport system for iron ore from Serra dos Carajás” (Arquivo Nacional, 1972, p. 4-5). This developmentalist conception demonstrates that the interest in prospecting hydroelectric energy potential occurred close to mining areas.

In the 1970s, several plans were carried out in different regions of Brazil to develop energy sources considered necessary for national industrialization. These plans culminated in an unbridled race for mineral exploration which, for its continuation, required an entire logistical support structure involving transport, ports, and, obviously, energy.

The basis for Eletronorte’s ideas was entrepreneurial and capitalist logic, concluding that energy expansion for the benefit of Large Investment Projects (GPIs) would be indispensable for the country’s continued economic growth. In order to guarantee the projects’ viability, industrial projects would acquire subsidized energy at prices below the cost of production due to the economic return that would arise from them - a discourse reinforced by the State and the development policies of the time. In the same period, cities in Pará, such as Baião, Mocajuba, and Cametá, directly affected by the construction of the Tucuruí plant, suffered by paying high energy market prices, in addition to facing constant rationing (Castro, 1996).

In a report dated 1985, Eletronorte reaffirmed its dominant discourse, saying that UHE Tucuruí would “rescue the Amazon region from underdevelopment: thanks to its energy, Brazil would go from being an importer to an exporter of aluminum, through the industrial complexes installed by Albras/Alunorte in Barcarena, Pará and Alcoa/Alumar, in São Luís do Maranhão” (Arquivo Nacional, 1985, p. 9).

The case of Tucuruí reinforces the construction of a hydroelectric plant to meet a development model characterized not only by the reproduction of the system itself but also by the inequalities it deepens. This context is exemplary concerning the action of the Brazilian State, which culminated in the development of GPIs and policies for the construction of transport, communication, and energy infrastructure. Legal instruments of environmental policy served to evaluate what the legislation



called environmental impacts, created under the discourse of minimizing damage. However, in practice, what happened in the case of the Tucuruí plant did not correspond to damage prevention but rather to its persistence.

The proposal to expand power generation and distribution should focus on the social development of the areas where these UHEs have been installed. However, the motivation for planning and implementing Tucuruí was to provide subsidies for natural resource extraction projects.

There are significant similarities between the construction of Tucuruí and other plants, one of which is the Curuá-Una plant opened in 1977. The first study to investigate the energy potential of the region was carried out in 1952 in Cachoeira do Palhão by the company Servix Engenharia Ltda. These studies are linked to the economic interests of businessmen and politicians of the city, who demanded an increase in energy production to maximize the economic growth of the region, since “the company Santarém Fiação e Tecelagem de Juta alone would consume 750 KW, which is more than half of the energy that would be produced by the plant installed in Santarém.” (Santos; Peron, 2015, p. 18).

Cachoeira do Palhão was decisive for continuous research into energy potential. In 1962, the company Grubina Engenheiros Consultores carried out investigations into surveying and drilling in the area, finding deposits of iron ore (Pereira, 1961) that became, in practice, a major attraction for different mining companies and caused a considerable increase in migration to the region. The structured capitalist relations during this period greatly reconfigured the territorial space of Santarém and western Pará. Hence, the “power generation potential of the Curuá-Una UHE, for the most part, was destined for employment and installation of large mining projects in the western region of Pará” (Santos; Peron, 2015, p. 19).

Consequences arising from power relations that involve the action of the Brazilian State and companies in the electrical sector in the implementation of hydroelectric plants are observed in different studies (Acselrad, 1991; Fearnside, 1999; Bortoleto, 2001; Nascimento, 2017) that analyzed the impacts, damages, and expropriation caused by hydroelectric projects in various communities (riverside, indigenous, farmers).



Another example of the tragedies that occurred in this situation is the case of the Belo Monte plant, located in Pará. Since the beginning of the plant's licensing process, compulsory displacements have occurred; a significant increase in physical and symbolic violence; drug trafficking; sudden reduction in fishing production, which affected food sovereignty; water pollution in the Xingu River; non-compliance with measures to protect land and indigenous cultures, which led to ethnocidal action by the Brazilian State, among many other unmet conditions. (Nascimento, 2017).

