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Strategies for territorial regulation and use of common resources: challenges to shared management in the Amanã Sustainable Development Reserve – AM

Estratégias de regulação territorial e uso de recursos comuns: desafios à gestão compartilhada na Reserva de Desenvolvimento Sustentável Amanã – AM

Vinicius Galvão ZANATTO[1], Patricia Carvalho ROSA[1*]

[1] Institute for Sustainable Development Mamirauá (IDSM), Tefé, AM, Brasil.

[*] Contact email: pati_cr@hotmail.com

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ABSTRACT: Starting from the participant observation developed in community meetings with the presence of management institutions that work in the Amanã Sustainable Development Reserve (RDSA), in the Middle Solimões, Amazonas, this text addresses the challenges of shared management from conflicts associated with dispute situations between residents of the Conservation Unit, indigenous and non-indigenous, for the control of access and use of fishing resources in interface with the demand for demarcation of Indigenous Land. In this context, free interviews were conducted with leaders and residents of the Joacaca and Boa União sectors to understand the different motivations of the conflict, highlighting those related to interests and strategies to ensure exclusive control of resources, in an already protected and used territory given to the collective. The interest in the description and analysis of the cases aims to know how such conflicts are linked to locally differentiated ways of ordering resource use and regulating territories, thus identifying effects and challenges generated by shared management tools and practices.

Keywords: territorial regulation; conservation units; shared management; Amazon.

RESUMO: Partindo da observação participante desenvolvida em reuniões comunitárias com a presença de instituições de gestão que atuam na Reserva de Desenvolvimento Sustentável Amanã (RDSA), no Médio Solimões, Amazonas, este texto aborda os desafios da gestão compartilhada a partir de conflitos associados às situações de disputas entre moradores da Unidade de Conservação, indígenas e não indígenas, pelo controle

ao acesso e uso de recursos pesqueiros em interface à demanda de demarcação de Terra Indígena. Nesse contexto, entrevistas livres foram conduzidas com lideranças e moradores do setor Joacaca e Boa União para compreender as motivações diversas do conflito, destacando-se aqui aquelas relacionadas aos interesses e estratégias para assegurar o controle exclusivo de recursos em um território já protegido e de uso concedido ao coletivo. O interesse da descrição e análise dos casos visa a conhecer de que formatais conflitos articulam-se aos modos diferenciados localmente de ordenar uso de recursos e regular territórios, identificando, com isso, efeitos e desafios gerados a instrumentos e práticas de gestão compartilhadas.

Palavras-chave: regulação territorial; unidades de conservação; gestão compartilhada; Amazônia.

1. Introduction

Protected areas are the main tool for implementing environmental policies worldwide, occupying 15.67% of the globe, and 42% of these areas were implemented in the last decade (Geldman *et* al., 2015; UNEP-WCMC& IUCN, 2021). In Brazil, the creation of Conservation Units (CUs) as a strategy to ensure biodiversity was used more systematically between 2003 and 2006, and, in 2020, protected areas in the Amazon biome amounted to 623. Of this total, 288 are Conservation Units (federal and state), while 335 are registered, declared, and identified pieces of Indigenous Land (IL) (RAISG, 2020).

Since 2006, the National Plan for Protected Areas (PNAP[1]) has covered IL and Quilombola Territories (QTs), recognizing them as "geographically defined, regulated, administered and/or managed natural areas for purposes of conservation and sustainable use of biodiversity" (PNAP:01, 2006). As a governance strategy, the existence of protected areas also contributes to the consolidation of land law, ensuring the recognition of the way of life of traditional populations and indigenous peoples living and/or historical users of these specific territories, aligned with the conservation of biodiversity and maintenance of ecosystem services (Veríssimo *et al.,* 2011*;* Ramos, 2014).

CUs and IL are protected areas, forming territories established and managed by the public authorities, with distinct responsible bodies and attributions. CUs are managed by federal, state, or municipal bodies, while the recognition and creation of indigenous territories are carried out based on technical and legal processes from federal agencies alone. Thus, Indigenous Land and Conservation Units are considered protected areas, and technical, and legal concepts are used by the State to define them spatially, order the ways resources and environments are used, and regulate land conditions, categories of users, and domain documents (Ursini, 2019). Indigenous Land (TI) can be defined as state-form, since they mobilize, in a similar way to CUs, specific technical-administrative processes to their creations. By meeting certain sociocultural criteria and conditions, Indigenous Land changes part of the State territory, in line with the territory lines previously established by a certain community or groups of indigenous communities (Little, 2004). It is, therefore, an essential area for the preservation of the environmental resources necessary for the

[1] Decree n0 5.758/2006.

well-being and permanent occupation of indigenous communities and their cultural and physical reproduction and productive activities. Per article 231, §1st, of the Constituent Assembly of 1988, Indigenous Land is defined as "territories of traditional occupation" and assets of the Federal Government, and its permanent possession and exclusive use of the riches of the soil, rivers, and lakes that exist therein is entrusted to the indigenous peoples who inhabit it (Brazil, 1988).

Conservation Units (UCS) are also parts of an administrative process established by the State and are considered a territorial portion in which the relevant natural characteristics and environmental resources require the establishment of a special regime of administration and protection guarantees with conservation objectives. CUs can be of full protection or sustainable use, such as the Amanã Sustainable Development Reserve (RDS), the object of this study. The full protection Conservation Units are part of the group with greater restrictions, allowing only the indirect use of their resources, and the RDSs must make conservation compatible with the sustainable use of natural resources, without restricting its inhabitants' right to access (Brazil, 2000*)*.

