

# DEVELOPMENT POLICY, THE ENVIRONMENT AND HEALTH IN THE AMAZON:

AN ANALYSIS OF THE TAPAJÓS REGION

## *POLÍTICA DE DESENVOLVIMENTO, AMBIENTE E SAÚDE NA AMAZÔNIA:*

UMA ANÁLISE DA REGIÃO DO TAPAJÓS

FRANCICLEI BURLAMAQUE MACIEL<sup>A, B, C, E, F\*</sup>

JÚLIO CESAR SCHWEICKARDT<sup>A, B, E, F\*</sup>

JESSÉ BURLAMAQUE MACIEL<sup>B, C, F\*\*</sup>

IZAURA CRISTINA NUNES PEREIRA COSTA<sup>A, C, E\*\*\*</sup>

\*Universidade Federal do Amazonas, Postgraduate Program in Environmental Science and Sustainability in the Amazon, Manaus, AM, Brazil

\*\*Instituto Nacional de Pesquisas da Amazônia, Manaus, AM, Brazil

\*\*\*Universidade Federal do Oeste do Pará, Instituto de Ciências e Sociedade, Santarém, PA, Brazil

**ABSTRACT:** *Since 1928, the Tapajós region has undergone a transformation process, which has intensified with public development policies. This process has been marked by inexpressive social benefits, a transformation of the ecosystem and harmful effects to human health. In 1996, the policy for the National Integration and Development Axes (ENID) was established in accordance with the logistics of the national agribusiness. This paper explores and analyses the public development policy and its effects on the environment and human health. To this end, historical-political bibliographical research was conducted, including official documents and direct observation. While past policies have led to positive social change, they have also stirred tensions within the environment, thereby affecting the health of citizens. These experiences require reflection and should broaden the technical debate on health within the region, particularly in the light of the current effects of the ENID policy.*

**KEYWORDS:** *Development Policy; Environment; Health; the Amazon; IR Tapajós.*

**RESUMO:** A região do Tapajós passa por um processo de transformação desde 1928, que se intensificou com as políticas públicas de desenvolvimento. Esse processo foi marcado por diminutos benefícios sociais, transformação do ecossistema e agravos à saúde humana. No ano de 1996 foi estabelecida a política do Eixo Nacional de Integração e Desenvolvimento (ENID) com a logística do agronegócio nacional. Neste artigo são resgatados e analisados a política pública de desenvolvimento e seus efeitos no ambiente e na saúde humana. Realizou-se pesquisa bibliográfica histórico-política, incluindo documentos oficiais e observação direta. As políticas pretéritas geraram melhorias sociais e acirraram as tensões no ambiente, afetando a saúde. São experiências que demandam reflexões e devem ampliar o debate técnico sobre a saúde na Região, principalmente com os atuais efeitos da política do ENID.

**PALAVRAS-CHAVE:** Política de desenvolvimento; Ambiente; Saúde; Região Amazônica; RI Tapajós.

**Contribution of each author:** **A.** designed and conceived the theoretical concept; **B.** data search and statistical analysis; **C.** designed figures and tables; **D.** photographs; **E.** wrote the manuscript; **F.** selected all references.

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## INTRODUCTION

The Tapajós region, in the state of Pará, in the Brazilian Amazon, has undergone a process of significant transformations, ranging from the first major modernization project for Tapajós in 1928 (AMORIM, 1995), with the project of the *Companhia Ford Industrial do Brasil*, through to the opening of the major federal highways in 1970, the BR-230 (the Trans-Amazonian Highway) and the BR-163 (the Cuiabá – Santarém Highway) (MAHAR, 1978).

From 1980 onwards, prospecting operations (IDESP, 2014) intensified within the region. On this occasion, the regional transformation process gained momentum by creating a proposal for the State of Tapajós. During the 1990s, export corridors were opened (FILHO et al., 2014), involving the aforementioned highways as well as navigation along the Tapajós River. Thus, the region has continued to be the recipient of spatial and temporal encounters through being produced by the expansion of capital and anchored in public development policies.

The most recent political plans for the Tapajós region include the National Integration and Development Axes (known in Brazil as ENID), through which it is hoped to create a multimodal transport system, passing through the Distrito de Miritituba, in the municipality of Itaituba in the State of Pará, in order to stimulate the logistics of the national agribusiness with a support infrastructure through ports, bridges and waterways (FILHO et al., 2014). Hence, the major question raised by the present study is: how does this policy affect the environment and the health of members of the Amazonian society? This is a particularly pertinent question, since these policies are planned with the participation of different individuals, who for the most part, are from outside the region. Thus, this work sets out to explore and analyze public development policy and its effects on the environment and health of the human population in the Amazon.

Throughout the research process, as theoretical support, the categories we used were region (BECKER, 2007), development as freedom (SEN, 2010) and health (PAHO/WHO, 2011). Emphasis was placed on the Integration Region (IR) of Tapajós in order to draw attention to the contemporary effects on the environment brought about by the ENID policy. We conducted an historical-political bibliographic research of regional development, with the use of official documents such as the environmental impact assessment (EIA). In the field, discussions were held during a public hearing in September 2014 and in March and April 2017, in the Distrito de Miritituba, where in 2017, approximately 5,534 people were living. During the first half of 2018 interviews were conducted with health workers at the Miritituba Family Health Unit (USF), and direct observation was made of the effects of the port works on the local environment. This was followed by a document and content analyses (BARDIN, 2009) and a document analysis from a descriptive, reflexive and critical perspective (SEVERINO, 2007), taking into account the environment and health.

