

THE DILEMMAS OF THE SYSTEM OF COMMON OWNERSHIP OF FISHING LAKES IN BRAZILIAN AMAZON

Tiago Jacaúna*
Lúcia Ferreira**

Abstract: This paper examines the local fishing resources management initiatives, known as “fishing deals”, and the obstacles faced by fishermen belonging to rural communities in Brazilian Amazon. The research was developed among communities from the municipality of Manacapuru, in the state of Amazonas. The field research has produced evidence of the organizational potential, the communicative skill, the social capital and the political culture of fishermen groups that, when threatened by the decrease of some of the fish stock, got organized to control the use and the appropriators of fishing resources in aquatic environments close to their area of residence. Nonetheless, the maintenance of such mechanism is threatened by other groups, interested in the commercial exploitation of the communal territories, since they still lack the State endorsement. According to Brazilian law, the fishing resources are state property and the State alone can legislate on their protection. However, the recent scenery displays the inefficiency of governmental organs in the surveillance and containment of the over exploitation of fishing resources. This has led the people inhabiting the rural areas of the Amazon, such as the groups of fishermen covered by the present study, to develop autonomous forms of management to avoid the scarcity of fish. As a result, a process of decentralization of fishing resources has been in course in Brazil since 2002. By means of complementary directives to the current fishing legislation, the State has created criteria to guide the discussion of the “fishing deals”, enabling their legalization. Nevertheless, the deals established by the subjects covered by this study remain yet to be legalized, leading to the obstruction and impairment of local management systems and giving rise to several social conflicts - since the other appropriators don't abide to the local rules for the appropriation of fishing resources.

Keywords: *Fishing; Common Property; Social Conflicts*

1. INTRODUCTION

This article deals with the dilemmas posed by the system of common ownership, the implementation of fishing deals and the social conflicts faced by riverine populations of the communities of *Nossa Senhora do Perpétuo Socorro, Assembleia de Deus*,

* Sociologist and economist, is currently doing his PhD in Social Sciences at Campinas State University (Universidade Estadual de Campinas) – UNICAMP. Researcher of Center Environmental Studies (Núcleo de Estudos e Pesquisas Ambientais) – NEPAM. Scholarship of the State of Amazonas Research Foundation (Fundação de Amparo à Pesquisa do Estado do Amazonas) – FAPEAM.

** Researcher of Center Environmental Studies (Núcleo de Estudos e Pesquisas Ambientais) – NEPAM. Professor of PhD Program in Environment and Society and PhD Program in Social Sciences at Campinas State University (Universidade Estadual de Campinas) – UNICAMP.

Assembleia de Deus Tradicional and *Santa Isabel*, belonging to the vicinity of *Jaiteua de Cima*, municipality of Manacapuru, in the state of Amazonas – Brazil.

The focus of the present study aims at the problems arising from the territory management by local populations. Several theories, particularly those based on “game theory”, suggest that social groups are incapable of becoming organized to face the over-exploitation of nature. Such views reduce human action to the “simple” rational game of interest present in the “prisoner dilemma”. Therefore, even though the formalization of the problem may assume different forms, the basic theoretical assumptions remain the same generalizing ones: limited and predictable supply of resource units, the homogeneity of the appropriators, their tendency of maximizing the expected profit and their lack of interaction with the other or ability to change their institutions (Ostrom 1990).

Nonetheless, innumerable empirical studies have been demonstrating an opposing perspective and defying the generalizing assumptions of conventional theory. There’s a wide spread consensus on the fact that this theory falls short of explaining situations where individuals are capable of creating and maintaining agreements in order to avoid the hazards of over-exploitation. It also fails to explain situations in which government possession is adequate and when the privatization of resources may lead to better results. (Ostrom 1990).

However, the sole statement of the organizational capacity of some social groups does not solve the problem. It is essential to analyze how the agreements are construed, as well as the actions by other users that are not included in the agreement.

In the area covered by the study, the common ownership system is marked by the presence of several conflicts between the users of fish stocks. Due to the conflicts, the problems concerning the management of common territory are aggravated. As a result, some of the social groups inhabiting the region have become organized to inhibit commercial fishing in aquatic environments close to their homes. This demonstrates that these populations don’t follow the logic of economic individualism present on the *Tragedy of commons* theory (Hardin 1968).