Although the increase in protected areas and the creation of governance frameworks established at different levels, nationally and internationally, are positive aspects of the socio-environmental agenda, this does not mean that these territories are actually effective in meeting their conservation and sustainable development objectives. The reasons for this can vary, ranging from climate change phenomena, land use, and even weaknesses in the execution of public policies and an unconsolidated governance system, and, in it, insufficient processes for monitoring, land and environmental arrangements, in addition to the regulation of access to natural resources (Watson *et al*., 2014; Irving, 2014; Fischer *et al*., 2019; Zanatto & Rosa, 2020; De Andrade *et al.,* 2021)

These scenarios, however, highlight the emergence of conflict situations related to the dynamics of both natural and social systems, requiring, in particular, that all players involved, local and institutional management, are appropriate and satisfied with the structural and behavioral changes necessary to implement conservation projects through sustainable initiatives for the management of common resources. In addition to these technical, political, and social factors, we must consider the ways, languages, and temporalities, often different, of establishing interactions between communities and territories, rules of use, institutions, and other stakeholders (Castro & Nielsen, 2001; Kirsch, 2006; Farrier & Adams, 2009).

Based on the participant observation developed between 2018 and 2021, during visits to the Amanã Sustainable Development Reserve (RDSA), in the Middle Solimões, Amazonas, this text addresses the challenges of shared management. We discuss this issue from the perspective of conflicts associated with situations of disputes between CU residents, indigenous and non-indigenous peoples, to control the access and use of fishing resources faced with the demand for demarcation of Indigenous Land. In this context, guided by the perspective of Political Ecology, which addresses the political dimensions involving the environment and natural resources, focusing mainly on the relational conflicts existing between groups of social and institutional players through decision-making processes in an approach critical to the pre-existing power relations (Lit-

tle, 2006; Leff, 2015; Le Billon & Duffy, 2018). Open interviews were conducted with leaders and residents of the Joacaca and Boa União sectors to understand the various motivations of the conflict, singling out for analysis and discussion those related to various interests and strategies to ensure the exclusive control of fishing resources in a territory that is already protected, zoned and of public use granted to the collective.

To this end, a qualitative approach to the conflicts was key to learning how the arrangements of shared management are established locally in scenarios of dispute and misaligned interests. We are interested in understanding, within these dynamics, in which contexts the processes of territorial regulation and resource use planning operate as tools used to mitigate disputes and mediate possible circumstances of organizational weakening of monitoring systems and territorial care, along with its impacts on biodiversity. Conflict, in this context, is approached as a factor that articulates the various players to negotiate, highlighting social and ecological issues that require changes. The case under study makes it possible to affirm that, once an open dialogue is established and provided there is trust built between the players involved, the escalation of such conflict can be affected by the collaborative process of problem-solving (Castro & Nielsen, 2001; Escobar, 2006; Berkes, 2009; Leuzinger, 2016; Soliku & Schraml, 2020; Dahlet *et al*., 2021).

Governance, as incorporated in the National Plan of Protected Areas, aims to establish mechanisms that ensure the participation of local communities, quilombolas, and indigenous peoples, as well as other stakeholders, in the establishment and management of conservation units and other existing protected areas (Brazil, 2006). According to this regulatory framework, shared management, regardless of the status of the protected area, is an instrument that guides and shares management roles, rights, and attributions of territorial and environmental management between the affected and interested parties. In this text, shared governance refers, thus, to the agreements and arrangements in which responsibilities and powers are shared between players for joint decision-making between the State and communities, or groups of users and sectors of civil or private society, about a particular resource or area (Adams *et al*., 2003; Berkes, 2009). Governance would, therefore, be an ingenious system of interactions between structures, processes, and knowledge regimes that determine how management will be exercised, and the existence of tensions between the parties is inherent to the nature of such sharing of responsibilities. As the authors point out, this occurs especially if there is a discrepancy between the roles and areas of power between the groups, indicating that shared management should not only instruct about the management of common resources and implement the protocols necessary to this end but should also manage relationships, reconciling rights and mediating divergent interests and misaligned legal information.

In the context of these conservation and governance processes, socio-environmental conflicts have different origins and clashes and may emerge from actions that the groups perceive as harmful to their way of life and contrary to their values (Soliku & Schraml, 2018). To manage conflicts and establish efficient shared management arrangements, there must be open and transparent dialogue, constant negotiations, and sharing of knowledge (Berkes, 2009). Therefore, we are interested in understanding the challenges imposed on shared management

in the face of the strategies that local groups have defined to regulate territories and order the use of common resources.

2. Methodology

2.1. Study area

The Amanã Sustainable Development Reserve was officially created in 1998 and its administration falls under the scope of the state of Amazonas, through the Secretariat of Environment (SEMA). The RDS covers an area of 2,348,962.9 hectares and four municipalities (Maraã, Coari, Barcelos, and Codajás), with a population of 5,458 inhabitants, distributed across 1,068 households in 133 locations (SEMA, 2020). The local economy is small-scale, with fishing, agriculture, and extractivism as the main productive activities organized on a family basis (Peralta & Lima, 2019).

