Ciência & Saúde Coletiva
cienciaesaudecoletiva.com.br
ISSN 1413-8123. v.30, n.1
DOI: 10.1590/1413-81232025301.19462022EN

"Water" Populations: Environment-Health, from the Social Determination and Health Policy perspective, in the Baixo Amazonas Region-PA

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Abstract *The relationship between the environment and health has become a relevant topic on the public policy agenda since the 1990s. This study seeks to describe this relationship from the perspective of the National Policy for Comprehensive Health of Populations of the Countryside, Forest, and Waters in the community of São Pedro, in the Lower Amazon region of Pará. This is a descriptive study focused on conducting diagnoses that consider the environment-health relationship in the Community. A participatory Rural Diagnosis was used to construct conceptual maps and conversation circles. According to the results, issues, such as excess trash, shortage of medicines and deficiencies in basic education are some key conditions that can make the community vulnerable. Furthermore, it is clear that the health policy, despite being important, still faces challenges for its full implementation in regions where there is a strong presence of this group.*

Key words *Public Policies, Environment, Health, Rural Population*

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Introduction

The Amazon region has historically been marked by a colonization process, represented by a sequence of genocide and epistemicide for many indigenous peoples. Much knowledge and different ways of life have been made invisible and diminished by the Eurocentric logic imposed as a single thought and history[1]. However, the Amazon region is characterized by its great diversity of people, languages, and ways of relating to its territory. The process of formation and organization of these people is an essential condition for the formulation of specific policies[2] that value this diversity and the knowledge present in their practices and ways of existence. Among the different peoples of the forest, also called traditional peoples, are the riverside populations, who live according to their relationship with nature, especially with the dynamics of water, which changes cyclically from flood to ebb to drought and back to flood[2].

In the 21st century, the Amazon region has experienced extreme situations of floods and droughts as a result of climate change. Riverside populations live in accordance with the hydrological cycle, and in situations of extreme drought, their lives are drastically affected. This happens because communities are isolated, without the possibility of accessing health and education services, in addition to being unable to obtain their food. In this sense, the territory has historical, environmental, and social marks that bring challenges to equity among public policies[3].

The relationship between environment and health has become a relevant topic on the agenda of public policies and collective health since the 1990s. Until the mid-1980s, the planning of public health policies in Brazil was geared toward inhabitants of urban areas. From the end of the 1980s, inhabitants of rural areas began to gain visibility in debates on public policies. These areas are no longer seen as backward and outdated spaces. It was in this context that health policies began to be developed to encompass rural spaces[4].

In the second and third decades of the 20th century, the health movement organized a specific health care service for rural populations in Brazil, known as the Rural Sanitation and Prophylaxis Service. The Special Public Health Service (*Serviço Especial Saúde Pública* - SESP), created during the Second World War, was responsible for health services aimed at the population of the Amazon region. SESP structured several services and hospitals in the region, hiring professionals to work in the countryside of the states and in the most remote regions of the Amazons[4].

The 8th National Health Conference, held in 1986, was a milestone in this context, as it established an arena for political and social struggles for the right to health as a right of citizenship and a duty of the State. Two years later, the Federal Constitution (FC) of 1988, in Article 196, defined that health is a right for everyone and a duty of the State. Over the past 15 years, the Ministry of Health has implemented Health Equity Promotion Policies, as is the case of the National Policy for Comprehensive Health of Rural, Forest, and Water Populations (*Política Nacional da Saúde Integral das Populações do Campo, Floresta e das Águas* - PNSIPCFA)[3], implemented with the purpose of reducing inequities through access to health actions and services.

The present study aims to describe the environment-health relationship from the perspective of the National Policy for Comprehensive Health of Populations of the Countryside, Forest, and Waters in the community of São Pedro, Lower Amazonas region, Pará, Brazil. This is a descriptive study with the purpose of conducting health diagnoses in the community of São Pedro, located in the Tapajós-Arapiuns Extractive Reserve (*Reserva Extrativista* - RESEX), municipality of Santarém, State of Pará, Brazil (Figure 1). The field visit was carried out between December 2019 and August 2021 in order to build a therapeutic bond in the field[5].