The licensing process for the Belo Monte plant presented a series of irregularities since 2011 when the Federal Prosecution Service (MPF) "warned about the situation of socio-environmental registration, which [...] generated insecurity in the population regarding uncertainties in aspects of compensation, displacement and resettlement" (Nascimento, 2017, p. 246). This situation worsened and, in 2015, MPF found non-compliance with several conditions, mainly those related to maintaining the way of life of the compulsorily displaced population. The author recalled that, in the plant's own Basic Environmental Plan (PBA), relocation of the affected population should only occur if the way of life had the same quality or was superior to that at the beginning of the construction. Even without this action, all environmental licenses were issued.

The project's environmental impact studies and licensing predicted most of the observed socio-territorial transformations. However, the consolidation of such interventions remains unknown. Meanwhile, resistance movements such as Xingu Vivo Para Sempre¹ reaffirm that they will not passively accept the logic of domination imposed by the electricity sector and supported by the Brazilian State. This logic will be fought against so that cultures and identities of indigenous and non-indigenous societies are respected and their survival is guaranteed.

The frequent judicial decisions in favor of the project, even in the face of the violence that the communities would suffer, meant that energy policies triggered the perpetuation of social and environmental unsustainability. For example, compensation for riverside communities in dozens of cases corresponded to a negligible value given the structure that the land represented for residents. In 2012, there were reports of compensation in Vila de Santo Antônio, in the municipality of Vitória

1 A social movement to reaffirm the rights of indigenous and non-indigenous peoples who live on the banks of the Xingu River. Its components represent local populations and civil and environmental organizations in resistance to disasters caused by the Belo Monte hydroelectric plant, as well as projects involving dams in the Xingu.



do Xingu (Pará), in the amount of R\$9,000.00 reais. In 2011, MPF filed a public civil suit against the forced displacement that did not guarantee the same housing conditions for the displaced (Nascimento, 2017). However, licensing continued, contradicting the need to restore the way of life of affected populations.

In this case, there is a significant dissonance between items established in the Preliminary License and in the Installation License at that time, as the PBA should comply with and detail the compensatory actions and, thus, the entrepreneur would carry out the established legal provisions and procedures. By failing to act as established in the licensing processes, the entrepreneurs involved in the Belo Monte plant construction affected the communities' entire culture and social reality.

The questions on energy policy are related to the Eurocentric discourse that aims to marginalize all the knowledge of those who do not adhere to market logic: indigenous peoples, traditional populations, riverside dwellers, artisanal fishermen, family farmers, and local populations. These communities are considered non-modern and are therefore incapable to resist. From this perspective of erasure and exclusion, the myth of development exacerbates conflicts as social rights are suppressed in the name of capitalist interests.

There are still strong consequences of Western coloniality in these spaces of conflict, which subsume the concepts of territory and public interest to policies of developmentalist progress created for the Amazon. The case of Belo Monte demonstrates that economic planning actions, whether structural or not, are above the interests of communities.

A similar logic occurred with the implementation of Balbina UHE, which began generating power in 1989 (Fearnside, 2015). The construction began in 1979, when the military government policy for the "development" of the Amazon was at its apogee. The author listed several possibilities that could explain the construction of Balbina, such as the official account that the Amazon capital needed more electricity due to the new requirements of the Manaus Free Trade Zone, and a possible link to mineral exploration in the region, but this was denied by Eletronorte. A report by Eletronorte (Arquivo Nacional, 1985) indicated the creation of Balbina after studies carried out by ENERAM, demonstrating that the Manaus development hub needed investment in an energy structure.



The environmental and social tragedies resulting from market interests in the Amazon were also violent for local populations and the Waimiri-Atroari people, affected by the Balbina hydroelectric plant on the Uatumã River, state of Amazonas. Developmentalist actions against the Waimiri-Atroari did not begin with the construction of Balbina: since the beginning of the 1970s, there had been several mineral prospectings in the region, one of the main areas “was in the Northwest part of the Amazon Basin, in the Territory of Roraima and the state of Amazonas” (Davis, 1978, p. 118-119), an area that corresponds to the location of the Waimiri-Atroari village.

