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ARTICLE

# Social Reproduction as a methodological perspective for contextualized analysis of living and health conditions

## A Reprodução Social como perspectiva metodológica para análise contextualizada das condições de vida e de saúde

## La Reproducción Social como perspectiva metodológica para el análisis contextualizado de las condiciones de vida y salud

*Marcílio Sandro de Medeiros* [1]
*Lia Giraldo da Silva Augusto* [2]
*André Monteiro Costa* [2]
*Stefania Barca* [3]
*Solange Laurentino dos Santos* [4]
*Isabela Cristina de Miranda Gonçalves* [5]
*Flor Ernestina Martinez-Espinosa* [6]
*Diogo Ferreira da Rocha* [6]

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**Abstract**

*This article aims to discuss the use of Social Reproduction, proposed by Juan Samaja, in the analysis of living and health conditions in a context of an sustanaible development reserve in the Brazilian Amazon. This study uses a comprehensive approach to Social Reproduction processes that comprise the network of hierarchically organized structures using the analysis of social interactions of narrated and observable events, applied to the data matrix. The Ecological Reproduction of life in the riverside forest is negatively expressed in bio-communal life, as the strategic actions provided by the Political, Economic and Cultural Reproductions, that is, the environmental policy actions, do not value the local way of life. The deficient access to social goods and services, including health care, from the Political and Techno-Economic Reproductions, has an impact on the material basis of the Bio-Communal Reproduction, whose outcome is high frequency of disease complaints and workplace accidents, such as infectious gastroenteritis, malaria, tuberculosis, leprosy, and poisoning by venomous animals. Ensuring access to social goods and services, in particular health care, is essential for improving resilience to the forest adversities. In conclusion, the social reproduction data matrix helped understand the processes of Social Reproduction that are part of the hierarchically organized structures, whose interactions shaped the living and health conditions of the riverside population analyzed in this study.*

*Living Conditions; Diagnosis of Health Situation; Vulnerable Populations: Amazonian Ecosystem*

**Correspondence**
*M. S. Medeiros*
*Instituto Leônidas e Maria Deane, Fundação Oswaldo Cruz. Rua Teresina 476, Manaus, AM 69057-070, Brasil.*
*marcilio.medeiros@fiocruz.br*

*[1] Instituto Leônidas e Maria Deane, Fundação Oswaldo Cruz, Manaus, Brasil.*
*[2] Instituto Aggeu Magalhães, Fundação Oswaldo Cruz, Recife, Brasil.*
*[3] Facultad de Geografía e Historia, Universidade de Santiago de Compostela, Santiago de Compostela, España.*
*[4] Universidade Federal de Pernambuco, Recife, Brasil.*
*[5] Escola Superior de Ciências da Saúde, Universidade do Estado do Amazonas, Manaus, Brasil.*
*[6] Escola Nacional de Saúde Pública Sergio Arouca, Fundação Oswaldo Cruz, Rio de Janeiro, Brasil.*

## Introduction

Sustainable development reserve (UCs) constitute protected areas in accordance with *Law n. 9,985/2000* [1] of the Brazilian System of Protected Areas (SNUC), which aims to sustainably use their natural resources and ensure the conditions and means necessary to improve riverine populations' living conditions (whose way of life is primarily aimed at subsistence) based on the intensive use of family labor via technologies with low environmental impact derived from orally transmitted knowledge and, usually, sustainable basis [2].

The Mamirauá Sustainable Development Reserve (MSDR) is one of 71 conservation units in the state of Amazonas, Brazil (which make up the State Conservation Unit System – SEUC – promulgated by complementary *Law n. 53*, of June 5, 2007) and one of the 1,940 making up SNUC. Both policies include criteria and standards to create, recategorize, implement, and (especially) manage protected areas [3,4].

Becker [5] states that the meaning of UCs sustainable use policies in the Amazon changed as they became a strategy for forest peoples' survival and their maintenance, a common human heritage (especially forests, mega diversity, and water), constituting a vector of endogenous development, unlike other techno-industrial models.