This study was based on the concept of health in the broadest sense indicated by the World Health Organization (WHO). The conceptual model used for the analyses is based on Law 8,080/1990, Art. 3, which presents the health determinants, in addition to access and ownership of land and access to health services as necessary conditions to guarantee health[3]. The information was obtained through conversations with community leaders and health workers to understand the social dynamics experienced by them. The observation process was carried out by researchers from the Federal University of Western Pará and by undergraduate students duly qualified to conduct this methodological approach.

Participatory Rural Diagnosis was adopted based on the construction of conceptual maps of the environmental and social dimensions. Conceptual maps are constructions based on the place of life, as seen by residents[6]. The meet-

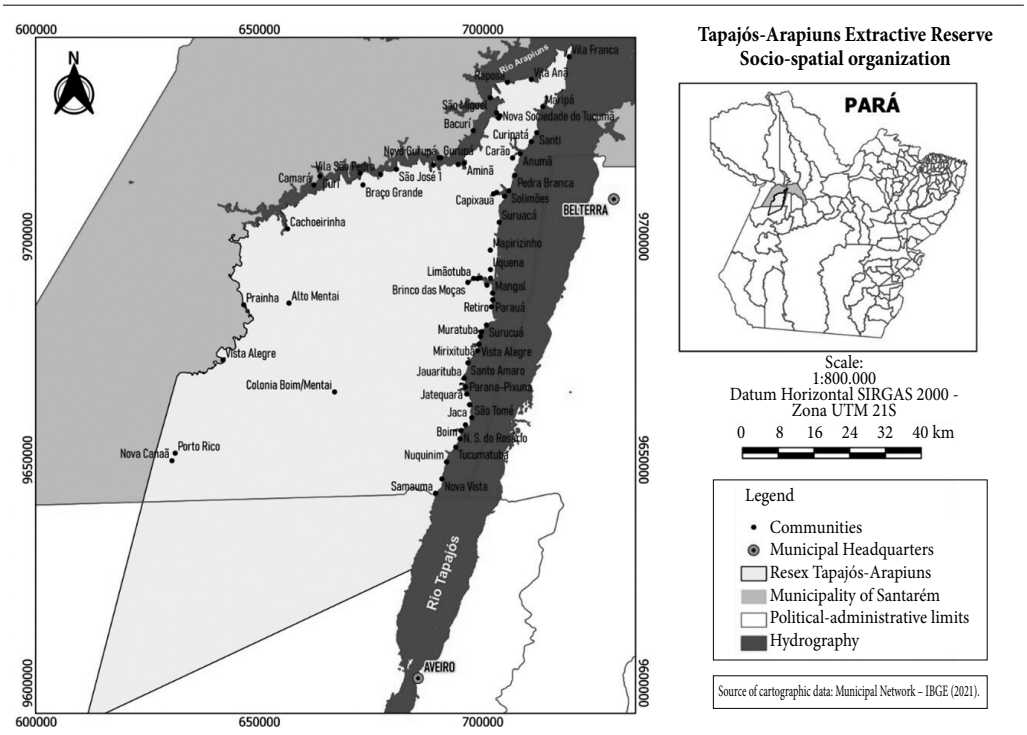

Figure 1. Tapajós-Arapiuns Extractive Reserve, municipality of Santarém-PA.

Source: Created by Izaura Nunes, 2022.

ing with community actors made it possible to raise singularities and problem issues, as well as observe their possible causes[7]. The analysis took place in a critical and reflective manner[8], respecting the ethical criteria contained in Resolution 466/2012, including freedom, autonomy of communities, and preservation of the image of the lived environment.