The study conducted at the region of *Jaiteua de Cima* revealed that there are social groups which possess organizational social capital, participative political culture and who act towards a common understanding. This tendency emerged from the study on the area; where the group of subsistence fishermen elaborated a fishing deal to control the appropriators of fishing resources during the dry season of the hydrologic cycle.

The difficulties arise from the fact that not all of the social groups that depend on fishing to survive accept the rules imposed by other groups living in the same territory, as it happens in the case of commercial fishermen, which generates social conflicts between these groups of subjects. Such conflicts must be minimized or controlled in order to promote a more democratic process of environmental management, where local populations are able to exercise their rights over the shared territory and establish communicative action between the different appropriators of resources. The Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) has been recently developing initiatives in this direction, the most important being the institutionalization of fishing deals that concede legal status to the organized social groups.

2. METHODS

The municipality of Manacapuru is located at 84 km from Manaus through land (state road Am – 010) and 110 km through river course, geographically inscribed in the region of Low Solimões (Baixo Solimões). The study was carried away in the rural zone of the municipality, at the communities of *Nossa Senhora do Perpétuo Socorro* (NSPS1), *Assembleia de Deus* (AD), *Assembleia de Deus Tradicional* (ADT) and *Santa Isabel* (SI), in the region of *Jaitêua de Cima*, at the margins of the “*Lago Grande*” - Illustration 1.

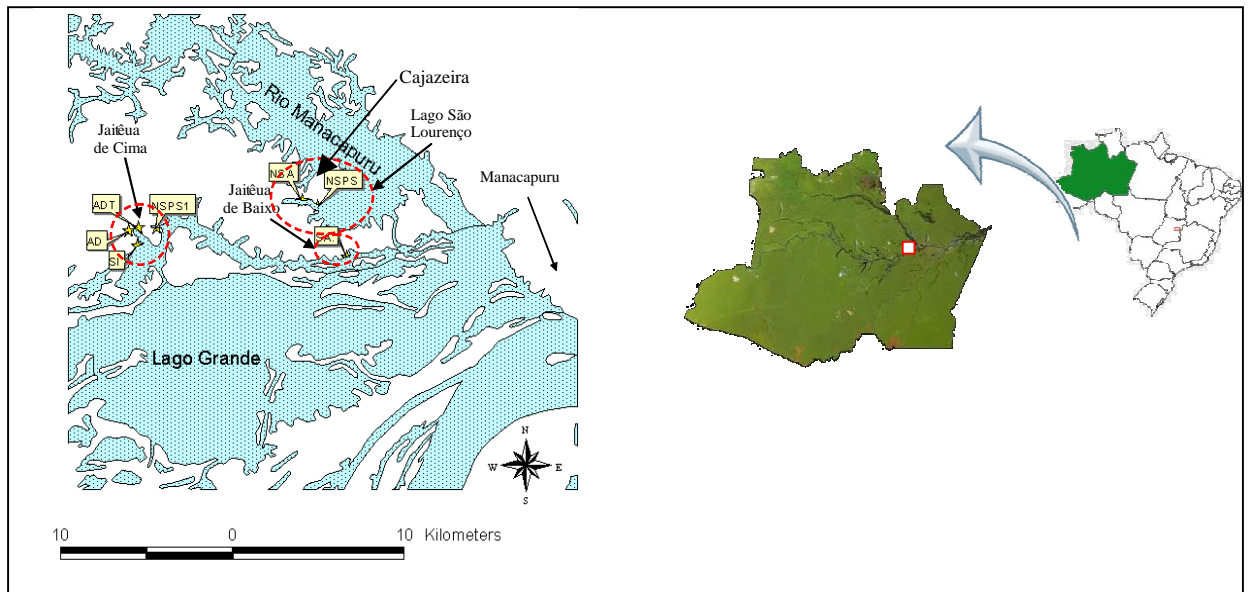


Illustration 1 – Locations of the communities included on the research, township of Manacapuru – AM.

Source: PIATAM (2007).

In order to reach the objectives of the study, we have adopted an ethnographic method of research, consisting in a careful and detailed description and interpretation of the culture of the subjects participating in the study. The ethnography was centered on the symbolic meaning of daily life, or, in other words, on the political and socio-cultural aspects of collective life (Oliveira 1996). Therefore, the ethnography aimed at comprehending the social phenomena from the “other’s” point of view, constructed from the intersubjective encounter during the fieldwork (Geertz 1997).