The RDS is organized into 10 political sectors, each consisting of neighboring communities grouped based on political affinities, religious ties, kinship, and ethnicity, most of them preceding the creation of the Conservation Unit. In terms of governability, the broader political representativeness of these sectors is mobilized by the regular elections of councilors, whose main work is carried out in the Deliberative Council of the Conservation Unit. This study focused on two of these sectors, both located on the left bank of the Japurá River.

Part of the study involved residents and leaders of indigenous and riverine communities of the Boa União sector, with a focus on the Jubará village (Figure 1). The indigenous community of Jubará does not have its ethnic self-recognition questioned by the other residents and users of the CU where it is located nor by the agents of government governance. Still, the Miranha began, in 2001, the process to request the legal identification and recognition of the village territory as Indigenous Land (Rosa & Zanatto, 2022). Its formation dates back to the period of "*feitorias*", properties under the possession and administration of bosses and where part of the local population and migrants from other parts of the country were settled, brought to the region as a labor force to explore natural resources, until the end of the 1950s. Currently, the village of Jubará has a population of 96 inhabitants, distributed across 14 households (Alencar & Souza, 2014; SIMDE, 2020; Rosa & Zanatto, 2022).

In the Joacaca sector, neighboring the previous one and situated upstream, our focus is the inhabitants of the Novo Joacaca community (Figure 1), formed in the 1970s by traditional riverside populations originating in the region and surroundings, currently constituted by 17 inhabitants of 4 households (SEMA, 2020).

2.2. Data collection

This research has a qualitative approach and participatory methodologies were applied to the case study (Yin, 2005; Merriam, 1998) with the residents and leaders of the communities indicated in the Amanã RDS. From 2018 to 2021, the research was conducted through tools that facilitated dialogue, specifically participant observation, conversations, and open interviews (Bernard, 2011). We also used participatory mapping tools to recognize the areas of disputes (Araujo *et al.*, 2017). These approaches were carried out in community meetings

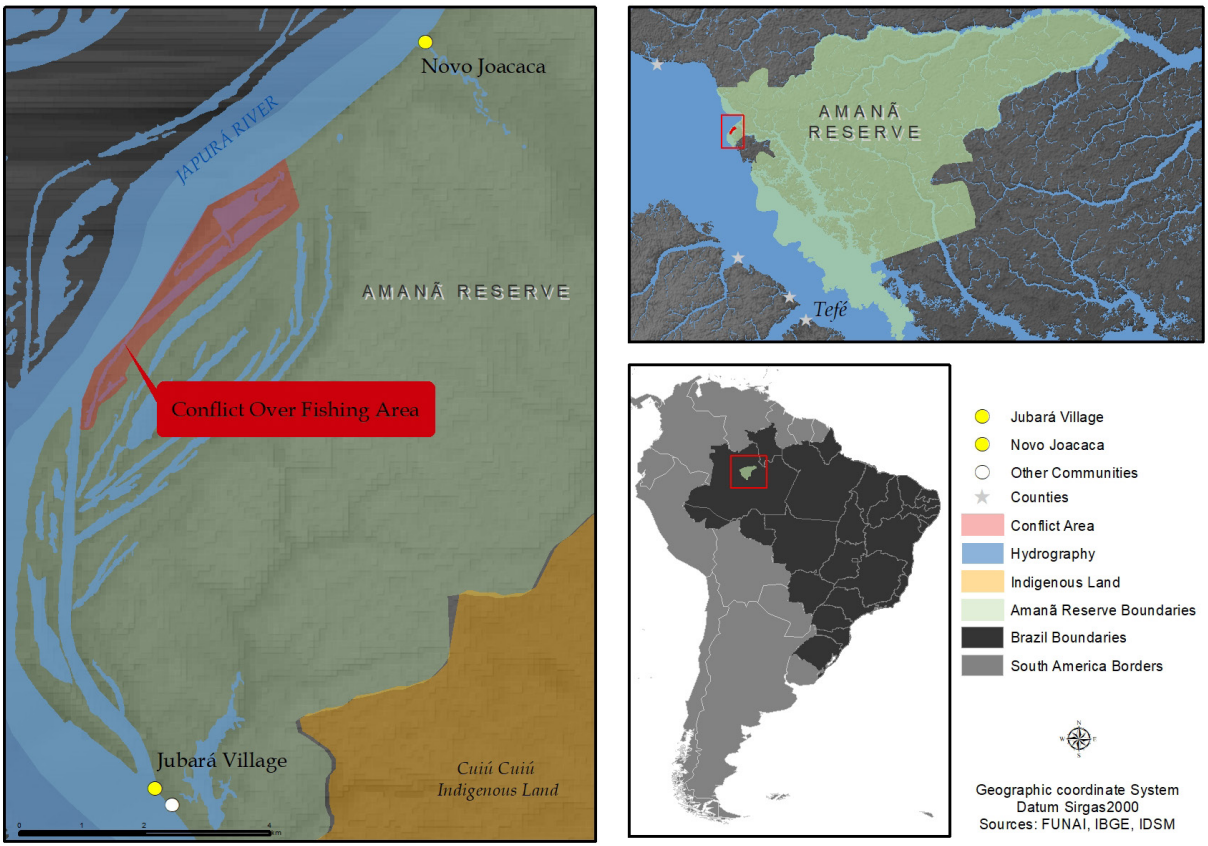

FIGURE 1 – Area of study and area of conflict.
SOURCE: authors.

and, at other times, during short-stay visits to the communities of interest, participating in meetings held and attended by management institutions[2] that, directly or indirectly, act in the territories. In addition to these interactions, we sat at meetings of the Deliberative Board of the RDS held in the city of Tefé. The research was carried out with the consent of all interlocutors and according to the procedures of the Ethics Committee (CAAE: 29447820.9.0000.8117), including authorization to enter the Conservation Unit.