Environment-health and the social determination of health in the territory of riverside populations

Socio-environmental transformations resulting from human actions became more evident from the 19th century onwards, given the advancement of capitalism in the industrial production phase. In this way, social inequalities in health began to be documented. During this period, there were significant limitations on access to health services, which decreased after the 1988 FC, due to Article 196, as well as universal and equal access to basic health promotion actions and services[9].

The WHO's concept of health was criticized by Porto[10], who highlighted this definition based on the idea of well-being by portraying a utopian and unattainable vision of health. On the other hand, he conceptualized health as "[...] processes and conditions that provide human beings with their various levels of existence and organization to achieve virtuous cycles of life [..]"[10] (p.94). This concept was strengthened by Carvalho and Buss[11], as they argued that health can be understood as a product of ideal living and working conditions, as well as an adequate standard of food, nutrition, housing, and sanitation. These concepts point to the effects of environmental transformations, and are related to Social Determinants of Health (SDH), which are relevant for a proper understanding of the inequities observed in society. Furthermore, SDH include factors of racial, social, economic, behavioral, or psychological origin that directly influence a population's level of access to health[11].

Access can be understood here as "the opportunity to use services in circumstances that enable their appropriate use by the population [...]"[12] (p.266), including riverside populations. The rate of disease in the riverside regions results from the use of unhealthy water, without

adequate treatment, coupled with precarious access to essential health services, which influences the low quality of living conditions[13]. This scenario worsens when 44.4% of the population of the studied municipality[13] does not have access to water, which differs from the national average (15.8%). When considering the absence of sewage collection, this number reaches 95.9%, a very high percentage when compared to the rest of the country (44%). Access to water and basic sanitation are the biggest health conditions for populations living in rural, forest, and water areas[14].

Health inequities commonly persist, especially in populations living in vulnerable situations, such as those who live in rural, forest, and water regions. Therefore, this indicator is a warning[14] about the need to think about strategies to reduce inequities and promote universal access to basic health services. The discussion around SDH in the Brazilian Amazon has been the subject of debate in seminars organized by the Territorial Health Governance and Development Project (*Projeto Desenvolvimento e Governança Territorial da Saúde* - DGTS), which was conceived based on a territorial approach applied to SDH. The seminars took place between 2017 and 2019, with the aim of promoting dialogue about the effects of SDH in territories and governance concerning management spaces and the population's life, among leaders, leaders of social movements, health managers, and researchers[14].

In 2016, the I Forum on SDH in the Baixo Amazonas region took place in the city of Santarém, PA, with the participation of representatives of social movements, as well as workers, managers, counselors, students and teachers in the field of health, farmers, indigenous people, *quilombola* residents, riverside populations, extractivists and squatters, and agrarian reform settlers.

The dialogue presented at the I Forum on SDH in the Lower Amazon region addressed the main conditions that affect the health of the population, such as the conditions of access to education and insufficient housing and basic sanitation policies for the region. Thus, a document entitled "Letter of Santarém" was prepared on issues that impact the health of the population of Western Pará, more specifically, on the precarious access to health actions and services, as well as the lack of medicines and working conditions of healthcare professionals. The letter states that "these are factors that mainly affect populations that are already historically marginalized", such as riverside populations in the region.

As in other communities in RESEX Tapajós-Arapiuns, the community of São Pedro is marked by the predominance of social relationships characterized as conditions that influence human health. This understanding becomes relevant for the health field[15], for the formulation and implementation of promotion policies, as well as for health prevention, according to the reality of the territories. The dynamics of the territory at the environment-health interface was also observed and showed how environmental processes affect health and transcend the geographic limits of the territory, in addition to being related to social and economic factors.