However, the presence of populations within protected natural areas involves controversial, non-consensual issues among subjects who are neglected by municipal, state, and federal legislation [6,7].

We express the conclusions from a doctoral thesis, conducted from 2013 to 2018, which aimed to expand the knowledge about the interactions between living and health conditions of riveirine communities in UC areas co-managed by non-state institutions. The fragility of the healthcare and information systems in the Brazilian Amazon required that our methodology met the complexity of the socio-environmental reality of UCs. We adopted a theoretical perspective based on Juan Samaja's Social Reproduction since it includes interactive analyses at different hierarchical levels to assess life in its entirety.

## The conceptual basis of Social Reproduction integrated to health themes

Social Reproduction has been the object of wide debate in social theory. It has several definitions and theoretical-methodological aims. Classical Marxism designates it as the creation of social (including time and space) and "spiritual" (immaterial) works, including material production or manufacture (both part of historical development), which imply the reproduction of society itself [8].

Constructivist sociology, as per Pierre Bourdieu & Jean Claude Passeron's *La Reproduction. Éléments Pour une Théorie du Système d'Enseignement* (1970) [9], uses social category to interpret the power relations of educational institutions. Their theoretical proposal is based on the premise that, in capitalist societies, these relations always contain a dimension of symbolic violence, i.e., dominant groups impose an arbitrary set of cultural referents (knowledge, languages, norms, values, representations, etc.) to society as a whole, reinforcing their privileged position [10].

The notion of Social Reproduction, articulated by Ferguson's Canadian Marxist Feminism [11], aims to capture this contradictory nature (constituted by many layers of subjectivities and social positions) via a perspective which insists on the dynamic and complex character of the social, i.e., it proposes to take Social Reproduction beyond the narrow concern of gender, class, and economic relations.

Juan Samaja's Social Reproduction, applied to health, is one of the three theoretical perspectives in critical epidemiology of collective health which aim to assess its social, political, economic, cultural, and environmental processes by considering them as events which mediate health, a part of a network of hierarchically organized determinations [12,13].

Castellanos [14] claims that human Social Reproduction means meeting biological needs, their ecological, political, and economic relations – mediated by production and work –, and forms of consciousness and conduct. The historically determined circumstances of human groups' Social Reproduction (which they face throughout their lives) will take place as subordinates or winners [15] due to the interaction of members of different institutions and groups of a given society since it is human

beings and their relations which are reproduced, i.e., their conditions of existence or, as Possas [16] reconceptualizes, its living and health conditions.

Juan Samaja's application of Social Reproduction to health themes has a basis conceived from a historical-dialectical analysis of the function and logic of scientific research in its multiple dimensions and determinations, based on two references: Friedrich Hegel and Karl Marx's Historical-Dialectical Method in the 19th century and Jean Piaget's Psychogenesis and Charles Sanders Pierce's Semiotics in the 20th century, which Samaja called the Dialectical-Genetic Method [17,18].

He developed this method against mechanistic ones, which he deems as insufficient to assess sociocultural phenomena, including health issues, though they have completely new characteristics since, in addition to their physical-chemical processes and hereditary transmission of traits (typical of organic living systems), they show mechanisms to represent objective and subjective states via written language, other forms of symbolization, and beliefs which enabled the formation of the various types of sociability and culture [17,18].

Samaja conceived of its heuristic device as belonging to a procedural entity which functions recursively and can be represented as spirals. Herbert Simon's Architecture of Complexity and Hegel's *Aufhebung* constitute essential aspects to assess the proposition of data matrix systems and the interdependence of Samaja's Social Reproduction dimensions [19,20,21].

This interpretation subsumes physical-chemical phenomena into biological ones or sublate them by the biological, meaning that they have been overcome but are preserved since biological phenomena form new emergencies within the historical process of life. Following this hierarchy of complexity, we find that social phenomena will subsume biological phenomena, regulating and re-signifying them, rather than substituting them [21].

Figure 1 shows that culture, cosmology, politics, techno-economic processes, and public policies emerge in Social Reproduction as expressions of the State.