The results of the study indicated the public policies and their effects on past experiences in the Amazon, marked by social improvements and impacts on the environment that had affected public health. These experiences demand reflection and should broaden the technical debate on health within the Tapajós region.

## **PUBLIC POLICIES IN THE AMAZON: HISTORICAL ASPECTS**

Public policies in the Brazilian Amazon effectively began with regional planning between 1930 and 1985 (BECKER, 2007). The context of these policies may have been influenced by the short-term, interventionist Keynesian idea that prevailed across the international scenario between 1930 and 1980. Priority was given to stimulating the economy in order to avoid economic depression and social crisis, and thus, equality would be promoted through social services, contributing to the general well-being of society (CARVALHO, 2008). The government's vision within this context was focused on macroeconomics and ignored the microeconomic dimension of the regions.

According to Mahar (1978), in the case of the Amazon, this was achieved through the Brazilian dictatorial state, aiming to incorporate the region into the rest of Brazil and the world as a supplier of raw materials and a consumer of industrialized products from the Central-South region. To this end, the government invested in logistics infrastructure, sponsored large-scale projects, and created fiscal incentive policies. The discourse of the military government was that such strategies would serve to guarantee the occupation of the "uninhabited" space of the Amazon region.

Furthermore, the military logic also alleged, during the period of the Cold War (1945-1989), that there was an external threat, involving the possibility of communism entering Brazil. Therefore, in order to guarantee national security, it was considered necessary to "integrate so as not to hand over" the region, and reaffirmed territorial sovereignty by exploiting natural resources for exportation under the slogan "Exporting is Important", with little or no valorization of the aptitudes of places specific to the Amazon.

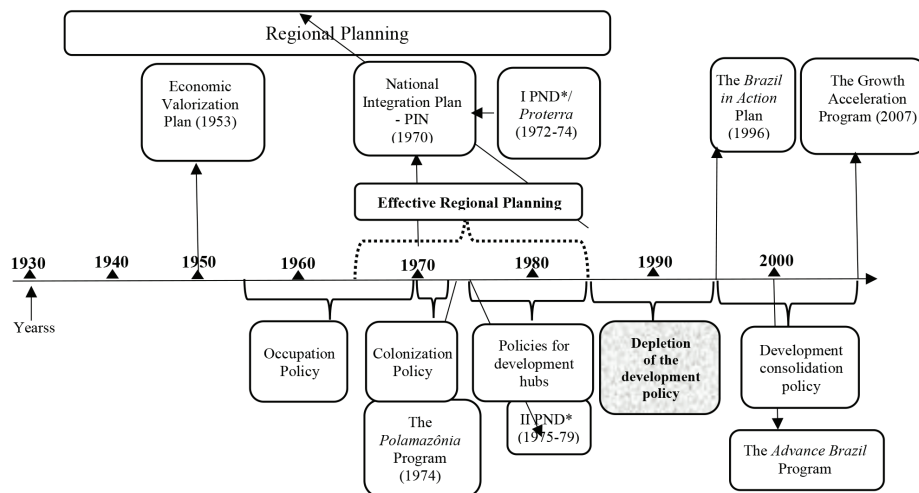
According to Celso Furtado (2000a), this context revealed that Brazil did not possess a national development project oriented by social interest, on the contrary, its economy was geared towards the external market and was dependent on international financial capital. Development, understood by Furtado (1964) as being necessary for Brazil, should have involved adaptation processes within the social structures through expanding the possibilities open to individuals. Thus, such development would require a project for the self-transformation of society, with intervention by the state to promote a set of social and economic improvements, and not merely to increase the supply of resources and capital accumulation.

Accordingly, the Brazilian government planned public development policies, which gained momentum in the 1960s, with numerous projects that planned to organize and integrate the Amazon region (FERREIRA & SALATI, 2005). In order to do so, the federal government established criteria for the implementation process, such as the definition of region by relating the issue of space and the power manifested within.

According to Becker (2005, p. 71), "the region is a geopolitical construction considered as a field of study that analyzes the relationships between power and geographic space". Its importance suggests regional planning, a division, or a kind of spatial cross-section, a unit as part of a whole, each part constituting a totality, where movements, overlaps and interactions occur. Although regional criterion is an instrument for delimiting public policies, the same does not occur with the effects caused

by the large projects and practices resulting from them. The various highlighted policies, according to the chronology described in Figure 1, indicate a diversity of actions within the region, from which the legacies they have generated may be understood.

Figure 1: Cronology of public policies in and for the Amazon.



\* PND: National Development Plan

Source: Devised and produced by the first author from Mahar (1978); Ferreira and Salati, 2005; Becker (2007).

Thus, the concreteness of the public policies established in the Amazon occurred from the 1950s, based on three major strategies: the occupation policy (1953 to 1979), the colonization policy (1970 to 1973) and the policy of economic development hubs (1976 to 1975). In addition to the National Integration Plan (known as PIN), the objective of which was to solve the “territorial and demographic voids” of the Amazon (MAHAR, 1978; FERREIRA & SALATI, 2005).

However, the first attempt at planning for the Amazon region, according to Mahar (1978), transpired with the Economic Valorization Plan in 1953, from which incursions arose and prosperities were created. The long-term effects were insignificant, although they did provide for the efforts in the 1960s and 1970s. Becker states that effective regional planning took place between 1966 and 1980, with the state initiative ordering deforestation, with a geopolitical project that was to modernize and accelerate both Brazilian society and its territories. Within this context, the PIN contemplated the construction of the BR-230 federal highway (the Trans-Amazonian) to provide support for the colonization from the Northeast and the construction of the BR-163 highway (Cuiabá-Santarém).