The procedures and techniques of data collection were based on the resource of the field diary, on participant observation and on semi-structured interviews, in order to construct a chain of evidences and to establish the database.

The field diary and participant observation were the means that enabled gathering the information needed to understand, “in the natives’ point of view”, the conflict relations on the setting. The field diary and participant observation were the means that made possible to gather enough information to understand, “from the native point of view”, the conflict relations on the setting. Through both techniques of apprehension of reality it was possible to understand the power relations and the characteristic way of life of each social type of fishermen.

Open-ended, non-directive interviews were conducted with the head of each family, and also with the elder members of the social units in order to learn about the families' life histories, their social-environmental particularities and their main socio-economical needs – connecting past to present.

3. RESULTS AND DISCUSSION

3.1. *Political culture and social capital*

The consolidation of a participative political culture depends on the creation of a social capital that enables and facilitates the cooperation of citizens, mutual trust and civic involvement. In this sense, through the promotion of equal opportunities by empowering citizens, According to Baqueiro (2004, 19), “this means that, in order to promote a participative political culture, the dimension of personal and institutional trust must be majoritary. [...] one of the ways presented as emancipatory potential of citizenship in the present context is the promotion of social capital, defined as promotion of mutual trust and social solidarity”¹.

Therefore, social capital operates as a network of contacts, collective action, social structure and trust. It arises from the need to solve problems of collective action. The expression “social capital” here employed refers to characteristics of social organization, such as trust, norm and networks, which may enhance the efficiency of society, facilitating coordinated action (Putnam 1993). In this perspective, collective action only succeeds if there are affinities between people, if they trust and respect each other, enabling them to share resources. Consequently, to verify the presence or absence of social capital might help to detect the frailties or the strong points of a community.

Social capital thus works as a social factory of the communities, since the resources it produces become essential factors in the development of strategies that work on behalf of the community (Baqueiro 2004).

As a result, it would be possible to say that to the attitudes and norms proposed by the theory of political culture it is added an evaluative dimension of how to do it efficiently: that's what constitutes social capital (Baqueiro and Amorim 2003). The essential premise of social capital is that it enables cooperative communitarian action and solves the problems shared by the collective group.

There is an important difference between social capital and other forms of capital. Social capital only exists through a “social relation”, it doesn't reside in the sole individual as it is the case of human capital. As well as a screwdriver (physical capital) or superior education (human capital) might increase individual and collective productivity, social contacts also affect the productivity of individuals and groups (Putnam 2000).

The society that has a higher level of social capital becomes more productive, as it becomes capable of reaching some goals, which would be impossible if it was absent. Hence, the dimensions of the social capital are of fundamental importance in the formation of economic and social life.

On the other hand, Putnam's formulation of social capital also has the effect of masking the contradictions and social conflicts that are dissolved into the social

¹ Free English translation.

group. As a result, the concept evokes and values those social relations considered “harmonious”.

In this context, Bourdieu formulation of the concept of social capital becomes relevant as it demonstrates its conflictive facet. Bourdieu (1982) reveals that social capital, as well as economic and cultural capital, has the character of an instrument of power employed by rational actors to maintain or enforce their status and power in society. Thus, according to the author, social capital is the sum of relations and mutual cooperation that is imposed to favor the individual or his group. Therefore, it operates as a domination mechanism that allows people to succeed in social competition.

For Bourdieu, the social structures are constituted in a field of struggle for power and monopoly. Hence, the idea of social capital is associated with differential access to power resources. The social capital is an instrument of the fight for power in a field of conflict, since, as well as all the other forms of capital, social capital is unevenly distributed. Consequently, it can be understood as a strategy by some groups to obtain the monopoly of the use and control of a certain resource.

The different fishermen represent, in this sense, strategic means of economic and cultural reproduction of the studied communities, configuring the dependence on every day and non-competitive subsistence fishing, which enables the development of management systems without the government’s participation and assistance, relying solely on the mobilization and organization by the communities interested in the management of natural resources.

However, some groups still pose strong resistance to this kind of initiative – particularly those families who are interested in the commercial use of fish stock, since these forms of management establish limits to the amount of fishing product, either for personal or collective use. This, in turn, can lead to non-cooperative actions since it limits the expectations of economic gain for some families. Not always social groups support the organization initiatives, which involve meetings, negotiations, planning and sanctions. These factors might make the maintenance of such forms of resource management unviable.

