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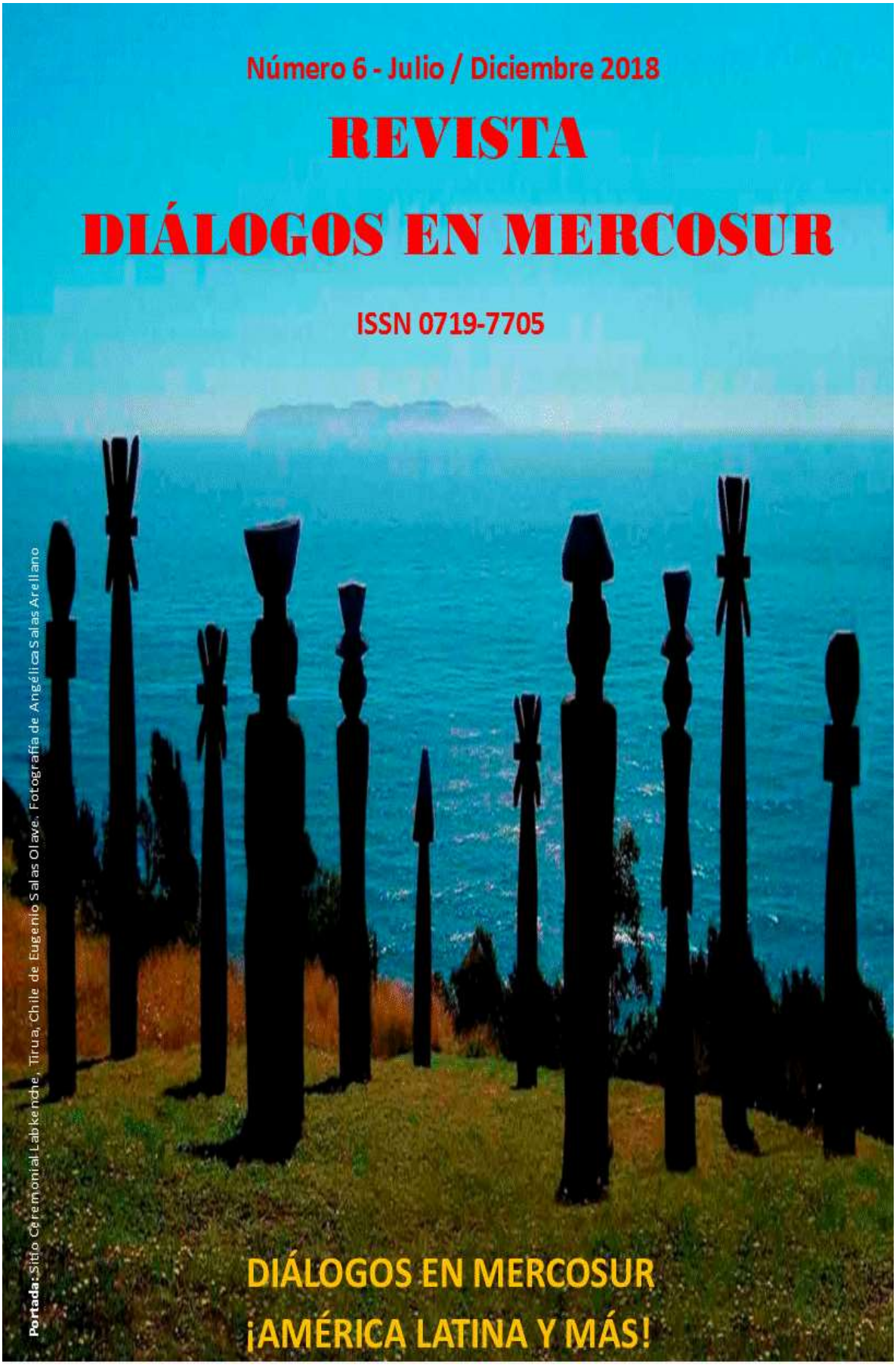

Portada: Sitio Ceremonial Labkenche, Tirua, Chile de Eugenio Salas Olave. Fotografía de Angélica Salas Arellano

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SANTARÉM-PA/BRAZIL: HOW TO OVERCOME SCHOOL SEGREGATION IN A RAINFOREST CONTEXT?

SANTARÉM-PA / BRASIL: ¿CÓMO SUPERAR LA SEGREGACIÓN ESCOLAR EN UN CONTEXTO AMAZÓNICO?