Thus, we can conceive research problems as complex adaptive systems whose hierarchical approximation enable us to decompose problems (complex system) into complex and smaller levels (complex subsystems) to assess the whole. We describe our choice of strata and anchorage unit since these depend on researchers. Each stratum has its own set of terms, concepts, and principles. It is essential to consider an autonomous system with objects and functionalities for each stratum [22].

Analyzing the behavior of a stratum/level/dimension will enable us to perceive how their respective systems interact to form upper strata, which leads us to recognize it not as less important (lower stratum) but essentially less complex than superior ones. Thus, complex social systems behave like totalities composed of subsystems. Its analysis fails to fragment the totality and denaturalize the problem or social reality [22].

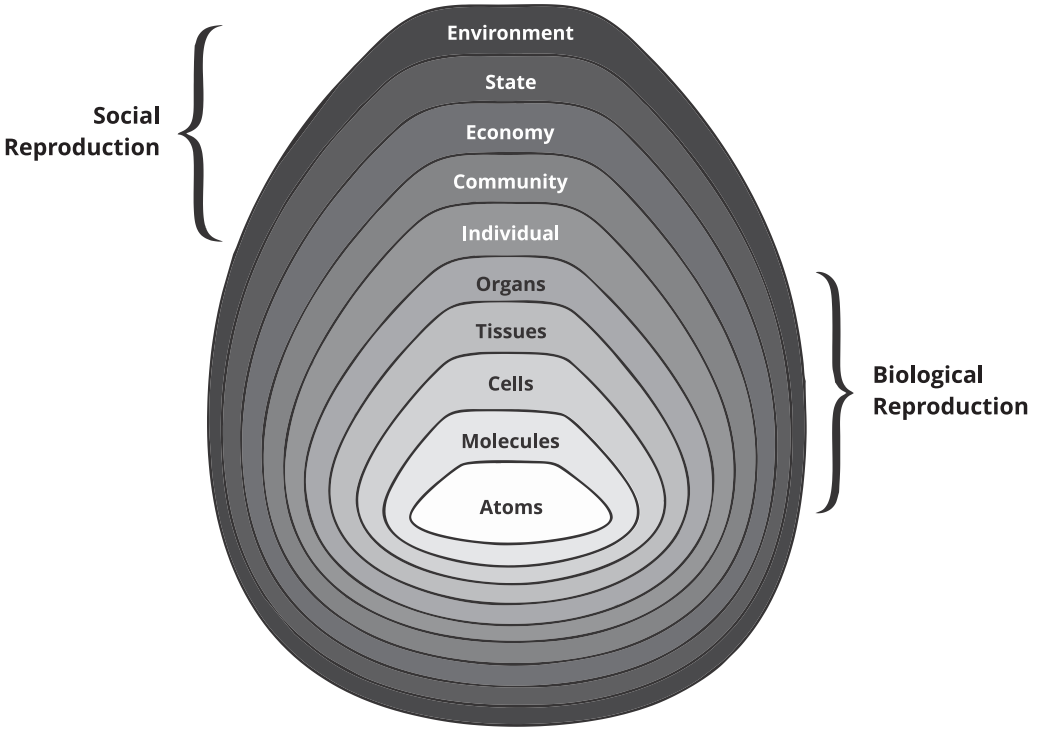
We stress that understanding the dialectics of human phenomena as relational or social totalities implies understanding the particular dialectics of the parties (the subjects) and of the whole as a complex unit [21,22,23].

From this perspective, we can understand how Social Reproduction and living conditions influence health. This theory attenuates biological and sociological reductionism, which formulates problems anchored only in one perspective [24]. Thus, the social nature of diseases is less visible in singular and isolated cases, becoming clearer only when we examine human collectives' way of getting sick, caring, and dying and consider the social dimension of the clinical approach [25].

Thus, human condition results from interactions between culture, language, values, norms, structure, and social organization, among other processes within a complex hierarchical system [21]. Dressler & Willis [26] corroborate this assertion by stating that the most important consequences of social interaction are socialization, via which individuals present and adopt standards and norms of behavior which their cultures deem appropriate.

**Figure 1**

The evolutionary process of configuring the human normative system and its respective Social Reproduction dimensions.