In the site of research, the families that oppose those initiatives of fauna management are those composed by local commercial fishermen who find their main source of income in fishing activities. They are not interested in the limitation of the fishing produce amount, since it challenges their social and economic stability.

Nonetheless, this does not mean that local management initiatives can’t become an alternative of conservation on the part of some of the communities living on the area of study, since they were conservationist measures developed due to the reality they face. These forms of management respect the different fishing environments (rivers, lakes, *igarapés*² etc.), and regulate the exploration activities of fishing resources according to the specific environments found in the different communal realities.

3.2. *The institution of the fishing deals.*

² *Igarapés* are smaller water courses endemic to the Amazon hydrologic landscape, which connect other water courses. Not all of them are perennial, and their courses can be altered every year due to the immense variation of water levels during the different seasons of the hydrologic cycle.

The fishing deals can be understood as local participative arrangements that express the intention of social groups of fishermen to legislate over the fishing resources close to their dwellings. The first fishing deals date from the 1970s: in that period, there was only one community residing on the margins of the lake, and the deals were organized by the community leaders. In case there were a few communities settler in the margins of a lake or river, then the presidents of each community together with a few local leaderships would take part in the negotiation of an inter-communitarian deal (Azevedo and Apel 2004).

At the locality of *Jaiteua de Cima*, the existing fishing deals involve its four belonging communities (*Nossa Senhora do Perpétuo Socorro*, *Assembleia de Deus*, *Assembleia de Deus Tradicional* and *Santa Izabel*), and were initiated by the presidents or leaders of each community who summoned all the other inhabitants, particularly the fishermen, to discuss the problem of scarcity of fish in “their” aquatic environments.

The shaping of these deals emerged from the necessity of protecting the fishing sites close to their homes. These environments had been subjected to a major fishing effort, especially on the part of commercial fishermen from the adjacent cities. Therefore, the fishing deal was a result of a local initiative of fishing regulation in face of the absence or inefficiency of regulation and surveillance of these matters on the part of the State.

The fishing deal established on *Jaiteua de Cima* doesn't rely on the participation of the State. It is an informal verbal agreement among the region's subsistence fishermen to protect the aquatic environment named “*paraná do Anamã*” during the dry season of the Amazonian rivers (between August and November), due to the intense exploration by local and urban commercial fishermen and fishing ships.

According to the fishing deal set between the fishermen, the environment protected by the deal (*paraná do Anamã*) is a maintenance lake for the communities of *Jaiteua de Cima*, where only subsistence fishing is allowed. This is the central clause of the fishing deal in the region, which forbids commercial fishing during the dry season, not only to “outside” fishermen, but to local fishermen as well.

Consequently, the group of subsistence fishermen from *Jaiteua de Cima* set in motion a normatively regulated social action – a socially integrative agreement about values and norms that was instituted through cultural tradition and socialization – starting from their comprehension of the problems in their social world and, therefore, formulated the fishing deal. Nonetheless, the regulation proposed by the fishermen wasn't immediately accepted by everyone, and created some noise on the path for common understanding.

Whenever action aims at building an understanding, in the sense of a cooperative process, and goes further to establish relations with the world, we enter the field of communicative action. “To reach an understanding means that the participants in the communication act reach an agreement regarding the validity of a statement: the agreement is the inter-subjective recognition of the intended validity raised by the speaking person.”³ (Aragão 1992, 54).

However, as we have mentioned before, not everyone abides to the terms of the agreement, and there is resistance on the part of some of the local inhabitants. The fishermen that don't accept the rules are those who have in commercial fishing their main source of income, being that the reason for their dissent. Therefore, the communicative action expressed by the fishing deal hasn't accomplished full

³ Free English translation.

success, since whenever communicative action reaches an understanding, the result is the absence of coercion, since it is accepted by everyone.

Another obstacle to the effectiveness of the deal is the non-compliance to its rules by outside fishermen, who are in greater number and find support on the fact that local inhabitants don't have legal jurisdiction to prevent other fishermen to access the aquatic environments of the region. Thus, local inhabitants complain about the absence of support on the part of the State regarding the legitimacy of the deal, since there have been several attempts to get government representatives on the region, with no success.

According to Castro and McGrath (2001, 117), those obstacles to the effectiveness of the fishing deals are due to the absence of criteria that can establish the necessary representation from all the users of fishing resources at the process of elaboration of the fishing deals: "[...] this lack of criteria of representation has been a frequent cause of conflicts in the implementation of the deals, since the "outside" fishermen and others excluded from the process do not consider themselves responsible for the accomplishment of the deal"⁴.