To this end, three main types of activities were carried out for data collection:

(1) Unstructured interviews, which consisted of dialogues with the main community leaders

[2] National Indigenous Foundation (FUNAI) and Secretariat of the Environment of the State of Amazonas (SEMA/AM).

about the conflicts in which the communities were involved.

(2) Participation in community meetings and with institutions that have an influence on the dynamics and management of conflicts to identify how players interact and approach the topics.

(3) Workshops on political and territorial rights to understand in what regards the communities were organized, making use of the concept of protected areas and the territorial and land rights guaranteed to them[3].

3. Data analysis

3.1. Conflict identification

Socio-environmental conflicts occur at different scales, therefore, it is necessary to understand at what levels the conflicts were established and in which contexts they occur. The understanding of the conflict structures allows us to observe them from a cross-sectional perspective to formal social organizations or through informal interactions between the players, with each perception and experience acting as influencing factors in the positions held, highlighting the arguments and the particular dynamics of the phenomenon (Zanatto & Rosa, 2020). In this sense, it was relevant to identify the existence of the conflict and the main social players involved, the socio-political context in which these players meet and interact, and the variable position of these subjects in the conflict (Oliva *et al.*, 2020).

3.2. Territorial regulation strategies

The territorial regulation strategies were identified based on 3 adapted criteria by Redpath *et al.* (2010) and Oliva *et al*. (2020), namely:

(1) Interests in the territory and use of natural resources;

(2) Actions taken by stakeholders to regulate the use;

(3) and the reasoning to defend the exclusive use of the disputed environments.

4. Discussion and results

4.1. Identifying the conflict

During the discussion with the residents of the indicated sectors about the demand for demarcation of Indigenous Land in the Jubará village, which started in 2002 and with an area that overlaps the Amanã RDS, we identified the existence of a conflict for the use of a system of lakes shared by the two communities, the indigenous Jubará and the neighboring community, Novo Joacaca. Both use the same system of lakes, with 10 environments, zoned in a category of commercialization, preservation, and subsistence by the indigenous collective, without the cooperation of agents of state governance and without the support of the neighboring community (Novo Joacaca). This same fishing territory comprises part of a portion of the Indigenous Land claimed by the Jubará, still not

[3] For these activities, we teamed up with the Conselho Indígena Missionário (CIMI), an indigenist organization of civil society, involved in supporting the protagonism of indigenous peoples and an ally in the fight for their constitutional, social, and historical rights.

legally recognized by the State. The two groups see the area as important for maintaining their productive and subsistence activities. These players, however, have divergent understandings of how the environments should be used and, thus, have been employing different strategies over time to regulate the use of resources and establish agreements and arrangements to manage the conflicts established.

We observed in these scenarios of disputes that the players discussed concerns about the legitimacy granted to the system regimes created by them in relation to the legal procedures of recognition of these arrangements, generating, finally, some stability in the logic of territorial systems and zoning of common-use and community areas. Thus, when it came to establishing the limits and ways of use of resources, the local players were less interested in exercising the sharing of collective responsibilities of co-management of resources and environments, going, in a way, against the conservation objectives in the type of protected area they inhabit. This was manifested in narratives about practices to "divide" these social territories of fishing as a means to resolve disputes, which, although intermittently, presented as ways to ensure the control of areas and resources and communicated a strategy to exercise power and hold their positions.

It is through the logic of state moroseness in mediating such situations, coupled with the inefficiency of governance bodies and management players in the region, that communities undergo situations of constant tension and insecurity about the possibilities of actual use of the lakes. At the same time, waiting for actions by the Fundação Nacional do Índio (FUNAI) regarding the demarcation process and support to understand how this affects these local management arrangements, these players also experience the circulation of documents produced unilaterally by players of these institutions, which, even though they intend to comply with environmental safeguards and the rights of Traditional Peoples and Communities in the territories, their contents lay down divergent guidelines for each interested party on how to proceed. For example, some documents attest that there is an ongoing demarcation process and there are official signs installed by the body supporter of Indigenous culture indicating that the area is considered demarcated Indigenous Land, without following any procedures. This situation is evidence that the shared management processes do not incorporate the joint dialogues provided for in the governance regulations, which would help align understandings and give opportunities to traditional players to obtain more lasting arrangements, sensitive to the needs and realities of the groups and more effective for the conservation of biodiversity and the maintenance of the ecosystem services on which they rely. In this landscape of local governance, therefore, what happens is that the agreements and arrangements produced by indigenous and riverine communities, in these contexts on certain occasions, lose legitimacy and, not infrequently, their deliberations for mediation purposes by the relevant bodies, when they occur, lose any practical sense of management in the absence of qualified institutional action. Part of these "land documents" that circulate among the players as an instrument of negotiation inform and contribute to the dissemination of misunderstandings about processes regarding the possession and use of common goods.