## Samaja's method to analyze the living and health conditions of communities

Analyzing the determination of health via Social Reproduction differs from classical epidemiology (which uses a causality model based on risk factors). The latter fails to respond to problems since their representations and related public policy interventions take place in populations, thus failing to consider their contextual differentiations, vulnerabilities, susceptibilities, and resulting effects [13,27].

Social Epidemiology applies Social Reproduction to analyze living and health conditions determined by production structures, occupation types, working circumstances, and consumption patterns. The form of insertion in the labor market, the capacity of claiming mobilization, choices "of what" and "how" to consume, and the vulnerabilities due to this process influenced social demand and healthcare models [12,16,28].

Therefore, Social Reproduction transcends the economic infrastructure. It crosses the entire social apparatus, which implies recognizing state actions to meet social demands, such as health, education, sanitation, nutrition, safety, and leisure [14,29].

Samaja [19,22] claims that this dialectical-genetic paradigm, applied especially to health, enables us to think about complexity by contextually differentiating organic (individual) and social relations without reducing one to another, such as, for example, the social to the individual. Samaja proposes a data matrix to understand more descriptively and efficiently each level comprising the totality of the studied phenomenon.

The matrixing of the observed elements is arranged horizontally and vertically, the former called "units of analysis" (which scientific anchoring represents, i.e., context, anchorage, and subtext), where-

as the latter, arranged vertically, is called "observation units" or "variables", representing the matrix by analysis categories or dimensions which relate to our theoretical objects [22,28].

In summary, variables are the attributes or subjects of observable interest within the unit of analysis, which have dimensions established based on theoretical criteria. Their dimensions are one of their partial aspects (or predicates) which are relatively independent of others and which, together, constitute the social totality [17,22,28].

## The methodological path of the comprehensive approach of Social Reproduction to analyze living and health conditions

Municipalities, the Uarini and Fonte Boa/Maraã areas in the MSDR, communities, and households were defined as units of context, anchorage, and subtext analysis in this study, respectively. MSDR covers the Alvarães, Fonte Boa, Japurá, Jutaí, Maraã, Tonantins, and Uarini municipalities, comprising the Triângulo and Upper Solimões health regions in Amazonas State, Brazil, which are only accessible by boat. They house about 11,000 people in 200 communities and 1,873 households [30].

Note that the MSDR is the only conservation unit with a research institute, the Mamirauá Institute for Sustainable Development (IDSM), linked to the Brazilian Ministry of Science, Technology and Innovation, motivating our research [30].

Data were collected from the following secondary sources: (i) a bibliographic review to identify the characteristics, facts, and historical events of the MSDR creation and management process; (ii) IDSM management reports to find the number and type of community interventions in the area; (iii) open interviews to review subjects' discursive representations of local health competencies and responsibilities; and (iv) observation of participants via local immersion to understand the riverine population's way of life. From these activities, data on the context and anchorage observations units were extracted. They refer to the support to communities from social forces within the Church and the organization of riverine populations, the State (environmental, science, technology, and health policies), and non-state public organizations since they are responsible for implementing environmental policies in these territories [30,31].

Primary and secondary quantitative data were collected, including sociodemographic, environmental, morbidity, and mortality ones from information systems; and a questionnaire with 64 questions on living and health conditions was used to characterize the observation, anchorage, and (especially) subtext context units. It was answered by 239 community members, our study subjects [30].

The total MSDR population and a 18.5% prevalence of individuals who sought health services and were rejected – as per the 2013 *Escuta Itinerante do SUS* (SUS Itinerant Listening) national survey, organized by the SUS General Ombudsman Office and the Brazilian National Confederation of Agricultural Workers [30,32] – were considered in our statistical sampling.

Our analysis plan was based on an array of data. All three units of analysis (subtext, anchorage, and context), variables (attributes of observable interest in the analysis unit), and their respective reproduction dimensions were considered to assess the dialectic of what social interaction they promote due to the interdependence of the parts and the whole. In our analysis, types of social interaction, grouped by Dressler & Willis' Sociology [26] as those which contribute to bringing social agents closer (cooperation, accommodation, and assimilation) or further apart (competition and conflict) were considered. An aspect of interest is to evaluate the nature of social change due to the interaction between riverine populations, protected areas, and health care systems in the Brazilian Amazon.