3.3. *Common- Property Rights*

The property right is a document that concedes executive authority over the exercise of particular actions over a specific domain to its owner (Commons 2006). But before we discuss common-property rights, we must make a difference between "free-access" and "common-property".

Free-access may be defined as the situation where no one has the legal right to prevent someone of using a determined resource (Hess and Ostrom 2003). Some free access systems are defined by the failure of property rights, either due to the absence of specific rules or to the lack of interest over the resource by the State or any other entity. Another free-access regime is the one resulting of public policies that ensure the free-access of all citizens to resources: "the concept of *jus publicum* applies to their formal status, but effectively these resources are open-access (Hess and Ostrom 2003, 122). Besides that, there's the free-access regime resulting of the difficulty of the entities that ensure formal property rights of excluding the non-owners.

Common-property regimes are those based on the social control to the access and harvesting of local resources such as water, forests, grazing and fishing territories. This kind of regime has been in development for a long time and in several parts of the world, but rarely reaches legal status (Berkes and Folke 1998). Hess and Ostrom (2003, 123) make an analogy with private corporations to define the common-property regime: "a modern, private corporation is, after all, a common-property regime that has widespread use throughout the global economy—with both efficient and inefficient consequences. Common-property regimes are essentially share contracts".

Therefore, common-property regimes are social contracts, negotiated by individuals to control the use of common resources. As a consequence, the generated benefits for the system of natural resources and for their appropriators are larger than those under the free-access regime.

⁴ Free English translation.

In the realm of property regimes there are different types of rights that define the relationship of an individual to another and their relationship with the resources. Schlager and Ostrom (1992) present the five most relevant forms for the study of common-property systems:

1. Access: the right of entering a definite area without subtracting resources (e.g. hiking, enjoying nature);
2. Extraction: the right of obtaining resources from a unit or system of resources (e.g. fishing, diverting a water course);
3. Management: the right of regulation over the patterns of internal use and transformation of the resource, making improvements;
4. Exclusion: the right to determine who shall have the right of access and extraction and on how these rights may be transferred;
5. Alienation: the right over selling or renting the exclusive rights.

Departing from this definition, Hess and Ostrom (2003) demonstrate how these five types of property rights are set into practice. They argue that many of the researchers of common-property systems have preferred to emphasize how the five property rights are applied on each setting and what are their consequences. Thus, from the point of view of the users we find:

a) Authorized entrants: include users looking for recreation, as in the users of a park, which have the right to enter and enjoy nature, but are not allowed to harvest anything from the forest;

b) Authorized users: those who have the right to enter and extract resources from the area;

c) Claimants: those who have the right of access and extraction, plus the right to take part on the collective decision processes involving the management of resources, such as defining a limit to the amount of extracted product.

d) "Proprietors": share same rights of the claimants, plus the power to determine who should have the rights to access and extraction, with the exception of the exclusive right. "Most of the property systems that are called "common-property" regimes involve participants who are proprietors and have four of the above rights, *but do not possess the right to sell their management and exclusion rights even though they most frequently have the right to bequeath it to members of their family and to earn income from the resource*" (Hess and Ostrom 2003, 126).

e) Full owners: that who posses, besides the above mentioned rights, the alienation right, being able to transfer his property, as long as this transference doesn't pose any threats to the physical attributes of the resources nor to the other owners.

The authors stress the fact that full owner's rights can be included into common-pool resources. However, the property right is not absolute, since even private property must not pose a threat to third parties. Henceforth, all the property right forms mentioned above may be employed either by individuals or communities.

Analyzing through the lenses of property rights, the local communities from Jaiteua de Cima only possess three of the aforementioned rights: access, extraction and management. Therefore, the users can be classified into claimants (communities' members, subsistence fishermen) and "authorized users" (local and urban commercial fishermen who possess the right of extraction). Thus, it is easy to picture conflicts involving claimants and authorized users.

Nonetheless, the issue of the legitimacy of the fishing deal through juridical procedures becomes crucial, since, according to Habermas, "Law becomes essential, since under the conditions of post-traditional society, it is the only way to

express simultaneously a rationally motivated agreement with the threat of external sanctions”⁵ (Souza 2000, 84).