The construction of the Balbina plant led to continuous disasters: extinction of food sovereignty of riverside dwellers and indigenous peoples who had the Uatumã River as their main source of nourishment, as well as forced displacement that implied in expropriation of the way of life and disrupted the local culture and identity. Furthermore, the construction of a bus station in the Waimiri-Atroari territory in the mid-1970s, when Balbina was still in its planning phase, was one of the factors that intensified the massacre that the Waimiri-Atroari experienced: “The population of 3,500 in 1973 (an estimate made by Gilberto Pinto) was reduced to 1,100 in 1979 (according to FUNAI estimates, see Athias and Bessa, 1980), and then to 374, the majority being children, in the year 1986” (Fearnside, 2015, p. 109). After decades of extermination, the Waimiri-Atroari people still resist constant attacks of violence and discrimination.

This context represents the necropolitics of the Brazilian State, in the idea that “the maximum expression of sovereignty resides, to a large extent, in the power and ability to dictate who can live and who must die” (Mbembe, 2016, p. 123). In each phase of the electricity sector, power structures and their agents of domination not only appropriated the necessary techniques to guarantee energy expansion but also built discourses, agencies, laws, and instruments that aimed to control the lives of groups undesirable to capitalism and “vulnerable” to the implementation of hydroelectric plants.

In reality, there is a tendency in the Brazilian State environmental planning guidance to favor capitalist interests, especially with regard to national environmental policy (Laschefski, 2011). Bureaucratic mechanisms, such as licensing and compensation measures, are frequently made more flexible. Environmental agencies should ensure that compensation measures bring communities similar or better living conditions than those in the territory from which they were displaced. However, administrative actions that accelerate licensing or that fail to comply with mitigation requirements of Preliminary



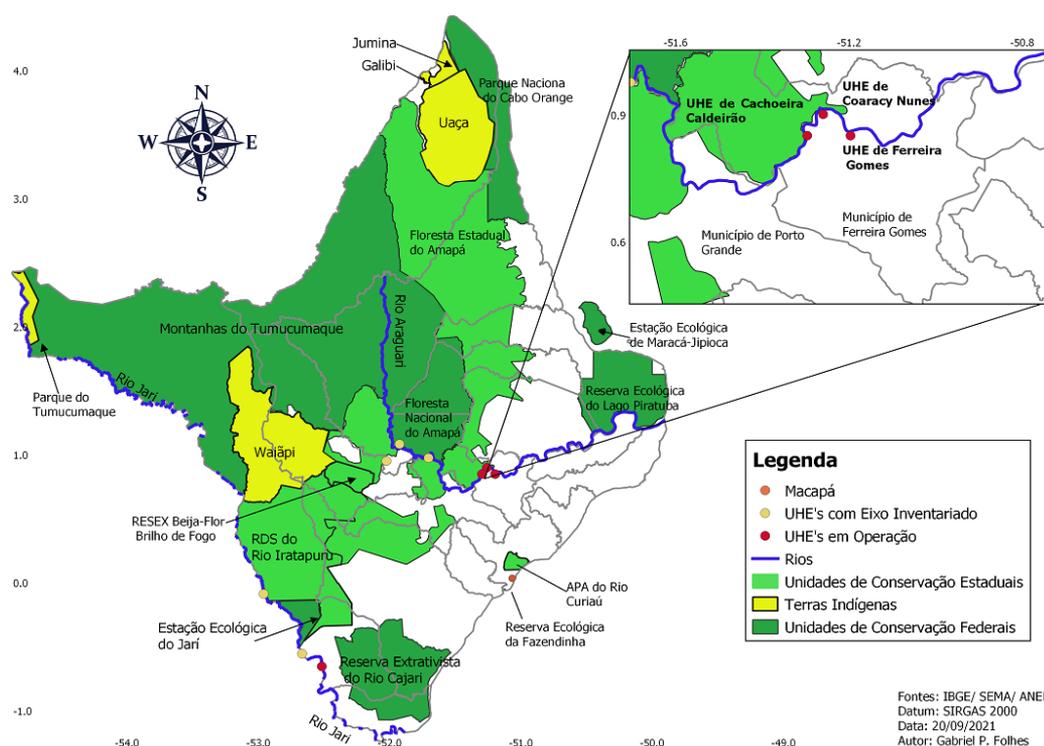
Licenses within the established deadline are common, intensifying conflicts and actions that contest the implementation of hydroelectric plants.