By adapting Samaja's original proposal (as other authors have), Ecological-Political Reproduction unfolded into two other dimensions (ecological and political) to highlight the phenomena of the social space of the Amazon ecosystem [28,30,33,34]:

(i) In Ecological Reproduction, the social space can express itself negatively in biocommunal life if action strategies provided by Political, Economic, and Cultural Reproductions fail to value the riverine way of life, constituting, in this example, social distancing.

(ii) The resulting healthcare social determination due to Political Reproduction is expressed in the care (or not) of social needs.

(iii) The social interaction derived from Techno-Economic Reproduction, whose outcome socially determines health, can express itself negatively in riverine populations' lives if the legal and institutional framework of exchange relations are unequal and unfair, harming those subjected to occupational or environmental risk, for example.
(iv) Self-awareness and Conduct Reproductions may mean the social assimilation of environmental policies if social assistance or health care are contextualized within the riverine cosmology, which was not the case.
(v) Living conditions express Biocommunal Reproduction since they portray individuals' material bases, in which access to social goods and services from Political and Techno-Economic Reproductions are essential for greater resilience to forest adversities, which will determine the form and frequency with which populations become ill, interfering in the daily activities necessary to reproduce their conditions as living social organisms.

Data were collected between August and September 2016, after consent obtained from environmental agencies and approval by the Ethics Research Committee of the Aggeu Magalhães Institute, Oswaldo Cruz Foundation (opinion n. 1,667,857).

## Results

The Amazonian ecosystem marks riverine Social Reproduction. Its flood dynamics and full, ebb, and dry season regulate communities' rhythm of life. Annually, from May to June, lowland lands are subject to flooding, such as that in 2015, upsetting social systems.

Aquatic fauna plays an important role in the Ecological Reproduction of floodplains and in other reproductions, whether in the dispersion of seeds, the basis of the population's food diet, source of income, community organization and trade unions around fishing, or as a symbol in the popular imagination.

The abundance of water resources hides the lack of drinking water during dry months, which riverine interviewees claim is their third greatest issue. Both the three government levels and the IDSM failed to solve the geographical, economic, organizational, and cultural barriers to health access which mark forest life. On the other hand, the floodplain-appropriate IDSM technologies to improve sanitation enabled a type of social assimilation of lowland ecology. However, these pilot projects served only 17 of 200 communities.

Thus, Ecological Reproduction expresses itself negatively in biocommunal life, characterizing social distancing due to political, economic, and Cultural Reproductions which neither protected individuals nor valued the riverine way of life, constituting, in this example, social distancing.

The UCs Political Reproduction emerges amidst an epistemic field of conservation biology within a framework which questions neoliberal state models and sustainable development.

The Amazon State policy manages the UCs via social organizations, of which the IDSM is the most important. Their strategies consist of a rich action and product portfolio, ranging from research, inspections, and infrastructure interventions to payment for environmental services. Still, the actions show discontinuity and almost always receive no support from municipalities.

Regarding municipalities meeting healthcare demands, for at least 12 months (between 2015 and 2016) community care has limited itself to the community health agent, whose evaluation varies between communities, rated worst at Fonte Boa/Maraã. The territory shows a departure from the social interactions within the policy, especially due to discontinuity and lack of dialogue between municipalities and the IDSM.

Riverine populations' Technological Reproduction is based on family work as a domestic production and consumption unit and on market articulation. Proportionally, riverine populations' income came, at the time of this study, from programs of income distribution and support for family agriculture, fishing, and environmental conservation (Brazilian Income Transfer Program – *Bolsa Família*, Forest Assistance Program – *Bolsa Floresta*, and Green Grant Program – *Bolsa Verde*), ranging from BRL 32.00 to BRL 372.00 for Brazilian Income Transfer Program and BRL 50.00 for Forest Assistance Program. These join intermittent yields resulting from the sale of Uarini flour and specially pirarucu fishing, the latter concentrated in September and October, during its open season and the restart of

marketing activities. Most people (60.6%) in Mamirauá claimed that rents generally stay below minimum wage (at the time = BRL 880.00). Regarding the three salaries of *Seguro Defeso* (a program to aid fishermen during close season), the riverine population claimed not having received them.