The village of Jubará is an area of historical importance for the social formation of the indigenous people of the region, which used to be a

rubber plantation, to where the Miranha indigenous people migrated in the past from Colombia and Peru (Faulhaber, 1995). From the early 2000s, several communities began to self-declare as indigenous and request the demarcation of their territories by the Brazilian State. In the Middle Solimões, studies indicate that the process of ethnic emergence occurs not only due to a matter of the recognition of ethnic identity, since self-recognition is established by law, but, especially, as a means to guarantee historically denied rights, bypass regional land instability, and ensure exclusive access to natural resources (Souza, 2011; Santos, 2012; Silva, 2015; Rosa, 2019).

The village of Jubará does not act through any organized and formal collective for fishing resource management initiatives. Still, the village practices conservation initiatives through what they characterize as practices of "guarding/caring for" the lakes and historically tries to structure itself to manage the pirarucu *(Arapaima gigas*). This trajectory relied, in its beginnings, on the action of the Basic Education Movement (MEB), promoted by the Catholic Church, since the 1970s, which, in its own way, encouraged communities to organize themselves and protect the natural resources they used through what they called the "lake preservation movement" (Peralta, 2012). The village, besides using the 10 system environments that are in conflict, which are the object of analysis of this study, also uses 3 environments in the vicinity of the community, in addition to 6 others in the RDS Mamirauá, and the course of the river is also a source of resources. It is characterized as a village essentially formed by indigenous fishermen.

The Novo Joacaca community, on the other hand, has members participating in the Seringa fishing agreement[4] implemented in 2017 to enable the management of the pirarucu (*Arapaima gigas)*, located on an island close to the communities which both groups used historically. When the aforementioned management agreement was established, in normative instruction No. 03 of March 06, 2017, the population of the village of Jubará did not wish to be part of this shared management initiative, which involves another 4 communities of the RDS Amanã. At the time, it was established between the local players that the indigenous community would no longer use the area of the Seringa Fishing Agreement, granting the collective of managers the right to access and use the fishing environments.

In mid-2018, the Jubará changed their stance and requested a change to the agreement and the Novo Joacaca community, which also overlaps part of the land claim of the village, establishing that the lakes of the system downstream of the riverside community should be used exclusively by the village since they had conceded part of their lakes upstream to the fishing agreement, which ignited the current dispute. Here we see the key point responsible for the misalignement that caused the dispute.

Even though the village territory is legally recognized as Indigenous Land by FUNAI, having only on the "land deed" issued by local indigenous technicians and stating the recognition of the indigenous territory in the perimeter of the Conservation

[4] Fisheries Agreements as a differentiated way of managing fishery resources first appeared in the Amazon in the 1970s. With the creation of protected areas, such community-based organization initiatives are corroborated and recognized in the legal instruments of environmental management, creating the means to maintain the sustainable capture of fish species and ecological balance in the environment.

Unit (which has never been contested by the other residents and by the managing body), and which instructs that the indigenous people are responsible for banning non-indigenous people. The argument of the Miranha interlocutors seems to us to communicate that the demand for Indigenous Land, *per se*, is enough to establish a new limit to the territory doubly affected by other local communities, and thus to put into practice the exclusive use of the land and its existing resources, as provided for by territorial law. However, the dynamics of overlapping interests, rights, and ways of inhabiting and using resources are disregarded in this strategy. The controversies and lack of articulation of information between management members thus compromise the dialogues and deliberations at stake.

The local players thus hold antagonistic positions in relation to the use of the territory. The village of Jubará resorts to demarcation as an attempt to guarantee the exclusive use of fishing environments, combining the sensitive problem of shared management with the problem of the claimed Indigenous Land. The Novo Joacaca community argues that it also has the right to use the system because it is a place that is historically part of their productive activities and show no interest in changing or adapting their practices to enable a joint management of the disputed territory. That is when the conflict emerges and the players react; when they feel that their interests and livelihoods are threatened (Soliku & Schraml, 2018).

4.2. Territorial regulation as a strategy to manage conflict

The communities have the same interests in the area under dispute (Figure 2), which is the maintenance of fishing environments to continue carrying out the families' productive activities. What differs is the type of use proposed by the players involved. Despite the common understanding that the area is important for the maintenance of the ways of life, people interpret differently the resources in the landscape and the appropriate procedures for use (Adams *et al*., 2003).

As stated in the identification of the conflict, the village of Jubará uses as its main strategy to regulate the use of resources in the claimed territory the narrative of excluding from the environment other players who wish to have possession of, use, and manage it in their own way. Thus, the strategy employed by the community was to request the demarcation of Indigenous Land in the territory they use and which they fight to manage and control (Figure 2). The purpose of the Indigenous Land category is to provide the State with social control of indigenous populations, but the struggles around the demarcation of these territories also become a political action for social and territorial affirmation (Little, 2004). What would differentiate, then, in the context of this study, the local players' understanding of the meaning of existing legitimate indigenous territory in the Conservation Unit from the Indigenous Land legalized by the state and sought by the Jubará seems to be associated with the condition of exercising control power over the territory and fishing environments under dispute.