Thus, the colonization policy favored the planned initiation of migratory processes and influenced the deployment of development hubs with the creation of large mining, port and hydroelectric projects. The National Development Plan (PND I and II), the Amazonian Agricultural and Agro-Natural Poles Program (POLAMAZÔNIA) and the Land Redistribution Program (PROTERRA) (BRAZIL, 1974) were also part of this process.

The intense dynamics, from the end of the twentieth century, have altered the region with few favorable effects for the life of its citizens. The places and their

historical elements of organization and daily life, while having slightly faded away, have remained in the background and underused with regard to improving the life of the local population. For Becker (2007, p. 73), this dynamic was the result of the regional occupation policy for the Amazon, which allowed “[...] strong population growth [...]”, for “[...] urbanization and industrialization”, as well as increased social connections, and a growth in the flows and stocks of marketable goods and products.

However, beyond this, there were “serious environmental and social problems” (BECKER, 2007: 77), involving social conflicts over land, deforestation, the exploitation of natural products accompanied by agricultural expansion. In addition to an increase of actions by privileged groups with practices that have disrespected social and ecological differences, historically constructed local lives and knowledge have been destroyed.

Thus, the context in which public policies for the Amazon have been defined “reproduced conflicts with the advance of the resource frontier, which characterized the regional occupation between 1970 and 1985” (BECKER, 2007, p. 126). This conflicting context began to demand new containment actions, which took place in 1996. Thus, the federal government resumed planning in order to develop the Amazon region, seeking to resume and strengthen exogeneous measures, with the implementation of large transport corridors to take in regional development.

## **THE LOGIC OF DEVELOPMENT AND THE PROBLEMATICS OF REGIONAL POLICY**

The conflictive context of public policies revealed the historical predominance of exogeneity, prioritizing regional occupation based on an external vision and relationship with the region. Underlying these conflicts was the “depletion of national developmentalism” (BECKER, 2007, p. 126), which was marked in 1985 with demonstrations of resistance by the local populations against the conflictive coexistence, through which they sought to resume the endogenous actions of the region.

In the context of the 1990s, the impact of national development interests revealed the strategic logic of large infrastructure investments for the region through public policy. Becker (2007, p. 132) refers to development policy through the *Brazil in Action* Program, based on the strategy of “development corridors to accelerate the circulation [...]” of the regional economy.

However, a new milestone of regional endogeneity occurred in 1996 (Figure 1), almost a decade after the absence of public policies. During this year, planning was resumed with the *Brazil in Action* Program and the *Advance Brazil* Program (PAB) in 1999, based on the National Integration and Development Axes (ENID) policy. This resumption was based on the exogenous and endogenous forces that were interested in exploiting the natural resources for export (BECKER, 2007). As it may be realised, regional public policy drawn up from the requirements of the Amazon region has not existed for some considerable time.

Within this context, planning for the Amazon region was conducted through the PAB for the period from 2000 to 2003, although its implementation was only foreseen for 2007. A short-term temporality, within which regional development should have been made possible. Thus, indolent development in the 1980s should have been

resumed with the participation of actors interested in mobilizing different goods and services in the Amazon, through integrated management between public and private sector and the support of international cooperation in technical management (BECKER, 2007).

The specificities of planning for the Amazon region indicate a need for promoting local development. The absence of any long-term perspective, recorded towards the end of the twentieth century, particularly during the 1990s, may be identified as development policies for the region were depleted. This scenario may be a reflection of the neoliberal strategies adopted by governments in Brazil, primarily those of Presidents Collor and Cardoso, and maintained during the governments of Lula and, more recently, of Temer. The interventionist actions of these governments in politics and economics sought to strengthen the relationship between the state and private enterprise, with emphasis on the lack of intervention by the state in the economy, and a strong emphasis on the free market and international capital (PORTO, 2009).

One of the effects of these neoliberal influences has affected the precariousness of social policies. Internal development policies were placed onto a secondary level, and priority was given to foreign capital and multinational corporations, whose interests did not always converge with the needs of the different regions of Brazil (AMPARO, 2014). This may be verified from the planning of public policy for development in the Amazon region with large economic projects.

This fact is of great concern since public policies signify actions and constructions of geographic objects, and presuppose that the government, within its plans for local development, begins with the local aptitudes (SAQUET, 2011), which does not however, always occur. In this sense, temporalities are determinants in consolidating development, as well as the type of state and its political ideologies.

The Growth Acceleration Program (PAC), for example, could have been a policy to promote development, but it has become disfigured within the sphere of planning with short-term national demands. For Sen (2010), development should be understood as an expression of improvements in the quality of life, from the interrelationship of political freedoms and social opportunities, taking into account the local empirical links. Thus, development is implied within the quality of social, economic and environmental well-being, in its totality, in a long-term temporality. Equity is a central vector of this effort in order to reduce inequalities, seeking to stimulate partnerships and local participation towards effective development.

A further example that could contribute to the development process would be to implement the results of the 1<sup>st</sup> National Conference on Regional Development (CNDR) promoted by the Ministry of National Integration (MIN) and financed by the European Union (BRAZIL, 2012). In the year 2012, the aim of this conference was to include regional public policies in official discussions, based on a partnership between science and society, in an attempt to improve them, thereby avoiding some of the effects of past policies and valorizing the local demands of the regions (SAQUET, 2011).