The IDSM induction toward diverse economic activities positively impacted the local economy, approximating techno-economy and politics. On the other hand, IDSM strategies have failed to produce a legal and institutional framework regarding unequal and unfair exchanges in the pirarucu trade, which shows great variation between values to fishermen and those for final consumers, which may be associated with over-exploitation and the increase in work accidents, whose coefficient averaged, in 2015, 403.9 in Uarini and 411.7 in Alvarães per 100,000 inhabitants, respectively, much higher than the national 84.16 per 100,000 one. Thus, we attest the distancing among IDSM Techno-Economic, Ecological, and Political Reproductions.

Regarding riverine populations' self-awareness and conduct reproduction, we found their low involvement in social control and community support, which the IDSM organized to solve everyday life problems or to demand better living and health conditions. We found that 87.9% fail to participate in social control and 69%, in courses or training, even in spaces which require attendance for the receipt of Brazilian Income Transfer Program and Forest Assistance Program. Those who show some interest in participating in social control or community support have great interest in religion (52.8%); community of the fishing manegement lake (51.8%); and soccer (56%).

Analyzing riverine populations' material basis showed what is sustainable within environmental policy actions for the reserve since they especially express themselves in biocommunal life. The precarious living and health conditions for the riverine population at Médio Solimões reflect their income and schooling, indicators which have the most negative impact on the local Human Development Index. Its value in 2010 ranged from 0.498 (Maraã) to 0.548 (Tonantins), lower than the Amazonas (0.674) and national (0.727) averages.

Regarding income, 60.6% of the community reported living on less than one minimum wage per month.

Precarious education means, for example, that only 30.5% of those over 18 years of age (who comprise half of the population) in Alvarães have elementary education, corroborating our anchorage findings, which found that 32.5% of subjects were illiterate, could only sign their name, or attended less than two years of school.

Improving riverine populations' material basis is essential for their greater resilience to forest adversities, which will determine how and how often they get sick. In the case of RDSM, high frequencies of diseases are recorded: (i) infectious gastroenteritis and other attention-sensitive hospitalizations, which account for more than a 1/3 of local hospital admissions, an incidence of 3.2/100,000 inhabitants (higher than the Amazonas average, around 1.3/100,000 inhabitants); (ii) of 28.9 new cases of tuberculosis in 2015 in Fonte Boa, and of 7/100,000 inhabitants in Uarini. The average recorded in Brazil, Amazonas, and Manaus in 2015 was, respectively: 39.9, 70.1, and 98.3/100,000 inhabitants; (iii) new cases of leprosy in 2015, hyperendemic in Fonte Boa (43.4/100,000 inhabitants) and average in Uarini (7/100,000 inhabitants).

Tefé is the only municipality in the region with a laboratory to diagnose tuberculosis and reference center for workers' health.

## Discussion

Samaja [22] claims that, according to historical-dialectical materialism, Social Reproduction regulates or determines Biological Reproduction. We find a hierarchy of organization in the history of life, from biological to social. Social Reproduction describes culture, cosmology, politics, techno-economic processes, and public policies as expressions of the State.

In this architecture of complexity, the social is a context of the biological since these dimensions have hierarchically determined ordered relations which are central to how living conditions produce biological processes as social ones. Reductionism, then, occurs when we formulate problems anchored only in one dimension or another [33].

We should refrain from thinking of riverine populations' way of life without analyzing their system of social representations since, as we have seen, Ecological Reproduction intrinsically depends on natural floodplain cycles, which will especially influence technological, self-awareness of conduct, and Biocommunal reproductions [17,22].

In neoliberalism, non-state organizations indirectly decentralizing the responsibility of providing public services also reached natural resources [35], which measured the Political Reproductions in our study since the social determination of health is expressed in the care of social demands.