The use of Environmental Policy instruments reproduces this Eurocentric model of modern society, which characterizes subaltern populations as a group of people to be “civilized”, naturalizing all the violence they suffer during the process of expropriation of their territories and loss of their ways of life.

ENVIRONMENTAL POLICY INSTRUMENTS: DISCOURSE AND PRACTICE IN THE CONTEXT OF HYDROELECTRIC PLANTS IN THE AMAPÁ AMAZON

Located in the extreme North of Brazil, the state of Amapá represents a strategic position for energy expansion. There are four UHEs in operation in the state (Ferreira Gomes e Energia; Coaracy Nunes and Cachoeira Caldeirão, on the Araguari River, and Santo Antônio do Jari, on the Jari River) (see Figure 1). There are six thermoelectric plants and one fotovoltaic plant in operation, as well as a small hydroelectric plant in construction (ANEEL, 2023). Much of the energy produced in Amapá, in the Araguari River, is destined for large consumer centers (Lobato, 2021).

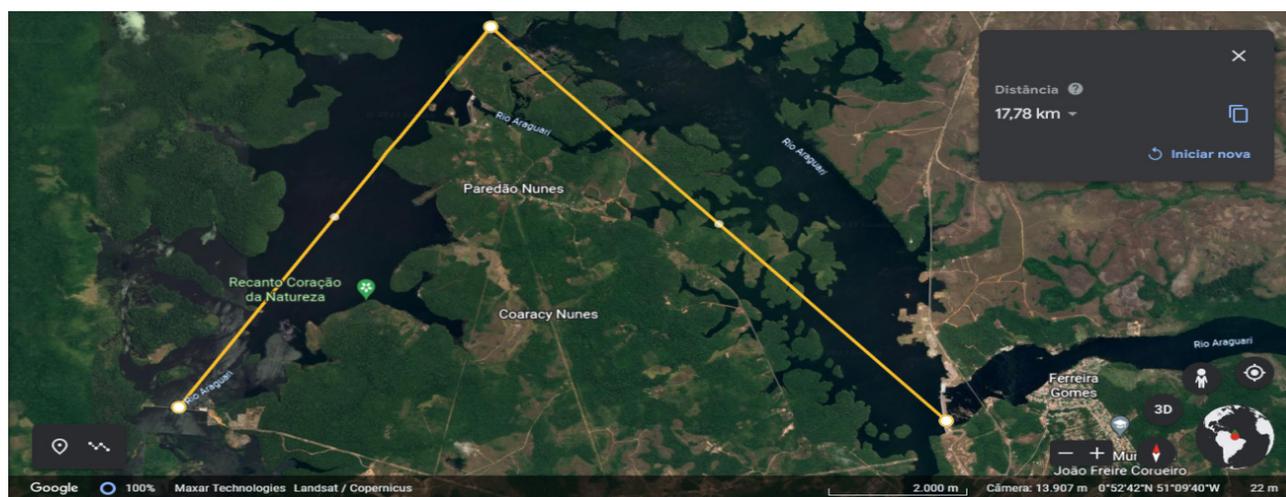
Figure 1 | Map of hydroelectric plants (UHEs) in operation and inventoried in the state of Amapá (2021)



Source: Lobato (2021, p. 22).

The map above shows the territorial proximity between the three dams installed in the Araguari River. The UHE dams highlighted on the map do not exceed 20km in distance between themselves, running in a straight line (see Figure 2).

Figure 2 | Aerial view of the dams of Ferreira Gomes e Energia, Coaracy Nunes and Cachoeira Caldeirão UHEs, Amapá, Brazil



Source: Google Earth (Access in: Feb. 2023).