Despite the contributions of the category of social determinants of health to the analysis of territories and their governance, it has received criticism, as it does not consider deeper issues of power and social structure, thus limiting itself to looking at superficial variables, such as access to health foods or health services[16]. Thus, a critical approach that considers the social determination of health and the elements of social injustice, coloniality, and inequality may be more appropriate to discuss the systemic roots of the problems of health and well-being. It is not our interest in this text to explore conceptual differences, as we will use elements from different approaches, determinants, and social determination, without losing sight of the processes of coloniality present in Amazon territories[1].

Finally, the territory of the "water" populations, like other populations in the Amazon region, is made up of specific and unique social dynamics. Taking into account the physical and social characteristics of local dynamics is crucial when contemplating health policies. Therefore, the concept of territory is not only intended for geographic or political factors but it is also an ally in understanding the health dynamics in the Amazon region. The territory is also the necessary support for health practices and actions in rural areas. As stated by Gondim *et al.*[15], it is a step towards establishing the relationship between local health services and populations.

However, it is worth remembering that in the Legal Amazon, knowledge about the population's way of life and their health situation remains low[17]. This scenario is worrisome discussing the Amazon region. The research experience, carried out in the municipality of Itacoatiara, state of Amazonas, brings to mind the impacts of environmental transformations on the the daily lives of women and other Am-

azonian subjects, in addition to their implications for the worsening of the health of these populations[18]. Understanding this context can contribute to a better understanding of the Amazon territory, which is in constant transformation, albeit slowly, in a universe of paradoxes, in which both the rural and the urban are intertwined[17]. Giving visibility to the transformations that continue to occur[17] in cities and their developments[17] in micro spaces, such as rural communities, is imperative.

The effects of socio-environmental and economic transformations are related to the social determination of health and become relevant for a better understanding of the inequities that impact the quality of life of Amazonians.

Health policy for populations in the "water" region

The health of the Brazilian riverside population has always been seen as a challenge for the Ministry of Health, as they are in a situation of social vulnerability and require policies aimed at improving their livelihoods[4], in addition to health care in general. The federal government implemented the PNSIPCFA[4] in 2011, with a commitment to promoting equity in and access to health without prejudice or privileges[19]. This policy has objectives and guidelines focused on the implementation of health services and actions aimed at improving the quality of life of the populations examined in this study[4].

The National Primary Care Policy addresses the specificities of the Amazon and Pantanal regions through river family health teams (*Equipes de Saúde da Família Fluvial* - ESFF) and riverside family health teams (*Saúde da Família Ribeirinha* - ESFR) to carry out actions aimed at these populations[20]. In addition, it implemented the Basic River Health Unit (*Unidade Básica de Saúde Fluvial* - UBSF), which has an analysis laboratory, pharmacy, offices, waiting and meeting rooms, vaccination rooms, and cabins for the health team. These devices have made it possible to include riverside populations in health policies and with continuous and permanent care provided in spaces called liquid territory[21,22].

The PNSIPCFA is a milestone in the history of Brazilian health, as it was one of the first steps toward guaranteeing the right of access to health through the Unified Health System (SUS)[4] for the groups studied here. SUS offers health services or actions to ensure access to health in a universal, comprehensive, and free manner. It is important to highlight that the so-called field, forest, and water populations are made up of groups of distinct and diverse individuals. They represent people who live in the fields, forests, *quilombolas*, and indigenous communities and who have their own ways of life, as well as a close relationship with the place in which they live. Populations "of the waters" or of the so-called riverside communities, in turn, are characterized by residing close to the banks of rivers.

The way of life of these populations requires one to contemplate actions that promote health and quality of life based mainly on specificities of gender, race, and sexual orientation, as well as the singularities of these places, as recommended in the PNSIPCFA. In this way, it is feasible to provide care to populations in remote communities.

In summary, PNSIPCFA deals with the care and maintenance of the environment as an essential condition for a sustainable environment, with an emphasis on care for water resources. Authors[23] warn that an unhealthy environment becomes conducive to the proliferation of diseases and can affect human health. More vulnerable subjects are directly impacted in regions where the environmental area is drastically altered, whether through social or economic processes. Promoting health actions for these subjects can enable a better quality of life for these individuals.