In a modern situation, Law is the link between the life-world and the political and economic spheres of society. It allows social integration through possible sanctions to the infraction of previously established agreements. Under the conditions of modern societies, it is the Law that exonerates the actors from the overload of social integration, since law’s social validity depends on the artificial fact of the threats of sanctions by the State (Habermas 2003).

The link between fact and validity of coercive law can only ensure its strength if the subjects under its influence can see themselves simultaneously as its co-authors. Therefore, the participation of all the users of the resource in the process of construction of the deal is the *sine qua non* condition for its success.

Thus, Law opens paths that enable interactive communication imperatives to reach economic and juridical systems aiming at its legitimate direction. According to Habermas, Law is the instrument through which communicative power can be transformed into administrative power. “The constitutive ambiguity of Law is the reason why it can be transformed, in modern complex societies, on the main tool of translation of day-to-day language, which reigns in the life-world, into language that is intelligible to highly differentiated subsystems of economy and politics and *vice-versa*”⁶ (Souza 2000, 86).

Common-property rights face many difficulties in *Jaiteua de Cima*, which demands more dialog among the social groups involved and a more efficient participation of the State of Law to support and legitimate the fishing deals.

Since 1997, the formulation of the Fishing Deals had been integrated to the participative administration goals of the Federal Government, formulated by the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) on the document entitled “Participative Administration: a challenge to Environmental Management” (Administração Participativa: um desafio à Gestão Ambiental). This document defends a new concept of management of fishing resources, establishing criteria to guide the discussion around fishing deals and enabling their legalization by means of complementary directives to the current fishing legislation, published as Normative Instruction n°29 in 12.31.2002. Later, the IBAMA, through a work meeting of the Management of Wetland’s Renewable Natural Resources Project of the Brazilian Institute of Environment and Renewable Natural Resources (PróVárzea/IBAMA), has published the Normative Instruction n° 19/2002, that regulates the action of Voluntary Environmental Agents to surveillance procedures, including the local social actors in the process of control and surveillance of the complementary directives upholding, which was deemed indispensable for the success of the initiative. Meanwhile, to the present, no complementary directive has been regulated by IBAMA on the jurisdiction of *Jaiteua de Cima*, although its inhabitants have requested it several times.

3.4. Social Conflicts

Simmel (1983) brings up the idea that conflict not only has elements of desegregation, but also acts positively because it produces “sociation” between

⁵ Free English translation.

⁶ Free English translation.

individuals, cooperation with unifying forces. According to the author, conflict has the purpose of solving divergent dualisms, and therefore, constructs some sort of unit, encompassing both positive and negative elements. "In case it results in rejection or in the cessation of sociation, indifference is purely negative; in contrast with this pure negativity, conflict always contains something positive. However, its positive and negative aspects are connected; they might be conceptually set apart, but not empirically"⁷ (Simmel 1983, 123).

Under those assumptions, conflict gains sociological relevance. Simmel argues that there is no social unit where convergent and divergent currents are not interlocked. Therefore, a purely centripetal and harmonic social group is unreal. Simmel (1983, 124) states that "in the same way the universe requires 'love and hate', or forces of attraction and repulsion, in order to be shaped; society also demands proportional amounts of harmony and disharmony, association and competition, favorable and unfavorable tendencies in order to find its configuration."⁸

In that sense, the sociologist approaches conflict as an important constitutive element of society. Without this dimension of human interaction, it would be impossible to conceive society as we know it, "[...] opposition provides us intimate satisfaction, distraction, relief, as well as, under different psychological circumstances, humility and patience. Our opposition makes us feel more than simple victims of circumstance. It allows us to consciously put our strength to the test, and it is the only way of giving vitality and reciprocity to those conditions that, without this correction, would inevitably repel us."⁹ (Simmel 1983, 127).

As an element of sociation, conflict produces unity; this is the positive dimension of conflict. The elements of desegregation are articulated in a way that promotes the union of the group of interest. "Conflict might not only increase the existing unity, eradicating all the elements that may obscure the boundaries of the enemy, but can also bring closer people and groups that wouldn't be connected otherwise."¹⁰ (Simmel 1983, 157).

Conflict also produces unifying forces in the cases we've analyzed here, bringing some groups closer and raising the tension among others. Regarding the conflicts about the common use of fishing resources, the main reason of divergence is the transgression of the established agreement – with the exception of the conflicts that involve farmers. In those communities that have informal fishing deals, the conflicts followed the script of subsistence fishermen x urban commercial fishermen; subsistence fishermen x local commercial fishermen; subsistence fishermen x farmers.