UHE Coaracy Nunes began operations in 1975, in the municipality of Ferreira Gomes, in a scenario of manganese ore exploration in the state of Amapá. More than two decades later, in 1999, ANEEL announced hydroelectric developments in the Araguari River (ANEEL, 1999)². These studies were the basis for initiating the licensing of the Ferreira Gomes e Energia and Cachoeira Caldeirão UHEs.

Several communities announced disasters and damages, which were later confirmed, due to social and environmental changes (Santos et al., 2015; Amapá, 2020; Lobato, 2021). These damages were caused by the inefficiency of energy planning in measuring the immense transformations on areas directly and indirectly affected by the three reservoirs. The context of social and environmental damage irreversibly affected family production and food sovereignty of fishermen and farmers in the municipality of Ferreira Gomes (Lobato, 2021).

2 Two other inventories for UHEs on the Araguari River, Bambu I and Porto da Serra, were also carried out in 1999. The other inventories are PCHs and date back to 2004. The Carnot and Trapiche projects are located in the Calçoene watercourse, while Varador, Tracuá, and Cachoeira Grande frame the Cassiporé watercourse (Lobato, 2021, p. 172-173).

A vast group of communities maintained their survival in relationship with the environment, mainly with the Araguari River, in the state of Amapá. This relationship is misunderstood in the face of what modern development dictates, as it does not consider local economic relations and ways of life that are not within the logic of capitalist production.

After the implementation of UHE Ferreira Gomes e Energia, several farmers compulsorily displaced from the community of São Tomé currently live and own land in the community of Terra Preta. Many farmers “wanted to continue working with collecting plant products from the forest” but were aware of the difficulties “of finding areas with potential as great as what they find in the São Tomé community” (Santos *et al.*, 2015, p. 45). In that case,

displacement or removal [...] often means not just the loss of land, but a true deterritorialization, as the new location often has different physical conditions and does not allow the resumption of the original ways of life, not to mention the collapse of memory and identity centered on these places (Zhourri; Laschefski, 2017, p. 25).

In addition to a pseudo-capacity to measure the damage, the population has no security of democratic or even participatory actions regarding disasters that trigger a series of changes. There is an arrangement to formalize the necessary documents that license the enterprise, and there is an acceptance by different actors responsible for the enterprises, whether public or private, that the damages and risks will be “compensated”. In reality, mitigation and compensation instruments in environmental studies are part of an instrumental rationality to develop plans and recommendations. The importance of the land and the reproduction of life, symbolic and material, is made invisible and seen as an obstacle to development.

Given the increase in damage and disasters caused by hydroelectric plants (Acselrad, 1991), there is a setback in Brazilian legislation regarding environmental protection. In the case of Ferreira Gomes e Energia and of Cachoeira Caldeirão hydroelectric plants, both projects had construction companies Odebrecht and Neoenergia as legally responsible for Technical and Economic Feasibility Studies (EVTE), EIA/RIMA, and Preliminary Licenses. The companies outsourced the services of preparing the EVTE base project (ANEEL, 2012a) and the EIA/RIMA, according to cost inspection reports that ANEEL undertakes in each licensing phase (ANEEL, 2012b).



The preparation of these studies by the contractors, Intertechne e Projetos Consultorias de Engenharia, does not follow the logic of independent autonomy for completion. During the Feasibility Studies and Preliminary Environmental Licensing research, Odebrecht and Neoenergia provided “standards, specifications, manuals, drawings, and other internal documents” to the contractors, in addition to monitoring in detail the entire research, supervision, coordination, and execution. According to the service provision contract, outsourced companies remained obliged to allow and facilitate monitoring by representatives of Odebrecht and Neoenergia in the studies (ANEEL, 2012a, 2012b).

Identification and actions of the damage caused by plants are treated as “impacts”, that is, events that require a normative interpretation to be ordered and categorized as beneficial or harmful according to Western rationality. When they benefit the economic gains of the enterprise, they have “positive impacts” on government plans. When they present changes that affect communities in the physical, social, and cultural environment, they are “negative impacts”.