Socioeconomic inequalities, aggravated by the lack of sanitation and basic health services, are prevalent factors in many rural areas of the Amazons, and this corroborates the vulnerability scenario. The riverside population in the community of São Pedro live with conflicting issues that affect the teaching-learning process, the environment, and access to health services.

Riverside territory in RESEX Tapajós-Arapiuns

The São Pedro community is one of 75 communities located in the Lower Amazonas mesoregion, Southwest of Pará, in the RESEX Tapajós-Arapiuns area, on the banks of the Arapiuns River, in the municipality of Santarém, state of Pará. This area is characterized by a sustainable use of resources and was created by the National System of Nature Conservation Units (*Sistema Nacional das Unidades de Conservação da Natureza* - SNUC), according to Law 9,985, which defines this as: "[...] area used by traditional extractivist populations, whose subsistence is based on extractivism and, completely, in subsistence agriculture [...]"[24] (p.5).

According to records from the local Basic Health Unit (BHU), until 2019, 626 people, distributed into 138 families, who lived in the São Pedro community. During this period, around 72 families were beneficiaries of the Bolsa Família program and 66 families received pensions. Most families in the São Pedro community have areas called "colonies" – an area for planting long-cycle crops, with another part destined for seasonal crops. Hunting and fishing are used for subsistence, as is plant extraction. Electricity is generated by power motor, for R$ 40.00/month per residence. The energy usage guarantee extends from 6pm to 10pm, except in homes that have their own energy generators.

The environment-health relationship experienced by community subjects is permeated by concerns and unease, related mainly to the way waste should be treated; the lack of teachers to teach classes at certain times of the year; and the need to improve school transport, mainly during the river's flood period – between the months of March and August.

The expression of feelings, desires, personal and collective desires, and especially the perception of the environment lived during the elaboration of conceptual maps on the environment-health relationship was observed. Regarding this aspect, scientific literature[25] highlights the importance of understanding the way in which each individual perceives and acts in relation to environmental issues, the interrelationships between the environment and the individual, as well as their satisfactions, expectations, and desires.

Residents of the São Pedro Community are aware of the importance of the environment and the need to acquire knowledge to protect and care for their place[25]. This process resulted in the creation of conceptual maps that record their knowledge and perceptions about the territory and the environment. This process meant that by sharing their knowledge they are, at the same time, developing ideas about their place and enabling transformations in the lived territory. The approach, therefore, is a tool for intervention and transformation on the place, based on the transformation of the look and perception of the space. Thus, every way of perceiving involves knowing, relating, and acting.

The way reality is perceived is directly linked to cultural transformations, changes, and identified needs. Subjects in the São Pedro community perceive the environment as a fundamental element for collective balance and well-being. This experience was translated into maps, which were constructed with the participation of the community collective, based on methodological guidelines.

The community map (A), in Figure 2, describes the houses in color; the brown color represents houses made of brick, and the yellow color represents straw houses and cultural and leisure spaces, such as the "*Folclódromo*". In this area, garbage is disposed of incorrectly. When it rains, this garbage runs down river or penetrates the ground, which causes accidents. In the recent past, community members, in partnership with the public sector, carried out selective actions to collect garbage. After the end of the project, this practice was ceased. Currently, the lack of adequate waste treatment is an SDH, with significant preponderance.

As it is located in a RESEX area, the community finds it difficult to treat domestic waste. Waste was being disposed of improperly, generally in the open, given the low level of information on the final destination of waste. This problem is common in rural areas due to the lack of garbage collection; it can also cause harm to health through the contamination of water, soil, and air.

The social map (B) describes the physical structure of the community. There is a limitation on the use of energy, which is supplied by a community generator, which runs on diesel oil, between 6:00 pm and 10:00 pm. The generator works at other times to serve the telecenter and *Rádio Floresta*. In addition to a public school with primary and secondary education, the community has an indigenous library, sports court and five sports clubs, evangelical and Catholic churches, and a BHU.