The conflict between subsistence fishermen x urban commercial fishermen happen in the periods before and during the dry season, when the fish are more vulnerable to capture because they are limited to lakes, *igarapés* and smaller and shallow aquatic environments. Some locations, such as *lago Grande*, and specially the *paraná do Anamã*, are largely used by urban commercial fishermen. . However, the conflicts reach their peak during the critical period of the dry season, between September and October, where all the aquatic environments near the inhabitants' homes are completely dry, and the only remaining place for fishing is the *paraná do Anamã*.

⁷ Free English translation.

⁸ Free English translation.

⁹ Free English translation.

¹⁰ Free English translation.

This situation has contributed for the creation of fishing deals on this time of the year by the fishermen. They have forbidden the access from outside fishermen to the *paraná do Anamã*, producing conflicts between them.

The subsistence fishermen's dissatisfaction increased when they realized that most of the urban fishermen are registered in the Fishermen Colony of Manacapuru. In the point of view of a local inhabitant, those fishermen registered at the colony should practice fishing according to the regulations established by the Colony, since affiliation implies on following particular rights, duties and sanctions to registered professional fishermen. From the local point of view, commercial fishermen are not acting accordingly to this affiliation.

The conflicts between the subsistence fishermen and local commercial fishermen are motivated by the non-compliance of the later to the rules of the fishing deal. Local commercial fishermen insist on fishing at the dry season of the *paraná do Anamã*, and argue that commercial fishing should not be restricted there, because the river is still navigable during the dry season, so the fish are not trapped in a small space like a pond.

The commercial fishermen's intolerance to the deal results in more violent conflicts than those with urban commercial fishermen. A local commercial fishermen reports being tied up to a tree and almost being dragged down to the police station, besides having all his fishing equipment destroyed. According to some of the local inhabitants, physical violence has occurred several times from both parties.

It is important to mention how the social capital (understood as the differential access to resources) presents itself in the configuration of this conflict relation. Those fishermen who were able to get organized are the ones who detain the power of resource management, which demonstrates how social capital can represent the monopoly of power of some groups over the others.

The conflict between fishermen (of all orders) and farmers is a consequence of the process of expansion of cattle breeding activities at the wet lowlands that has been in course in the Amazon region for some time. Thus, "if there are more cattle in the lowlands, the fishes' habitat will suffer more damage, since it is the site of reproduction and growth of several fish species"¹¹ (O'Dwyer 2005, 222).

In the region of Jaiteua de Cima, the problems related to the large animal breeding, particularly with respect to buffalo breeding, demonstrate that the deforestation practices to create grazing lands and the circulation of these animals in aquatic environments has produced changes in behavior, migration and the reduction of the populations of some fish species, particularly those that are much appreciated for personal consumption and commerce among both subsistence and commercial local fishermen.

Buffalo breeding on the region has caused disturbances to local inhabitants: the animals trample upon the soil, making it harder; they swim on the lakes and *igarapés*, scaring away the fish and bothering the fishermen; they also pass through cultivated areas and destroy the manioc and bean fields, and attack other animals such as cattle and pigs.

¹¹ Free English translation.

4. CONCLUSION

Local initiatives of environmental management expressed in the fishing deal of Jaiteua de Cima are an example of the mistake due to the generalization of Harding's theoretical construct. The fishing deal was a normatively regulated linguistic action of subsistence fishermen in order to attempt to control the over-fishing in the region during the dry season. It is noteworthy the presence of a participative political culture and of a stronger social capital among subsistence fishermen. We are led to believe that the consolidation of a communicative action is possible. These subjects are imbued of linguistic ability, and thus, of the possibility of understanding, organization and social control.

Nonetheless, it is a fact that not all local inhabitants agree with such initiative, since they possess a narrower relationship with the market and apply a rationality that aims at maximizing the production and set aside a major part of produce to commercialization. Therefore, the current local fishing deal hasn't been able to prevent occasional social conflicts among the various types of local fishermen; in order to avoid that individual behavior may compromise collective aims. Seeing that, it is undeniable that a greater interference from the State and a broader dialogue between the fishermen are important elements for the success of the fishing deal and for the extension of its benefits to all of the appropriators of fishing resources.