In the latter case, the paths for enterprises to comply with environmental regulations begin with including mitigating measures in the EIA. In practice, there is a series of negligences in the assessment of the so-called impacts detailed in the EIA. In these environmental studies, “diagnoses are restricted to inventorying a static situation [...]. The planned mitigating actions reveal a flagrant and deliberate vision of socialization of burdens and concentration of benefits [...]” (Agra Filho, 2017, p. 356).

UHE Ferreira Gomes e Energia Basic Environmental Plan states “that the multiple use actions of the reservoir are planned and detailed in line with the environmental improvement actions of the new Permanent Preservation Area (APP) to be formed, with a guarantee of collective use and income generation” (ECOTUMUCUMAQUE, 2010, p. 27). However, what happened was

a sharp drop in fishermen’s income. Before construction, the average monthly income per capita was US\$464.10, which was reduced to US\$268.30 after construction. There was a reduction of 42.18%. The average income of those who received between 2 and 3 SMs [minimum wages] decreased by around 77.27%. The number of fishermen earning up to 1 SM increased by 86.95%. Fishermen who earned 4 and above 10 SMs started to receive 2 to 3 SMs (Santos; Cunha, A.; Cunha, H., 2017, p. 202-203).



Regarding the Cachoeira Caldeirão Hydroelectric Plant, the programs specified in the PBA (which deal with health, education, increased migration, environmental issues, among others) are based on the Western paradigm that every undertaking of this magnitude will bring progress to the territory where it will be installed. The volatile increase in the number of jobs and the collection of financial compensation are presented as the maximum representation of development for the territory. A fundamental measure to license projects that may cause risks is detailing environmental regulatory actions and conditions that can reduce damage to the social and physical environment. Failure to meet various conditions has also become a recurring practice. The risks historically caused by hydroelectric plants are made invisible by the discourse of mitigation and compensation.

Seven years after the Installation License granting, a series of legal proceedings are still necessary to make UHE Cachoeira Caldeirão comply with the minimum requirements of the license grant. In the daily lives of communities affected by hydroelectric plants in Araguari, a sequence of events demonstrates what these projects do in the face of the damage they cause. The District Attorney's Office of the state of Amapá (MPAP) initiated an administrative procedure to verify whether the conditions established in the environmental licenses had been met (Amapá, 2020).

In 2017, MPAP requested some documents that indicated the actions that the hydroelectric plant had developed. One of the documents was a simple socioeconomic register of the affected people, an information that was established as one of the specific conditions in item 2.8 of the plant's Installation License. However, the plant refused to present them, stating that it was covered by Law No. 122,527/2011 (the law that regulates access to information). After the plant's denial, MPAP filed an injunction to present the requested documents. Again, UHECC asked that the suit be considered unfounded.

The Amapá Court of Law decided not to accept the appeal from UHE Cachoeira Caldeirão, which requested the dismissal of the APL (2020). The appeal highlights the speech of the polluting agent and its interests in expropriating the municipality of Ferreira Gomes in yet another attempt by UHE Cachoeira Caldeirão to dismiss a right of the affected population, which is access to information. The plant filed a civil lawsuit in the Amapá Court to block the decision that "ordered the delivery of information on all those affected by its enterprise, namely, the complete socioeconomic registration [...]" (Amapá, 2020).



The appeal judges who weighed in on the request maintained that not only environmental agencies but also MPAP have the right to monitor compliance with environmental licenses and to request documents related to the processes and their progress. Therefore, they rejected the request for an embargo (Amapá, 2020). They reported that “it is known that the overflow of the Araguari River brought countless losses to the local population, [...] EECC should not just feel obliged, but rather motivated to demonstrate” that its business activities occur within ethical precepts, “as this should be the stance of any enterprise that is governed by Brazilian laws” (Amapá, 2020).