The central theme of the first CNDR was that Brazil needed a public policy that would generate regional development, building with shared planning, and that would consider cities/towns and countryside from the perspective of effective social, economic and environmental improvements. Were the proposal of the I CNDN document to be implemented, coherent ideas could contribute to development



planning as freedom (SEN, 2010). Although this document has not been successful, the topic of regional development should not be overlooked, in fact it should be the focus of concern and importance amongst social actors and different agents and institutions that seek improvements in the quality of life of the quotidian reality of the Amazon.

On the other hand, public policies drawn up for the Amazon with large-scale projects have generated significant socio-environmental transformations (BECKER, 2007) for local society. Attempts to promote regional development have generated benefits with timorous local short-term results, such as populating the region.

The similar effects of other large projects may also be occurring, as in the case of Distrito de Miritituba, in the municipality of Itaituba, in the state of Pará. Here, at least twelve bulk ports are under construction (FILHO et al., 2014), the dynamics of which have generated both environmental and social impacts and, thus, are affecting the health, life and neighborhood of the local citizens. The contradictions of the regional development planned through public policy are in no way consistent with the development as freedom put forward by Sen (2010), through the absence of justice, in that the economic benefits are not shared with the citizens of the place which receives these works.

## **THE EFFECTS OF DEVELOPMENT POLICY ON THE ENVIRONMENT AND HEALTH**

The effects of government development policies from the 1960s and 1970s have affected the environment (VIANA, FREITAS, GIATTI, 2016), generating different types of impacts and thereby determining the effects on public health, reaching the public, individuals and populations in general (PAIM & ALMEIDA FILHO, 2000).

According to Paim, et al. (2011), this context has largely determined the growth of a health system with a strong private sector participation, due to the absence of the public sector in providing public health services that serve the economically disadvantaged. This issue has worsened with the progression of infectious and parasitic diseases, mainly from 1964 to 1985. Nevertheless, from 1985 to 1988 there was a reduction in infant mortality and of vaccine preventable diseases, although the authors did not state the reasons for this reduction. However, the same did not occur with cancer and cardiovascular diseases, violent deaths, Acquired Immunodeficiency Syndrome (AIDS) and the dengue epidemic.

During this period, and until the end of the 1980s, public health policy in the Amazon was verticalized with campaigns and programs managed by the government, but executed by federal institutions or by state and local institutions (SCHWEICKARDT, et al., 2017). Health services were limited to the task of combating and controlling endemic diseases such as yellow fever, malaria, Hanson's disease, and tuberculosis. During this period, local institutions had little involvement in the drawing up health strategies. Currently, the Integrated Health System (SUS) has made it possible to decentralize the government's health services towards the states and municipalities in processes of participation and in the creation and execution of health policies within their territories.

It is a fact that environmental transformations have determined the risks to hu-

man health, with “[...] the pollution of water bodies from the mercury of the *garimpos* (artesian miners); microbial contamination due to sanitation deficiencies in the cities; respiratory problems caused by smoke from post-deforestation fires [...]”; and the “[...] local changes in the hydrological cycles that have become potential breeding sites for mosquitoes” (VIANA, FREITAS, GIATTI, 2016, 241).

Historically, in the Amazon region, diseases considered endemic such as malaria, Hanson’s disease and tuberculosis have always been strongly linked to demographic, socioeconomic, ecological and cultural changes. For Viana; Freitas; Giatti (2016 apud Paraná et al., 2008), the policy of occupation and exploration of this region has undoubtedly contributed to the transformations in the ecosystems. Consequently, the environment has been urbanized and anthropized with the support of development policy. This context therefore, has been favourable to the invasion of the natural habitats of animals and insects, and thereby has determined the health risks. The results have been infectious processes, the prevalence and incidence of diseases related to the lack of basic sanitation and acute diarrhea, associated to changes in the natural environment and extreme poverty in several areas of the region.

Authors such as Freitas and Giatti (2009) also draw attention to the effects of projects in the Amazon over recent decades. Examples of this would be the intense migratory processes, leaving a trail of environmental degradation, poor living conditions and gradual changes in the social relations and living habits of the local inhabitants. Lima (2016) refers to these changes as unfavorable impacts on the quality of life and health, due to the direct and indirect effects on the environment.

From amongst the many studies regarding the interrelationships between the environment and human diseases in the Amazon, Confalonieri (2005); Couto (1999); Freitas and Giatti (2015); Lima (2016); Schweickardt, et al. (2017) have highlighted a diversity of emphases, ranging from approaches to common diseases such as malaria, to the perception of administrators on health in the Amazon with large projects. However, with regard to the effects of development policies and specifically of large development projects, we have only encountered the work of Freitas and Giatti (2009) and Couto (1999).

According to Confalonieri (2005, p. 224), development policies associated with the use of natural resources indirectly promote events that commonly “[...] deride regional potential, ignore environmental resilience and ecological sustainability [...], bring no benefits to traditional cultures or income distribution and care nothing about health risks”. This originates from “[...] governmental initiative, through the implantation of major infrastructure works [...] and industries [...] incentives for livestock farming (and deforestation), as well as through spontaneous extractive activities [...]”. The latter consists of activities such as artisanal mining, fishing and the extraction of timber. Corroborating with this scenario are the effects of the development consolidation policy from the year 2000, when economic enterprises were installed. Freitas and Giatti (2009) described this reality in surveys conducted between 2000 and 2007, involving the states of Amapá, Roraima, Rondônia, Acre and Pará, where projects were implemented, involving water projects (dams and hydroelectric plants), urbanization (with no adequate infrastructure) and the expansion of agribusiness.