Accordingly, the role of Law becomes indispensable. As stated by Habermas (2003), it is the Law that makes the link between the life-world, understood as the realm of culture and tradition, and the system-world, encompassing economics and politics, possible. Without the Law, any established deal in the life-world lacks applicability in a modern setting. Consequently, it becomes even more urgent the judicial normalization of the socially established deal.

Hence, would be Hardin (1968) entirely wrong when he advocates for the privatization or the Estate property of common-use resources? The observed facts suggest that the author was not entirely incorrect: the creation of external coercive elements is necessary. However, Hardin didn't consider that this could be accomplished by local groups, and there resides the error of his theory.

Thus, the State appears solely as the voucher of those rules previously established by society, making the deals judicially legal, and allowing eventual punishment of the infractors through the State of Law. This becomes essential to ensure the right of common-property of the Amazonic riverine population and to minimize social conflict.

Another interesting alternative is to foster and enable local commercial fishermen to develop other productive activities, in order to decrease their dependence on fishing economic activity. Since the fishing deals imply on social costs, the social economic ability of support is indispensable for their success.

Notwithstanding, the greatest challenge to the success of the fishing management process in the Amazon is to ensure that all users interested in the use of fishing resources are able to participate in the decision making process. Meanwhile, the construction of a communicative rationality creates the favorable basis of success of the fishing deals and of the establishment of common-property. This communicative rationality and/or communicative action must incorporate the directly involved social subjects, that is, the different types of fishermen as well as the State by means of its adequate agency and other sectors of civil society.

5. LITERATURE CITED

- Aragão, Lucia Maria. 1992. *Razão comunicativa e teoria social crítica em Jürgen Habermas*. Rio de Janeiro: Tempo Brasileiro.
- Azevedo, Cleidimar, and Marcelo Apel. 2004. *Co-gestão: um processo em construção na várzea*. Manaus: IBAMA/PROVARZEA.
- Baqueiro, Marcello. 2003. "Construindo uma outra sociedade: o capital social na estruturação de uma cultura política participativa no Brasil." *Sociologia e Política* 21: 83-108.
- Baqueiro, Marcello, and Maria Amorim. 2004. "Cultura política fragmentada: o papel do capital social na democratização brasileira." *Sociedade e Cultura* 7(1): 9-20.
- Berkes, Fikret, and Carl Folke. 1998. *Linking social and ecological systems: management practices and social mechanisms for building resilience*. New York: Cambridge.
- Bourdieu, Pierre. 1982. *Economia das Trocas Simbólicas*. São Paulo: Perspectiva.
- Castro, Fábio, and David McGrath. 2001. "O manejo comunitário de lagos na Amazônia." *Parcerias Estratégicas* 12: 112-26.
- Commons, John R. 2006. *Legal Foundations of Capitalism*. Clark, New Jersey: The Lawbook Exchange.
- Geertz, Clifford. 1997. *O saber local*. Petrópolis: Vozes.
- Habermas, Jürgen. 2003. *Direito e democracia: entre facticidade e validade*. Rio de Janeiro: Tempo Brasileiro.
- Hardin, Garrett. 1968. "The Tragedy of the Commons." *Science* 162(5364): 1243-8.
- Hass, Charlotte, and Elinor Ostrom. 2003. "Ideas , artifacts , and facilities : information as a common-pool resource." *Law and contemporary problems* 66: 111-45.
- O'dwyer, Eliane. 2005. "A construção da várzea como problema social na região do baixo Amazonas." In *Diversidade socioambiental nas várzeas dos rios Amazonas e Solimões*, edited by Débora Lima, 207-64. Manaus: Ibama/ProVárzea.
- Oliveira, Roberto C. 1996. "O trabalho do antropólogo: olhar ouvir e escrever." *Revista de Antropologia* 39(1): 255-73.
- Ostrom, Elinor. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. New York: Cambridge.
- Putnam, Robert. 1993. *Making Democracy Work*. Princeton,NJ : Princeton University Press

Putnam, Robert. 2000. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster.

Schlager, Edella, and Elinor Ostrom. 1992. "Property-rights regimes and natural resources: a conceptual analysis." *Land Economics* 68(3): 249-62.

Simmel, Georg. 1983. "A natureza sociológica do conflito." In *Georg Simmel*, edited by Evaristo Moraes Filho, 122-34. São Paulo: Ática.

Souza, Jessé. 2000. *A modernização seletiva*. Brasília: UNB.