When it comes to restoring, at least minimally, the damage caused to the environment and the community, agents responsible for hydroelectric plants demonstrate an inability to provide documents that could facilitate inspection by competent agencies. By filing requests to invalidate the provision of documents requested by the Amapá District Attorney’s Office, in practice, UHE Cachoeira Caldeirão seeks to protect its interests, as it denies information about actions that should have been implemented in the municipality, as established in the conditions. The existence of flexible conditions in licensing shows that they are often used to speed up the release of the project, to the detriment of measures that could at least partially reduce the suffering of affected communities.

The right to an ecologically balanced and socially fair environment is increasingly becoming a reason for permanent struggle in the face of actions that aim to disrespect agreements signed between environmental agencies and companies to issue licensing, as well as the entire population that participated in public hearings which, hypothetically, should be used to give communities a voice during the preparation of licenses.

In this context of plunder, the State and private companies continue to use old and current energy policies based on developmentalist plans in order to keep the colonial system of capitalist reproduction intact. This system was based on physical and symbolic violence to perpetuate relations and structures of domination.

The existing literature on the subject should highlight transformation mechanisms in the face of an instrumental apparatus that has been reproduced for decades. Capitalist relations camouflaged in the electricity sector deepened in such a way that the invention of the discourse of modernization, progress, and development, used by both the State and capital owners, became a strategy to justify



the expansion of the electricity matrix. This strategy also made invisible the social suffering that the installation of these large projects causes: the appropriation of rivers and forests, the expropriation of ways of life intrinsic to the implementation of hydroelectric plants, and the exposure of all the coloniality present in the construction of these projects.

This context of dispossession generates movements of resistance and contestation. Therefore, it is necessary to look at the conflictual relations that permeate this process from a decolonial perspective. Decoloniality challenges the myth of the superiority of modernity and contributes to this analysis of the situation of UHEs and affected populations based on a counter-hegemonic rationality that critiques the implementation of these installations at the expense of the life histories of different communities and infinite subaltern knowledge.

FINAL THOUGHTS

The discourse of modernization and progress was at the base of relations of domination, which shaped the context of planning for hydroelectric plants in the Brazilian Amazon. The construction of hydroelectric plants in the Amazon was tragic for regional ecosystems and for the reproduction of life in different social groups. The dissonance between the legal discourse, created to evoke an imagination of a set of collective benefits in the territory exploited by hydroelectric plants, and the practice experienced by the affected populations, is indisputable. The so-called protection actions refer to a technical paradigm that imposes modern, Western, and colonial standards to identify local damages. In the daily livelihood of communities in the Araguari River, in the state of Amapá, there is a violation of actions stipulated by law and a setback in established environmental regulation.

Environmental regulation should be maintained and improved in order to provide effective mitigation and compensation processes. However, in the cases presented in this article, the structure of hydroelectric project licensing is aligned with a colonial and capitalist logic of natural resource appropriation.

After the operational license is granted, legal strategies such as those at UHE Cachoeira Caldeirão delay compliance with conditions established in the environmental regulation process. This scenario of damage persistency demonstrates that licensing of hydroelectric plants based on conditions should be modified. Instead, there is a need to build regulatory procedures that are



mandatory and immediate, prior to granting the operational license.

As long as those responsible for environmental agencies facilitate the relaxation of legislation and grant licensing under the justification of mitigation and compensation, communities will remain subjugated to this colonial logic. The execution of environmental studies by companies outsourced by polluting agents should change in order to provide impartiality in research development and expansion. Yes, those responsible for the damage must be held liable for each environmental and social change. However, public research institutions should execute environmental regulation, since they are not under the capitalist logic of the polluting agent.

Overcoming these challenges involves building collective actions that relate scientific work, civil society, and environmental public policy managers, aiming to strengthen social and human development, and proposing assertive and practical solutions for the daily lives of affected communities.

The territorial expropriation caused by the implementation of hydroelectric plants, disrupting family production and food sovereignty, contradicts the symbolic and material meaning attributed to sustainable public policies in any energy planning. The monetary value of this situation is seen in mitigation and compensation proposals presented in environmental studies, which do not consider the importance of the land for maintaining the life of an entire community. Therefore, it is urgent to continue decolonial studies to measure social and environmental disasters and to create more effective environmental policy instruments.



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