With this research, the authors confirmed extensive environmental transformations and pressure on the living conditions of the members of society. The existence of



deforested and burned-out regions during this period reached around 68%. Cases of endemic diseases reached 51%; the existence of disease vectors was 44%; the influence of landfills near residential areas reached 43%; and the effects of open sewage was 41%. These indicators demonstrate the pressures and transformations within the environment and confirm the effects on the ecosystem. Although they have been collected from the perception of state administrators, they reveal the need to take into account the dimensions that involve public policies, especially in the areas surrounding the enterprises and with the responses on the impacts they generate.

Many of these impacts are strongly linked to demographic, socioeconomic, ecological and cultural changes. These are influential aspects of diseases considered endemic (malaria, Hanson's disease and tuberculosis) in the Amazon (LIMA, 2016). According to Confalonieri (2005), the context of occupation and exploration of the Amazon region has undoubtedly contributed to transformations both in the natural and anthropic ecosystems, especially with regard to urbanization, which has encouraged the invasion of the natural habitat of animals and insects, thereby determining the health risks.

The results of this scenario have been infectious processes, a prevalence and incidence of diseases related to inadequate basic sanitation. The impacts caused by economic practices in the Amazon have not always been favorable to the local members of society, primarily because hitherto unpopulated areas have been cleared in order to allocate the physical infrastructure of the projects (LIMA, 2016), making the area and its surroundings susceptible to certain diseases common to the natural environment.

In scenarios of this nature, agencies that deal with environmental and health issues should present institutional responses to the mitigation of problems derived from public policies. For Freitas and Giatti (2009) there is no doubt that environmental contamination affects air, water, soil and the general quality of life. For Couto (1999) and Confalonieri (2005) this type of phenomena occurs because health and the environment are not considered relevant when enterprises are planning, and often their actions are mediatic and improvised.

It should be highlighted that, in addition to the direct effects of public policies on the natural environment in the Amazon, an increase of disorganized urbanization should also be included, which directly affects the lack of sanitation infrastructure and, consequently, the health and quality of life of the population. Saquet (2011) and other authors draw attention to the systemic issue and contextualization of development in the scope of public policy planning, in the sense that it is impossible to consider development by excluding space and time, as something disconnected from the members of society and their ways of life

Understanding this historical-political context is imperative in the process of implementing new policies that meet different regional peculiarities. Thus, integrating different dimensions should be sought so as to reduce the negative effects on the environment, since these effects become homogeneous when resulting from socioeconomic practices (HENRIQUES & PORTO et al., 2012).

Examples of this reality were reported by Silveira and Neto (2014) in studies on impacts that transform the environment and affect the health of the population. In the research process, the authors considered the scenario of large-scale ventures emphasizing the health-environment relationship and the importance of the health sector's participation in drawing up the guidelines for the environmental licensing

processes of these works, and in the instruments of environmental impact assessment. In the results of the research, certain aptitudes and weaknesses were identified, which either favor or hinder the strengthening of preventive health actions, with the implementation of development projects. The authors drew attention to the opportunities whereby health sector agents could participate in the licensing processes of large-scale works, not only seeking to be involved, but also contributing to the social processes that may minimize the barriers to the quality of life and health of the human population.

## **THE ENID POLICY: THE CASE OF THE INTEGRATION REGION OF TAPAJÓS**

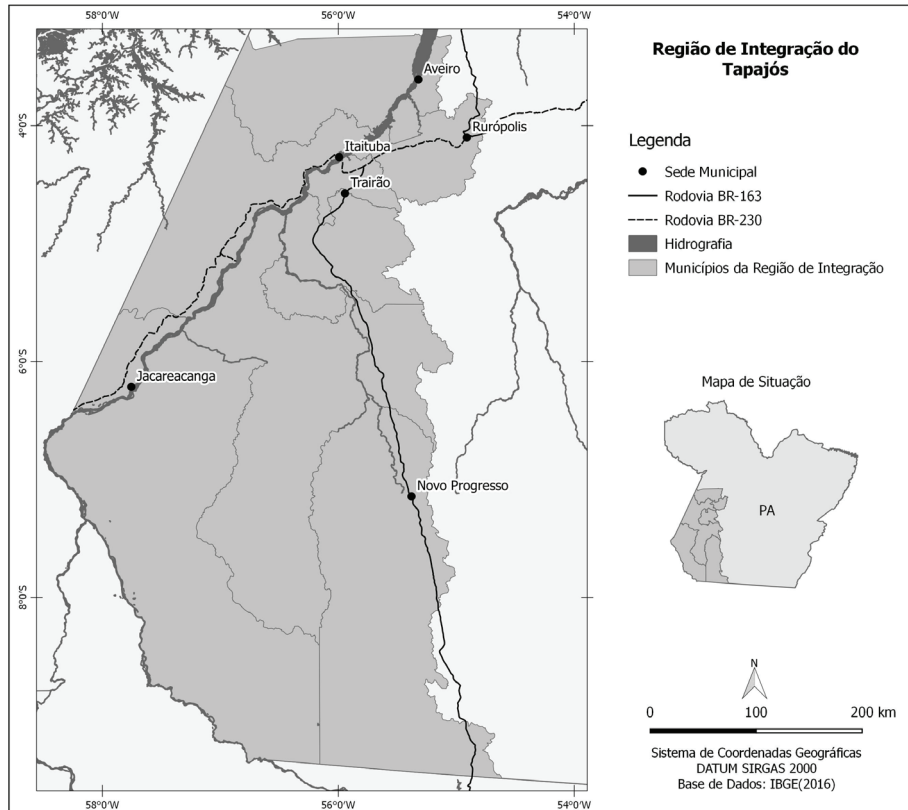
Towards the end of the twentieth century and beginning of the twenty-first, the regional development policy for the Amazon was marked by a number of strategies undertaken by the federal government in partnerships with the state governments. Within this context, beginning in 2007, the government, through programs, policies and projects, went back to serving underprivileged regions with public policies, such as the Amazon (BECKER 2007) and, more specifically, the regional subdivision of Tapajós.