Note that analyzing the management model of Amazon protection areas was the theme which most required research time since State policies operate via social organizations. The state manages the MSDR but, in practice, non-state public organizations (IDSM and, more recently, the Sustainable Amazon Foundation) implement action strategies.

Calegare [36] found the use of ethnicity to ensure access to health and education services in two Amazonas UCs, a situation resembling that in São Francisco de Aiucá, a community in Uarini.

In socio-environmentalists' discourse, environmental policies are unaccountable for the health of the population. On the other hand, they admit that the problem is unclear in the work agenda of the environmental institutions in which they work in Mamirauá [31].

Riverine populations' highest productive yields derive from trading pirarucu, which the Prelazia de Tefé initially implemented in the 1980s as a way to curb predatory fish trade, a practice which caused its scarcity as food for the local population; at the time, one of the main arguments for creating the proposal for the UCs sustainable typology [37].

In Amazonas State, pirarucu production jumped from 60 tons in 2002 (when its management began) to 1,797 tons in 2015. MSDR production comprises 32.4% of the total, thus placing it as the largest sustainable producer of the product in Brazil. However, we find several trade disputes and conflicts with "bosses" and with lake surveillance involving associated professional fishermen and invading fishermen. These have become a police report at the Fonte Boa police station, which refuses to investigate the issue since it claims it is a problem of federal judicial agencies or the Environmental Military Police (the latter fails to employ workers in the region [17,18]).

The riverine populations' low involvement in social control and organized community support, especially in IDSM health courses, workshops, training, and lectures, should assume the need for more solidary and horizontal strategies.

This situation may indicate that subjects fail to perceive themselves as protagonists of their Social Reproduction. Another hypothesis relates to low schooling since 42% of individuals either are unable to read, only sign their names or have attend less than two years of school.

Valla [38] finds their preference for religious affairs and soccer as popular classes simultaneously seeking solidarity, the comfort of social support, and relief from their sufferings.

Our analysis of family income, years of studies, and home access to bathrooms, piped water, energy, and communication indicators showed the social, political, economic, and cultural processes arising from state or social groups actions in the MSDR. These have impacted the material basis of riverine populations' biocommunal life, i.e., how and how often they fall ill, which would enable them to reproduce their conditions (as social living organisms) necessary for human existence.

The interviewed riverine populations failed to report their precarious health conditions and naturalized endemics (such as malaria), which show from medium to high annual parasite indices (average: 10.0 to 49.9; and high: greater than or equal to 50.0). Among the seven municipalities making up the MSDR, the Amazonas State Malaria Control Program only excludes Japurá and Tonantins. The other municipalities, Alvarães, Fonte Boa, Maraã, Jutaí, and Uarini join the other 46 priority cities of the Program [39].

In general, serious health problems, such as those related to maternal and child health, are solved on a case-by-case basis, which can be expedited by patronage or political indication [40].

Our findings corroborate data from the Amazon Court of Auditors, which evaluated the Amazonas State Conservation Unit System. The report states that other social policies have failed to follow environmental protection, negatively contributing to local populations' low quality of life [3].

## Conclusion

Our use of Juan Samaja's data matrix evaluated the Social Reproduction processes which integrate the hierarchically organized network of determination, whose interactions shape living and health conditions. Analyzing such Political and Techno-Economic Reproductions enabled us to reflect on what is sustainable in environmental policy actions organized for the MSDR since they express suffering, illness and death most acutely in "biocommunal" life.

Thus, ensuring access to social goods and services (especially health) and respecting the local way of life is essential for riverine populations' greater resilience to forest adversities.

## Contributors

M. S. Medeiros conceived the study design, performed the research, analyzed data, and drafted this article. L. G. S. Augusto, A. M. Costa, and S. L. Santos collaborated in designing this research, analyzing its data, and drafting this article. S. Barca collaborated in designing this research, analyzing socio-environmental conflicts and those of natural resources use, and drafting this article. I. C. M. Gonçalves and F. E. Santos collaborated in designing this research, analyzing its data, and drafting this article. D. F. Rocha collaborated in designing this research, analyzing socio-environmental conflicts and those of natural resources use, and drafting this article. All authors approved this final manuscript for publication.