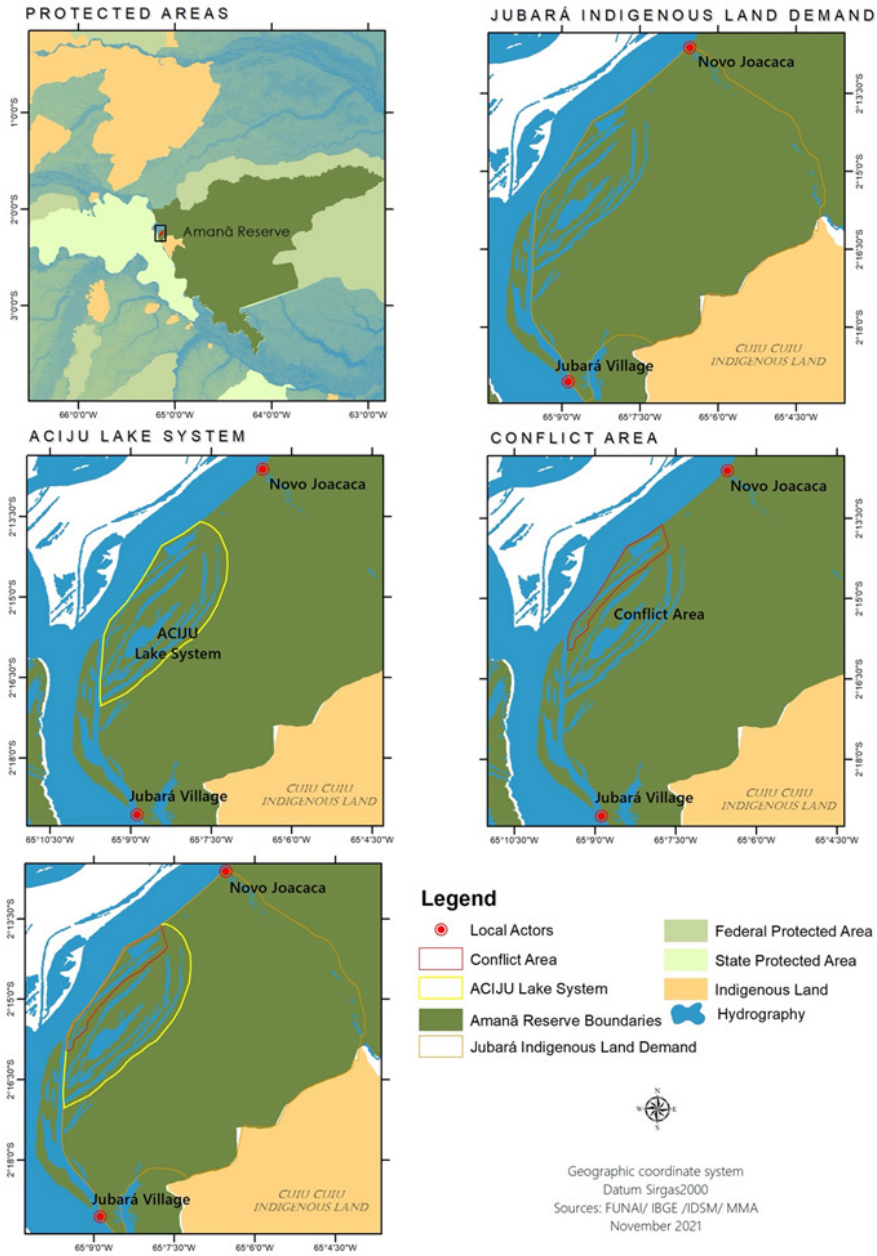

FIGURE 2 – Territorial overlays in dispute.
SOURCE: authors.

We can see that the communities confuse the concept of territories with that of Indigenous Land, which permeates the adversities of the situation. And more than being confused with the concept of territory as a definer of political boundaries, power domains, and identities, we have here the technical-legal concept of Indigenous Land, as a possible land and constitutional right, being mobilized with the idea of collective ownership of a common good in opposition to other collectives with a similar right. In this context, land claims appear as a strategy to manage existing conflicts around natural resources, since in the testimonies collected the interlocutors argue that demarcation could strengthen their authority over resources and that neighbors would respect a limit established by the government bodies. Thus, if they needed to negotiate control over use and access, the indigenous people would have other instances to resort to.

This interpretation causes difficulties in the dialogue with other communities, with the RDS Amanã managing institution, and with the state body supporter of Indigenous culture. The diversity of rules and institutions combined with the gap or controversies in the information generated and transmitted about the administrative processes created by the State to regulate protected territories and reconcile social and environmental rights does not promote the establishment and implementation of well-defined regulations and instruments autonomously agreed by these groups. Communication between traditional players and exogenous institutions is fundamental to reducing mechanisms of exclusion and rivalry between groups since trust has not yet been built and agreements are not fulfilled. It is essential, in the contexts of the socio-environmental conflicts we described, to create spaces in which players can openly discuss and build, at their pace, the confidence to achieve better results that are more suitable for the appropriation and regulation of resources (Ostrom, 1998).

What is known among the management players, users, and residents, as communicated in the land documents and other guidelines they receive, is that in the sustainable development reserves, access to fishing resources is not restricted to its inhabitants, while in Indigenous Land the use and access is exclusive to its residents. The lack of technical and legal knowledge, as exposed, creates tensions in the relationships built between stakeholders, thus establishing fragile property regimes that are ineffective in the conservation of the environment and the well-being and ways of life of the users (Fischer *et al*., 2019). Thus, the attitude of the inhabitants of Jubará, in this context of controversial communication that is not articulated with mechanisms of control and sanction, tends to intensify the conflict because there is no dialogue but a strategy to force the "opponent" in the direction that the group seeks (Soliku & Schraml, 2018).