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Abstract

This paper aims at the northern part of Brazil, in particular the city of Santarém, in the state of Pará. Our objective is to problematize and reflect on the relationship among three dimensions: socioeconomic, educational and environmental aspects, which, although presented separately, are imbricated and should be considered in a dialogic perspective in the discussion of educational policies in the Amazonian reality. The methodology is based on bibliographic and documentary research, so that the presented data come from national and state public agencies. Therefore, the structure of the article has an introduction to present the area where the study is conducted, followed by the data of each dimension, ending with some considerations to discuss educational public policies in the Amazon region.

Keywords

Public Policies – Amazon – Education

Resumen

El trabajo tiene como objeto la parte norte de Brasil, en particular la ciudad de Santarém en el estado de Pará. Nuestro objetivo es problematizar y reflexionar sobre la relación entre tres dimensiones: socioeconómica, educativa y ambiental, que, aunque presentadas separadamente, son imbricadas y deben ser consideradas en una perspectiva dialógica en la discusión de las políticas educativas en la realidad amazónica. La metodología se basa en la investigación bibliográfica y documental, de modo que los datos presentados proceden de organismos públicos nacionales y estatales. Por lo tanto, la estructura del artículo tiene una introducción para presentar el área donde el estudio es conducido, seguido de la exposición de los datos de cada dimensión, terminando con algunas consideraciones para discutir políticas públicas educativas en la región amazónica.

Palabras Claves

Políticas públicas – Amazonia – Educación

Descobrimento

Abancado à escrivaninha em São Paulo
Na minha casa da rua Lopes Chaves
De supetão senti um friúme por dentro.
Fiquei trêmulo, muito comovido
Com o livro palerma olhando pra mim.

Não vê que me lembrei que lá no Norte, meu Deus!
muito longe de mim
Na escuridão ativa da noite que caiu
Um homem pálido magro de cabelo escorrendo nos olhos,
Depois de fazer uma pele com a borracha do dia,

Faz pouco se deitou, está dormindo.

Esse homem é brasileiro que nem eu.

Mário de Andrade

Discovery
Sitting at my desk in São Paulo
In my house on Lopes Chaves street
Suddenly I felt a coldness deep inside.
I got shivers, very touched
With the dumb book gazing at me.

Don´t you see, I remembered that there, in the North, oh my God!
Very far away from me,
In the active darkness of the falling night,
A pale, thin man whose hair is pouring over his eyes
After making a skin with the rubber of the day,

He went to bed not long ago, now he is sleeping.

That man is as Brazilian as I am…

Mário de Andrade

At the end of the twentieth century the question of sustainable development became an important priority on the agendas of international organizations and gained strength and popularity during the following years to such an extent that the concept was not only present in the micro- and macro-policies of nations, but also in programs at local, regional, national and trans-national scales.

Currently, among many other initiatives, the 2030 Sustainable Development Agenda created in 2015 and lead by the United Nations Organization (UNO), has 17 objectives and 169 goals that were put into action in January, 2016. The fourth objective of this agenda is directly related to the central problem addressed in this paper, namely, school segregation in the context of the Amazon rain forest and the city of Santarém, Pará,

and this objective states: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" [1].

In this context, in spite of the diverse actions undertaken in Brazil by a multitude of different agencies and entities, highlighting the National Campaign for the Right to Education that was part of UNESCO´s Global Action Week (GAW[2]), it is important to recognize that besides conducting these sorts of campaigns at national and international scales, it is also necessary to think at regional and local scales, especially in the context of a country of continental proportions such as Brazil that contains not only great diversity in terms of biomes, but also many diverse socioeconomic situations.

Our working hypotheses is centered on the realization that the traditional manner in which rural and urban schools are taken into consideration by projects, programs, and public education actions is insufficient in the context of the geographic scenario of places like Santarém which is located in the Amazon rain forest; this scenario calls for specific educational policies. In this sense, and considering that traditional administration is incapable of guaranteeing sustainable development, and also that the globalized world allows for communication and interaction between cities that confront similar situations, the objective of the present work is not to determine what would be the best policy to eliminate school segregation, but rather to delineate, using socioeconomic, educational, and sustainability aspects, not only the peculiarities of the city of Santarém, but especially what public policies as they exist in different sectors of society, expressed in the context of the political, social, and spatial dimensions, must take into consideration in order to guarantee inclusion and equitability.