The health services structure includes a BHU; its team of professionals includes a nurse, a nursing technician, and seven Community Health Agents (CHA), who serve the populations of 14 communities – the São Pedro community serves as a hub for health services. The BHU has a nursing room, a pharmacy with essential medication, a meeting room, essential materials for the nursing service, and materials for treating serious accidents or emergencies.

Most medical care is provided when the River Family Health Units (*Saúde da Família Fluviais* - USFF) complement the River Family Health Teams in health care. We can mention the Basic River Health Units (*Unidades Básica de Saúde Fluvial* - UBSFF), such as, for example, the ABARÉ hospital boat, which travels the Tapajós rivers, and the Airton Barros boat, which travels the Arapiuns river. Health care in

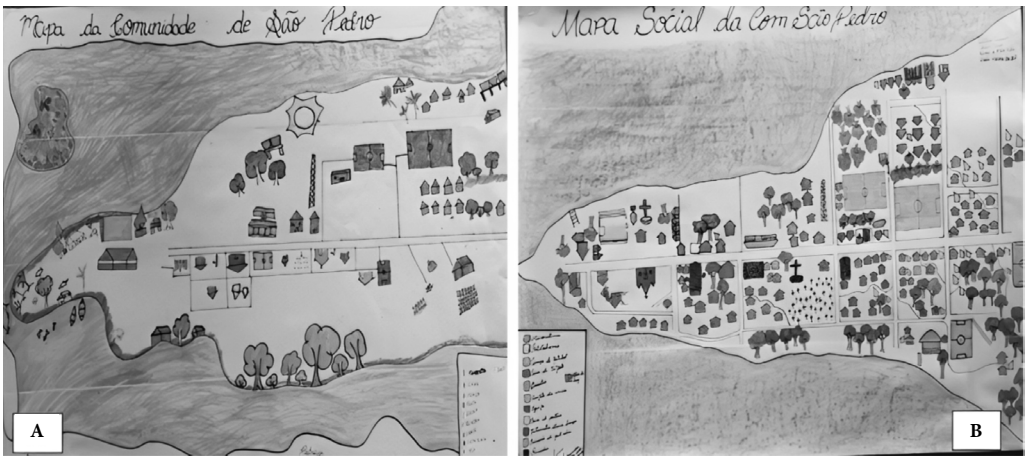

Figure 2. Photographic representation of conceptual maps of the São Pedro community, Santarém-PA.

Source: PEEX Environment-Health collection – March/2020.

the community was expanded with the arrival of the Telemedicine Pilot Project, which lasted 90 days, in 2021. Medical care took place via videoconference in communities with internet access. The São Pedro community, as a hub for health services, received residents from several surrounding communities. The expansion of access to medical care services with different specialties has reduced the difficulty of access to doctors in communities. The initiative also contributed to training professionals and implementing technological equipment, in order to reduce waiting times for appointments, which were scheduled by ACS, who mediated communication between community members and doctors.

Medical care for patients was related to the following clinical conditions: COVID-19 and flu-like syndromes, snakebites, at-risk pregnancy and prenatal care, care for chronically ill patients with diabetes, care for chronically ill patients with hypertension, care protocols for diabetes, care protocols for hypertension, and the monitoring of high-risk pregnant women. Even with these possibilities for medical and health services, the BHU still faces limitations, mainly shortages of essential medicines.

Finally, the territorial diagnosis presented here does not mean the absence of the State. Much to the contrary, the presence of the State is expressed through the provision of education, health, and environmental education services, which is an essential reality for the maintenance of the São Pedro Community.