The regions established within the ENID policy were to be equipped with infrastructure and productive inclusion processes in order to increase income and the economic dynamism of the region, thereby improving the living conditions of the members of society (SIFERT et al., 2014). To this end, the creation of the multimodal transport system was envisaged through the establishment of ENID. This type of axis, according to Becker (2007), is associated with the concept of large regions, characterized as a new division with large contiguous areas, established by governments to meet policy demands.

The integration region (IR) in the State of Pará has these characteristics, which contributed to determining the territoriality of public policies for the Northern region. To this end, the state government, in partnership with the federal and municipal governments, in 2007, established a division in order to facilitate the public management of the state. Thus, the division was made up of 12 regional subdivisions: the region of Araguaia, Lower Amazon, Carajás, Guamá, Lago de Tucuruí, Metropolitana, Marajó, the Caeté and Capim Rivers, Tocantins, Xingu and Tapajós. Along with this strategy, there was also an integration of actions by the three spheres of federal, state and municipal government with private partnership in an attempt to mitigate interregional inequalities and valorize economic activities, seeking to generate employment and income, and to valorize natural resources and the cultural diversity of the regions (IDESP, 2014).

The subdivision of the IR of Tapajós (Figure 2), the specific focus of this study, comprises six municipalities: Aveiro, Itaituba, Jacareacanga, Novo Progresso, Rurópolis, and Trairão. According to the Brazilian Institute of the Environment and Natural Renewable Resources (IBAMA), this region covers 189,498 square kilometers of territorial area, of which 173,750.98 square kilometers are under federal rule.

Figure 2: The Integration Region of Tapajós in the State of Pará



Source: Produced by the third author.

A total of 65.66% of the lands are under the control of IBAMA, and are made up of Conservation Units and Indigenous Lands. The lands under the control of the armed forces (Brazilian Army) total 21.97% of the territory; and land with rural settlements occupy 4.06% of the area. The gross domestic product (GDP) of the IR Tapajós is R \$ 1.5 billion, equivalent to 1.6% of the GDP of Pará. According to the IBGE (2017), the estimated population of the six municipalities of IR Tapajós is 205,162, and is the least populated region of the state of Pará. According to IDESP (2014), there were 17,154 formal jobs, thereby representing 1.5% of the total of Pará.

Other activities in the IR Tapajós demonstrate its socioeconomic nature and relationship with the State of Pará, in particular: gold extraction in the municipality of Itaituba, for example, is outstanding, with 60% of the state production; it is placed fourth in banana production, with 13%; second in planting rice, also with 13%; and holds fifth position for bovine production with 7% of the state's cattle; and the logging potential is 6% of all extraction from all the IRs (IDESP, 2014). On the other hand, IR Tapajós occupies seventh position in the state in terms of illiteracy in those aged 15 years or more, equivalent to 15%. Its poverty ranking is in eighth position, with around 39.7% of the state. It also has the highest infant mortality rate in the state with around 18.59%, thereby ranked in eighth position (IDESP, 2014). From amongst the twelve IRs, the IR Tapajós presents some of the worst socioeconomic indicators.

Taking this context into account, it is essential to consider development that

reflects the quality of life as advocated by the Pan American Health Organization and the World Health Organization (PAHO/WHO) (2011, 33), by “putting into practice processes of technical cooperation with a cross-sectional viewpoint of primary care and healthcare promotion”. Furthermore, amongst other relevant aspects, it should also involve initiatives and strategies such as “promoting healthy lifestyles and environments and strengthening intersectoriality to work on protective factors and social determinants of health in favor of inclusion and equity in health”.

The opportunities that have become apparent at the IR Tapajós with the implementation of public policies since 1996, represent a new historical moment, for development alternatives, by involving different actions as part of the ENID policy, as follows:

- ❖ Territorial Development Agenda (TDA) - an initiative from the Ministry of Planning, Development and Management (MPOG) with various agents and administrations, to construct a dialogue for development planning (BRASIL, 2014).
- ❖ Harnessing hydroelectric energy - plans to build sluice gates to support the programmed hydroelectric plants along the Tapajós River, thereby guaranteeing the country's energy sustainability, considered priority strategies and of public interest. Similarly, the planning of the Tapajós Complex is composed of five hydroelectric plants (HPPs), amongst them the São Luís do Tapajós HPP (with a suspended license) in Itaituba, among other complementary projects and/or beneficiaries of these works (SIFFER et al., 2014).
- ❖ Logistics project - planned to facilitate the supply chain with a support infrastructure through ports, bridges, waterways (FILHO et al., 2014), in association with the construction of routes for the outflow of agricultural production in the Midwest and other regions, using multimodal transport, through the integration of the road system with the waterway, and the construction of a port complex. To do so, the paving of the BR-163 highway (Cuiabá-Santarém) will be completed and the Transshipment Cargo Stations will be constructed.
- ❖ The Tapajós port corridor - formed by the section of grain outflow, involves the passage of barges to the fluvial ports in Santarém, Santana in Macapá, or the port of Vila do Conde in Barcarena in the state of Pará, continuing by river to the international ports (SIFFERT et al., 2014). This is the expansion by the Northern Transportation Corridor for the outflow of agricultural production in the Midwest, to optimize transportation to the alternative ports for export.