Faced with the moroseness of responses from FUNAI to the village and situations of intensified disputes in the sectors, the group requested the technicians and researchers of the Mamirauá Institute of Sustainable Development (IDSM[5]), during actions to build the management plan for the conservation unit under their charge, between 2017 and 2018, that dialogues with the managing bodies

[5] A Social Organization promoted and supervised by the Ministry of Science, Technology and Innovations (MCTI) that develops its activities through research programs, natural resource management, and social development, mainly in the Middle Solimões region, Amazonas state.

were facilitated, aiming at a better understanding of the processes at stake. Throughout 2019 and 2020, workshops were held in the village about indigenous political and territorial rights, including, on certain occasions, their riverine neighbors in the discussions. In some of these meetings, technicians from SEMA and FUNAI, were also present talking directly with those involved, and creating possible lines of mediation. In these meetings, the approach to the problem that affects them, through workshops about political and territorial rights, can also be seen as a tool to manage the conflict and identify viable ways to move forward; but, for this purpose, it is necessary to act continuously to reversing the scenario of existing conceptual misunderstandings.

These articulations are fundamental and, in this context, emerge as a strategy that creates a possibility for the local players involved to have a better understanding of the administrative and legal processes that regulate Indigenous Lands and Conservation Units, jointly identifying the operational limitations of the institutions involved (Oliva *et al.*, 2020), seeking, then, alternatives to the weaknesses in governance and management. This situation, seen from the perspective proposed by Ostrom (2000, 2006), reinforces the idea that individuals or collectives only develop shared rules and patterns of reciprocity when there is social capital between them, allowing the construction of institutional, local, and external arrangements to resolve dilemmas associated with ways of managing resources of common use. Thus, the social capital developed by the groups under study through networks, arrangements, and trust is fundamental to generating trust between the players involved and, in effect, minimizing the posture of abandonment and demobilization of management by the members of the already established collectives.

In this sense, the social capital mobilized by the workshops in the village proved to be an important tool to increase collective actions and the learning of political concepts and instruments of governance, promoting better autonomy among the parties. The presence of managing players in the communities affected by the problems mentioned was also essential for building, associated with the appropriate appropriation process of governance regimes, social capital and trust between them and decreasing the local feeling of not having the power to decide on the use of resources (Berkes, 2009). This path is not favorable to the challenge of the abandonment of many traditional players, who move away from sustainable management initiatives due to the organizational weaknesses of the group and the conflicts generated by the orders established in agreements and uncoordinated arrangements. With this, there may be negative consequences in the monitoring structure and other dynamics of resource care, making ecological environments less safe and intensifying external invasions and actions of overfishing by residents and users.

To mediate these challenges, in addition to the demand for more accurate and integrated information among management institutions, another way found by the village of Jubará to regulate the territory and manage the conflict was to strengthen social and political organization by creating the community-based association named Associação Comunitária Indígena Jubará (ACIJU) to look after the interests of the collective, especially those related to fishing environments. The association is responsible for managing the community fishing

area and only its members have the right to use the natural fishery resources.

This is an alternative method found by the community to create another space of representativeness and instance of action in the management practices of the Conservation Unit as a local group in its own territory and sector. Despite the moroseness and distance of the managing bodies, and the systematic scrapping of the existing socio-environmental policies in the country, we can see that the strategies mobilized by the group in the village of Jubará, although stressed and sometimes controversial, bring them closer to other governance and management players to establish a dialogue, including the Novo Joacaca community. They seek, thus, to minimize the feelings of rivalries and pressure over resources, since this is an option to propose the exercise of shared management of the area, indicating the responsibilities and duties of members. This is characterized, therefore, as a way of sharing decision-making power and knowledge between the managers of the area and the communities, rebuilding trust relationships, and restoring spaces for dialogue (Young *et al.*, 2016)

While the issue of the identification and demarcation of the Indigenous Land and the double effects deriving from it is not resolved, the village has created its own ways of managing the conflicting conjunctures and ensuring the maintenance of its community lake systems, moving the common good problem to a smaller collective scale, circumscribing only the indigenous people of the village with similar interests of use of the resource and territory. The association has already zoned the area in which it defined the types of use of each lake in the system and is looking for external technical partnerships to carry out the community management of the pirarucu *(Arapaima gigas*). However, the regulation does not satisfy all the village players, and the lack of trust between the parties in the Miranha territory, especially those that directly use resources in an uncontrolled way, undermines the strategies for the protection and maintenance of the environment.

4.3. Challenges to shared management

While the main strategy of the village of Jubará is to regulate the areas they are interested in, either through the demarcation of the Indigenous Land or by the creation of an association with the intention of forming a community fishing agreement, the main strategy found by the Novo Joacaca community group is the deregulation of the areas, because despite being interested in using the resources, they wish to do so without restrictions of environments and rules of access and extraction of fish. In this community scenario, collective management and co-management arrangements do not seem to be of interest to the riverine communities.

Deregulating the use, in this case, is a strategy to maintain the current dynamic, or that previous to the conflict, and even the creation and objectives of the existence of protected areas such as the Sustainable Development Reserves and Indigenous Lands. The desire for a change of attitude or positioning of these players in the face of the issues that arise with the sharing and regulation of the use of natural resources may occur, and we still need to understand this more deeply because, in addition, the feeling of not having power of decision, the Novo Joacaca group understands that sharing does not bring economic advantages to the community or its residents who exercise individual or family

fishing outside management regimes provided for in the management plan of the protected area, exercising the activity without rules and agreements being created or associated with the mechanisms of governance provided for these territories. Not all participants are happy with the changes necessary for the agreements to operate (Castro & Nielsen, 2001).