Social determinants of health and PNSIPCFA in the pre-pandemic and pandemic contexts

The biggest health conditions that affect the collective well-being of rural populations, forests, and water in the context of PNSIPCFA are related to access to health, education, and basic sanitation[4]. The environment-health relationship in the São Pedro community highlighted problems that interfere with community well-being, such as:

a) Shortage of medicines, supplies, and dressing materials at the BHU. This represents challenges to improve the management planning process for these inputs;

b) Electricity is supplied from 6:00pm to 10:00pm, which makes the use of nebulizers outside these hours unfeasible. This determinant interferes with access to essential public services and points to a failure in the supply of free electricity;

c) Adequate school transport and the use of life jackets by students during river floods, mainly by students who live in communities in the outskirts of the São Pedro community;

d) Absence of teachers to teach classes in the community, a fact that affects the teaching and learning process of community members. Students finish the third year of high school without being able to complete the course due to outstanding subjects in previous periods;

e) School meals are the responsibility of Santarém City Hall, but they do not always reach

the community in due time. This issue requires school management to reduce class times, as many students depend on this food.

f) Improper disposal of waste is perceived as a requisite that needs to be addressed due to its consequences, such as accidents and the contamination of soil and water.

g) Dialogues on the care and prevention of Sexually Transmitted Infections (STIs) and on the effects of drug use highlight the need to expand the School Health Program (SHP), under decree No. 6,286/2007[26]. This decree was created to contribute to the basic training of public-school students through actions focused on health promotion, prevention, and care for children and adolescents.

In fact, the health of the riverside population is directly influenced by the environmental conditions of the territory. In the same sense, Carvalho and Buss[19] point out that living, working, food, education, and environmental conditions are conditioning factors in the population's health-disease relationship. Therefore, these determinants identified in the community worsen the health of the community. To clarify this issue, Chart 1 shows the relationship between objectives formulated by the CNSDH and problems related to the SDH.

According to Chart 1, the first objective of the CNSDH is health equity, that is, access to health for all, as already explained. Difficulties in obtaining medical care in the São Pedro community were alleviated by the USF, which serves community members, generally every two months, without regularity. The Telemedicine Project (pilot project) has stopped operating and is awaiting new partnerships to return to activity. Therefore, health equity in the studied community is under alert[19]; in other words, it is necessary to think about strategies to reduce inequities through regular access to essential health services.

Specificities of the riverside territory, based on its logistics and geography, impose many challenges that can be addressed through planning strategies and proactive health management. The case of the reduced quantity of basic medicines dispensed to the BHU, which do not meet the need for 30 days of activity (when the stock is replenished) is one of the challenges reported by health workers. This is a question of municipal management and team planning, linked to the characteristics of the population and territory.

The second objective, according to Chart 1, refers to the generation of iniquities. These factors were observed in the community due to problems related to education, transportation, and the shortage of medicines at the BHU. The last objective refers to intersectorality between government sectors; the community showed a certain discontinuity or instability in relations between community leaders and municipal bodies and services, as observed in the Telemedicine Project (USF), as well as in the permanence of doctors in the community.

Chart 2 presents PNSIPCFA axes and indications of actions corresponding to each axis identified in the São Pedro community. The first axis of the table corresponds to guaranteeing access to health services through intersectoral actions. The creation of an intersectoral program connecting education, health, and environment in schools was highlighted as a recommended action. The union of these dimensions represents one of the pillars for balance in the environment-health relationship.

The last axis deals with monitoring and evaluating access to health; it highlights the creation of a monitoring and evaluation program

Chart 1. Parallel between CNSDH and SDH objectives identified in the São Pedro community (CSP), Santarém-PA.

CNSDH objectives	SDH identified in the CSP
1. *Equity* - ensuring universal access to healthcare	Difficulties in accessing medical care, lack of essential medicines.
2. *Evidence* - how SDH operate to generate health inequities; where interventions to combat them should focus on what results can be expected in terms of their effectiveness and efficiency	Insufficient quantity of medicines; need to plan the provision of school meals and transportation with life jackets.
3. *Joint action* between different government sectors that must achieve the desired results	Need to expand intersectoral actions with community leaders, to increase services such as telemedicine and USF.