With the aim of fortifying the Logistics Project and the Tapajós Port Corridor, several companies are establishing themselves in the Distrito de Miritituba along the right bank of the Tapajós River. These include the Bertolini bulk fluvial terminals, UNITAPAJÓS, HBSA, CIAMPORT and Cargill Agrícola S/A. The aim of these companies in constructing cargo transshipment fluvial terminals and waterways is to receive cargo from trucks and transport it by barge to other destinations. In this way, the development policy with ENID through transport logistics is formed of a set of works involving waterways and highways, connecting the transshipment stations and ports (SIFFERT et al., 2014), so as to enable the export of agricultural products from the Midwest and other regions of Brazil.

In practice, the dialogue between the actors interested in development represents an initiative of the federalist pacts with private follow-up, the emphasis of which is on decentralizing public investments in favor of the economy. While several theoretical and empirical studies have been conducted for this paper, no record has been discovered of any existing participation of the health sector in this dialogue which, therefore, indicates that it has not been included in the planning of development policy. The participation of the health sector in the process of planning for development could influence the debates by reducing the impacts on the environment and, consequently, to improving the quality of life and health of the population of the IR Tapajós.

Thus, the current phase may offer a range of opportunities for the IR Tapajós, not only in terms of an increase in capital with ENID, but also for the quality of the local life. In this context, the regional approach is relevant as an analytical tool of the state for implementing development policies, enabling it to contribute to increased fluidity within the region, through logistics to areas classified as priorities.

However, for Becker (2007), transport itself as the focus of public policy is not a development factor, especially for the local population. The grain transport matrix is anchored along the BR-163 highway (Cuiabá-Santarém), connecting the logistics corridor of the Midwest region with the “Northern Arch” logistic corridor in the Northern region. As the two regions are within a relevant context from the viewpoint of the agribusiness economy, it is most probable that investments for paving the highway are merely to favor the outflow of grain exports.

This is a curious fact when considering development for the Northern region, since the social question has hardly been observed and the environmental dimension is indicated as “a range of opportunities” (BECKER, 2007). The consequences of the entire planning process for the IR Tapajós may exacerbate tensions in the environment and health, and may also affect the equity of the human population, as an unfavourable situation that degrades vital environmental attributes, or even excludes or restricts access to certain goods and services that favor public health (SCOREL, 2008). It also includes increased pressures on the preserved environments of the region, the transformations linked to the use and occupation of the region, and the impact on the original ways of life of the local populations.

Resorting to Wagle (1988), we could say that the experience of these Amazonian localities should stimulate discussion on the social organization and life strategies of its populations and their relationship with the environment. The influences received are diverse, in a process constantly related with environmental elements, influencing and determining new forms of organization in time and occupation of space. Thus, Amazonian life, the culture and habitus of the place of living, are affected by the processes of transformation with development policies, which do not only generate favorable effects for the local population. Taking into account this context, what would be desirable for the IR Tapajós in the Amazon?

“[...] as is very well known, a national and Amazonian project, in which the region is a causal factor, and not a casual consequence of it [...]. It is neither expected, nor desired, that such a design be given to us as a present, we must forge it from the very bowels of the Amazon” (MENDES, 1974 apud SIFFERT et al., 2014).

In other words, the desire exists for a development with freedom (SEN, 2010) of

choices in valorizing the peculiarities and ways of Amazonian living in the “here and now”. However, what we observe is the state and private sector’s view of the Amazon, while the spatial profile intentionally focusses on interests at the geopolitical borders as business opportunities.

According to Becker (2007), the state’s approach has not always been successful, which is why in contemporary times it is necessary to retrieve the issue of development from the viewpoint of regional development (FILHO et al., 2014), as well as to create public policies with appropriate private partnerships so as to expose and support creative actions and with innovative alternatives for local development.

We expect a development that brings about change in the quality of life and where social facts may evidence such improvements, through the individual and collective capabilities of society. According to Sen (2010), development as freedom is expressed in the capability of the members of society to live, in the choice of their desired life, at the same time that these capabilities may be amplified by public policies and that, in turn, may also be influenced by the capabilities of the members of society.

## **ENVIRONMENT AND PUBLIC HEALTH IN THE DISTRITO DE MIRITITUBA**

In the Tapajós region, the most visible effects of public policies and regional development that have affected public health may be observed with the creation of the agribusiness road/fluvial corridor, along which almost three thousand trucks transport grain every day along unpaved roads. The effect of this logistic produces an intense flow of particulates in the form of dust, which affects the health of the local populations, especially children and older people, thereby causing respiratory diseases due to the poor quality of the air.

The increase in migration, especially of transport workers, has brought pressure onto public services, and changes in the patterns of social behavior (prostitution, drug trade, etc.), as well as health impacts related to sexually transmitted infections (STIs). In this study, STIs were the indicators selected because they were more sensitive in the context of socio-environmental transformations. Moreover, such infections also present the “[...] possibility of a person having and transmitting an infection, even with no signs and symptoms” (BRASIL, 2015, p.13), such as gonorrhea, chlamydia, syphilis and trichomoniasis, AIDS, genital herpes, human papilloma virus. These are infections that impact both the quality of life and interpersonal relationships.