In addition, there are divergences in the understanding of what it means to share and divide. There is no intention from either of the two communities to share the territory and carry out joint work to manage the environment and the sustainable fishing process. There is actually the intention to divide the environments and have each group working separately. Under such a scenario, the question that arises from the information raised by the study is: How can we handle these conjectures and controversies? Another point that emerges as a challenge to shared management in this scenario lies in the issue that, for many local players, the conservation of biodiversity or natural resources is not manifested as the main objective of inhabiting the territory. Instead, they believe that those who have the right to use the areas have the right to decide the ideal ways of using it, according to their own conceptions of what natural resource means, as a fundamental resource for subsistence and the local domestic economy.

Another factor that poses a challenge is the different governance scales that act on the disputed territory because each institution and player is used to working independently and they have complicated relationships between them, with a unique understanding of the problems in governance (Fisher *et al*., 2019). In addition to the relationships between the players, there are also the spheres of action of each one. Scale is an important topic and a key component to issues of socio-environmental governance and shared management, since topics such as climate change, pollution, traditional territories, and biodiversity conservation permeate the various scales, jurisdictional spheres, and civil society and state organizations (Termeer *et al*., 2010). Despite the absences and controversial actions of the managing bodies in these situations studied, the riverine and indigenous players point out that the governance structure found locally is basically monocentric, in which an institution holds the majority of the decision-making power. This power, as described in the text, affects the communities, by making them feel they do not have the power to decide how resources will be used and through unsuccessful attempts to establish formal mechanisms of co-management and dialogue. While they await more effective mediations for the participation of the various social players, governance is weakened and causes information not to be made available, or to be made available in a misaligned way, and expectations not to be met (Bennett & Satterfield, 2018; Fischer *et al*., 2019).

The gaps found are related to the fact that there is little dialogue and willingness of local authorities to resolve conflicts and that the traditional players lack knowledge of the legal rights of indigenous peoples and of the role and operational limitations of each institution. These issues are common among the various existing socio-environmental conflicts (Fischer *et al*., 2019). Despite the difficulties in relating to the legal and procedural means imposed by the State, communities are clear in determining who the key players are to discuss the issues related to the conflicts regarding the sharing of common fishing areas and create their own mechanisms

for mediation and legitimation of agreements and arrangements.

5. Final Considerations

Each protected area has specific and unique socio-environmental conflicts, related to the context in which they are inserted; however, such conflicts and problems reside and reflect challenges in governance that are repeated over time and space at different scales, whether they are Conservation Units or Indigenous Lands (Bodin *et al*., 2019). It is evident that local authorities need to appropriate the existing mechanisms of discussion and dialogue channels in the governance spheres of RDS Amanã to mediate the conflicts. Mediation initiatives do exist. During the creation of the management plan, several workshops were held to discuss territorial issues related to the Conservation Unit. Within the framework of the Deliberative Council, there is a working group formed to discuss the existing conflicts in the Reserve, and several studies have already been conducted in order to explain the dynamics and origin of these clashes, which are not exclusive to the village of Jubará and the community of Novo Joacaca in the medium area of the rivers Solimões and Japurá (Alencar, 2009; Souza, 2011; Santos, 2012; Alencar & Souza, 2014).

The demand for demarcation of Indigenous Lands overlapping the Amanã Reserve reveals how the governmental spheres and local players come into opposition and the dialogue mechanisms cited and created by the local players themselves lose strength through the dynamics of managers' presence/absence. Civil society organizations and public managers understand the use of territory for the conservation of common assets, while for communities conserving only makes sense if it is so that, in the future, such territorial and environmental resources can be used exclusively. In this range and misalignment of understandings, studies such as the present one present the challenges imposed on communities and institutions that share interests in the same territory and shed light on how shared management actions conceived in an integrated way are fundamental to mitigate conflicts. In addition to demonstrating that conflicts over natural resources can be opportunities to innovate and seek solutions (Dahlet *et al*., 2021).

Conflicts over natural fishery resources occur in several protected areas and at different levels. Initiatives such as that of the village of Jubará that aim to regulate the use of these resources through a legally established community fishing agreement draw attention to the socio-environmental and cultural changes that have been occurring in the region and that, while seeking to solve their problems, try to engage with the authorities by various ways. The initiative puts even the communities in opposing positions since they see the resource not for conservation purposes, but for the right of exclusive use and regulation by each player. Here it is clear how the environmental discourse can be used by local players to obtain support from external parties and local authorities to maintain exclusive control over the resource; therefore, there is an overlapping of the ecological issue with local political and social issues (Kronenburg García, 2017).

In this context, we can see that there is a need to establish a transparent and elucidating dialogue with the communities so that everyone's basic knowledge about the duties and operational capacities of the institutions that operate in the

region and of the traditional players who manage their territories can be aligned. The joint dialogue between the parties is fundamental in an approach to address these conflicts in early or advanced stages. In this sense, the State institutions, which are ultimately responsible for making decisions, are also responsible for implementing public policies, facilitating collaborative processes in decision-making, and defining the actions and procedures allowed in the areas, especially those in situations of conflict (Ostrom, 1998; Thondhlana *et al.*, 2015).

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