Source: Authors, 2021.

Chart 2. The PNSIPCFA axes and indications for actions.

PNSIPCFA	
Axes	**Action Indications**
Guarantee access to quality health services, through intersectoral strategic actions.	Intersectoral program between health and environment in schools.
Monitor and evaluate access to health actions and services.	Creation of a system with qualified professionals to monitor and evaluate access to health, through implemented actions – managers.

Source: Authors, 2021.

for access to health services. This could be implemented in the São Pedro community if there were collective planning that involved several actors. In the absence of this planning, no indicators were identified to monitor and evaluate actions aimed at improving these populations' access to health. Questioning managers about actions to improve access to healthcare for riverside communities seems to be imperative.

Planning, in partnership with different actors committed to the actions to be taken, can increase the possibility of achieving a structured program, with trained professionals to carry out the necessary monitoring. This process can provide faster solutions to detected problems. This set of indications for actions increases the potential to promote health equity and reduce social vulnerabilities. Thus, it can provide access to healthcare and a better quality of life for traditional people. In addition to being possible to develop strategic actions through the PNSIPCFA, they can also result from recommendations from the CNSDH[14].

Final considerations

Populations "of the waters" or riverside populations are people who are culturally diverse among themselves. Their way of life is strongly influenced by their relationship with the place they inhabit. Direct contact with the territory and its inhabitants provided a vast view of the experiences of these populations, their conditions of life, and their specific needs. The present study sought to discuss the relationship between PNSIPCFA and the reality of a specific riverside territory by identifying problems and possible solutions for them. In fact, in the period between 2019 and 2022, the PNSIPCFA was unable to become a public policy, as it did not have specific funding; in addition to being excluded from the list of health policies under the current administration of the Ministry of Health. Therefore, rural, forest, and water populations are incorporated into Primary Care, as we saw in the case of the São Pedro community, however, they are excluded from other essential services.

The population's perception of the environment and the problems that affect everyone's quality of life is notable. Excess garbage, insufficient medicines, issues related to school meals, and the lack of teachers are some of the health conditions that make these communities vulnerable.

The implementation of the PNSIPCFA favored great achievements for the riverside populations, given the promise of guaranteeing universal access to health through SUS. This process represents a milestone in the fight to improve life among these people. However, we understand that there is still the task of conducting a comparative analysis between the National Primary Care Policy and PNSIPCFA in order to study their relationship with social determinants. Furthermore, it is notable that the PNSIPCFA was unable to fully implement itself as a public policy in regions where there is a strong presence of this group. If this policy exists, it is necessary to draw up municipal laws that guarantee a specific budget to promote health in these populations.

Finally, the characteristics and specificities of the Amazon region open space for important challenges for public policies, but we can never make this place and its populations exotic, which would make their inclusion and access to rights impossible. The different territories of the Amazon region are spaces for the production of innovation and learning about how we can produce life with the forest still standing, in a true exercise of seeking alternatives to predatory development. Thus, paraphrasing the words of Ailton Krenack[27], we can "postpone the end of the world".

Collaborations

SS Santos: conceptualization, data curation, formal analysis, investigation, methodology, writing-original draft, writing-review & editing. FB Maciel: formal analysis, methodology, project administration, resources validation, writing-review & editing. W Sabino: formal analysis, writing-review & editing. JC Schweickardt: formal analysis. writing-review & editing. JB Maciel: writing-review & editing.

Acknowledgements

We wish to thank the Comitê Gestor de Programas Institucionais da Universidade Federal do Oeste do Pará.

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Article submitted 11/03/2023
Approved 13/11/2023
Final version submitted 15/11/2023

Chief editors: Maria Cecília de Souza Minayo, Romeu Gomes, Antônio Augusto Moura da Silva