This concern was displayed by members of the local population during the interviews conducted in Distrito de Miritituba, mainly due to the limited infrastructure in providing public health services that meets these demands. However, although there is concern regarding an increase in STIs and their respective care, the official report (TABLE 1) that could demonstrate this situation, contains data that indicates a reduction in STIs from the years 2016 and 2017.

It should be noted that this reduction may be the result of underreporting, since those interviewed stated that, with the arrival of the bulk carriers, there has been an increase in prostitution, most likely influenced by the intense migratory flow of workers in the transport sector, an influential factor for the increase in STIs. However,



these data do not appear in the official reports of the Health Department of the municipality of Itaituba. This occurs either because those who request drugs for STIs do not complete the forms for the notification of infectious diseases, or because health workers at the family health centers do not always manage to fill out the forms, or for operational reasons, or because STI patients feel embarrassment in seeking treatment at the health centers. A health worker stated that it is believed that this practice may have an influence over reporting STIs and the treatment process.

Table 1 – Notification of STIs at Family Health Centers in Miritituba, Itaituba-PA.

Notified Infectious Disease	2013	2014	2015	2016	2017	Total
Adult syphilis (excluding the primary form)	0	1	2	1	0	4
Genital herpes (only the first episode)	0	1	0	5	0	6
Condylomata acuminata (anogenital warts)	0	2	2	2	0	6
Vaginal discharge	27	6	8	0	0	41
Syphilis in pregnant women	0	1	4	1	4	10
Non-specific syphilis	0	1	1	0	0	2
Urethral discharge in males	0	0	2	0	0	2
Total	26	12	19	9	4	71

Source: Produced by the author from SINAN NET data, made available through the Primary Healthcare Center in Miritituba in May 2017 and from the Epidemiological Surveillance at SEMSA in Itaituba in March 2018.

The issue of insufficient infrastructure and lack of frequency in completing the forms may be a reflection of institutional vulnerability (PORTO, 2012), for which the demands suggested by Schweickardt et al. (2016) would be: the implementation of a resolving capacity by the health services and social management within the scope of public policies for local health. In addition, it is essential to introduce health promotion through health education and disease prevention. Such procedures, if intensified, may contribute, along with the resolving capacity, to confronting the macro-determinants of the health-disease process, thereby attempting to transform them in favor of the health of the population.

## FINAL CONSIDERATIONS

The logic of contemporary development policy, when integrating the government, states, municipalities and other institutions and members of society must return to qualitative, endogenous, social transformation directed towards the well-being of the inhabitants of the Amazon. Thus, the development projects implemented in this region have produced effects on the places, the localities, and influenced the living scenarios of the members of society. Taking this reality into account, this study has attempted to generate information that may contribute to public policy and technical debates in order to expand access to health in the IR Tapajós and in the Amazon as a whole. Moreover, it is also a contribution towards increasing the technical and scientific capacity of the region, enabling the expansion of initiatives in the production of knowledge in the interdisciplinary field.

In this respect, public policies for the Amazon region may then prioritize the

**Franciclei Burlamaque Maciel** is graduated in economic sciences and a specialist in Teaching Higher Education from the Faculdade Integrada do Tapajós (FIT); she holds a Master's degree in regional development and a Doctorate in Environmental Sciences and Sustainability in the Amazon from the Universidade Federal do Amazonas (UFAM); she is a professor at the Instituto de Ciências e Sociedade (ICS) at the Universidade Federal do Oeste do Pará (UFOPA).

**Email:** francicleibmaciel@gmail.com

**ORCID:** <http://orcid.org/0000-0001-7949-0070>

**Júlio Cesar Schweickardt** is graduated in social sciences and holds a Master's degree in society and culture from the Universidade Federal do Amazonas (UFAM); he also has a doctorate in the history of sciences and of health from the by Fundação Osvaldo Cruz; he is a professor and researcher at the Laboratório de História,

Políticas Públicas e Saúde na Amazônia - LAHPSA/Fiocruz Amazônia.

**Email:** julio.ilm@gmail.com

**ORCID:** <http://orcid.org/0000-0002-8349-3482>

**Jessé Burlamaque Maciel**

is graduated in geography at the Universidade Federal do Amazonas (UFAM); and is currently undertaking a Master's degree in Tropical Forest Science at the Instituto Nacional de Pesquisas da Amazônia (INPA).

**Email:** burlamaque.jess@gmail.com

**ORCID:** <http://orcid.org/0000-0001-9695-1043>

**Izaura Cristina Nunes**

**Pereira Costa** is graduated in geography from the Universidade Federal do Pará (UFPA); she is a specialist in environmental analysis and land management from the Escola Nacional de Ciências Estatísticas (ENCE); she holds a Master's degree in geography from the Universidade Federal do Rio de Janeiro (UFRJ); a Doctorate in socio-environmental development from the Núcleo de Altos Estudos Amazônicos (UFPA/NAEA); she is a professor at the Instituto de Ciências e Sociedade (ICS) na Universidade Federal do Oeste do Pará (UFOPA).

**Email:** geoiza@yahoo.com.br

**ORCID:** <http://orcid.org/0000-0001-9121-6680>

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quality of life and health of the population, without which the so-called development will resemble the experiences of the 1960s, 1970s and 1980s, with the least favourable outcomes for the inhabitants of places where enterprises have been installed. Taking this context into account, it is imperative to conduct research that will indicate the situation of health, which results from effects that are not only limited to these places, but rather, that surpass them.

Economic ventures can undermine the quality of life and the health of the local society, and should pay close attention to the impacts they may cause. These experiences demand reflection and should broaden the technical debate on health, specifically in the Integration Region of Tapajós, recipient of the recent effects of the ENID policy.

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