## Additional informations

ORCID: Marcílio Sandro de Medeiros (0000-0002-7116-6097); Lia Giraldo da Silva Augusto (0000-0002-2771-7592); André Monteiro Costa (0000-0001-6043-129X); Stefania Barca (0000-0002-8136-3369); Solange Laurentino dos Santos (0000-0002-6405-3959); Isabela Cristina de Miranda Gonçalves (0000-0002-3868-6226); Flor Ernestina Martinez-Espinosa (0000-0002-0325-3674); Diogo Ferreira da Rocha (0000-0002-7909-2125).

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## Resumo

*Este artigo objetiva discutir o uso da categoria Reprodução Social, proposta por Juan Samaja, na análise sobre condições de vida e de saúde em um contexto de uma unidade de conservação ambiental da Amazônia brasileira. Trata-se de um estudo de abordagem compreensiva sobre os processos da Reprodução Social que integram a rede de determinação hierarquicamente organizada por meio da análise de interações sociais dos acontecimentos narrados e observáveis, aplicados a matriz de dados. A Reprodução Ecológica da vida na floresta dos ribeirinhos é expressa negativamente na vida biocomunal, pois as estratégias de ação propiciadas pelas Reproduções Política, Econômica e Cultural, ou seja, as ações da política ambiental, não valorizam o modo de vida local. O deficitário acesso aos bens e serviços sociais, incluindo a atenção à saúde, provenientes das Reproduções Política e Tecnoeconômica, repercutem na base material da Reprodução Biocomunal, cujo desfecho são elevadas frequências de queixas de doença e de acidentes de trabalho, como gastroenterites infecciosas, malária, tuberculose, hanseníase e intoxicação por animais peçonhentos. Garantir o acesso aos bens e serviços sociais, em especial à saúde, são imprescindíveis para uma maior resiliência às adversidades da floresta. Conclui-se, então, que a matriz de dados da Reprodução Social possibilitou compreender os processos da reprodução social que integram a rede de determinação hierarquicamente organizada, cujas interações modelaram as condições de vida e de saúde dos ribeirinhos.*


*Condições de Vida; Diagnóstico da Situação de Saúde; Populações Vulneráveis; Ecossistema Amazônico*


## Resumen

*Este artículo tiene como objetivo discutir el uso de la categoría Reproducción Social, propuesta por Juan Samaja, en el análisis sobre condiciones de vida y de salud en un contexto de una unidad de conservación ambiental de la Amazonía brasileña. Se trata de un estudio de enfoque integral sobre los procesos de la reproducción social que integran la red de determinación jerárquicamente organizada por medio del análisis de interacciones sociales de los acontecimientos narrados y observables, aplicados a la matriz de datos. La Reproducción Ecológica de la vida en los bosques ribereños es expresada negativamente en la vida biocomunal, pues las estrategias de acción propiciadas por las Reproducciones Política, Económica y Cultural, es decir, las acciones de la política ambiental, no valoran el modo de vida local. El deficiente acceso a los bienes y servicios sociales, incluida la atención a la salud, procedentes de las Reproducciones Política y Tecnoeconómica, repercuten en la base material de la Reproducción Biocomunal, cuyo desenlace son elevadas frecuencias de quejas de enfermedad y de accidentes de trabajo, como gastroenteritis infecciosas, malaria, tuberculosis, lepra e intoxicación por animales venenosos. Garantizar el acceso a los bienes y servicios sociales, especialmente la atención a la salud, es esencial para una mayor resistencia a las adversidades del bosque. Se concluye, entonces, que la matriz de datos de la Reproducción Social permitió comprender los procesos de la reproducción social que integran la red de determinación jerárquicamente organizada, cuyas interacciones modelaron las condiciones de vida y salud de los ribereños.*


*Condiciones de Vida; Diagnósticos de la Situación de Salud; Poblaciones Vulnerables; Ecosistema Amazónico*

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