In Brazil, although constantly suffering from negligence, there is a fertile normative environment that permits a convergence of social, political, and spatial dimensions for the implementation of public policies. The National Policy of Water Resources (Law n. 9.433 of 1997) requires that the unit for which planning and management activities are done is the watershed, and this allows for a certain liberty in thinking and action because the artificial limits between cities and States are no longer considered, and taking into account the processes of conurbation, new geographic and conceptual relationships are created within this territory. Added to this is the concept of an "environmental watershed[3]" as a "strategic

[1] The city of Santarém is located in the Lower Amazon Integration Region in the State of Pará. In the hydrographic basin of the municipality the principal river is the Tapajós which crosses the basin from south to north, and in its lower reaches at its mouth Santarém is located on the right bank of the Tapajós. The hydrographic network of the city is made up of six watersheds, with special emphasis on those of the Amazon and Tapajós Rivers, important for their navigability, aquatic biodiversity and fisheries potential. The other watersheds are those of the Arapiuns, Moju, Mojuí, and Curuá-una Rivers. The municipality also contains legally established Conservation Areas consisting of the Tapajós National Forest (600,000 ha (6.000km²)) and part of the Arara Indigenous Reserve.

[2] The GAW, an initiative launched by the Global Campaign for Education (GCE), although existing since 2003, was formerly linked to the program Education for All lead by the United Nations Education, Science, and Culture Organization (UNESCO), but became linked to the 2030 Agenda after its approval and implementation, and has as objective the exertion of pressure on governments to honor the international agreements made in this area that involve more than 100 countries.

[3] The concept of "environmental watershed" denotes the idea that it is not just water that is important in the watershed, but rather all of the situations that occur in this territory as they interact to create the dominant environmental reality in that watershed.

environmental planning unit for municipal freshwater sources in the perspective of sustainability of development"[4].

Through the creation of this concept the author gives life to the watershed since the existence of diverse anthropogenic actions is recognized and emphasized, and the environmental watershed then becomes "a territorial space that has a dynamic conformation whose limits are established by sustainable environmental relationships of a social and ecological order"[5]. Additionally, the fundamental premise of an environmental watershed is "making viable a level of quality of life in agreement with the diversity of social actors that live in the environmental watershed"[6].

Figure 1
Location of the State of Pará in Brazil
Source: IBGE/2017[7]

[4] Emília Wanda Rutkowski, "Desenhando a Bacia Ambiental: subsídios para o planejamento das águas doces metropolitan(izad)as". (Tese de Doutorado, Faculdade de Arquitetura e Urbanismo, Universidade de São Paulo,1999), 4.
[5] Emília Wanda Rutkowski, "Desenhando a Bacia Ambiental: subsídios para o planejamento... 135.
[6] Emília Wanda Rutkowski, "Desenhando a Bacia Ambiental: subsídios para o planejamento... 136.
[7] The State of Pará is located in the northern region of Brazil and has 1,247,954.320 km² in area, had an estimated population in 2015 of 8,175,113 million habitants, and a demographic density of 6.07people/km². The principal economic sectors of the State are in the areas of retail commerce and services, areas that are responsible for a large proportion of the GDP of the State, and tourism is one of the most important contributors to this area. Agriculture is based on cultivation of oranges, bananas, sugarcane, coconuts, rice, manioc, cocoa, beans, and especially black pepper. Cattle ranching is prevalent in the southeastern portion of the State, and the total number of head of cattle in the State is approximately 14 million, and there is also intense animal husbandry associated with diverse types of birds, pigs, horses, and buffalo. Industrial activities are concentrated around the Belém metropolitan area with special emphasis on wood processing and lumber sales, and food, chemical, and aluminum production. Mineral extraction is one of the principal economic activities centered on bauxite, aluminum, iron, manganese, lime, gold, and tin. Non-wood forest extraction activities are centered on Brazil nut harvesting.

In spite of the fact that any city could be the *locus* of a discussion about school segregation, Santarém represents a different case because it is a city that was developed in the middle of the Amazon rain forest[8] – a biome that is recognized as a Natural Heritage of Humanity by UNESCO – located in a region rich in water, with a population of approximately 300 thousand inhabitants, the third largest city in Pará and the 83rd in Brazil. Furthermore, it is the protagonist of a historical process that has always reserved an important role for it with respect to cycles of economic development but that has also relegated it to the ranks of those with the worst social indices in historical and in modern times. This is the case even though it is strategically located with respect to commerce and transport in the Amazonian region, which gives the city excellent conditions to problematize because school segregation must consider other aspects besides education in and of itself in creation of a perspective of socio-environmental sustainability.

In this context, this text is organized in a way so as to present the socioeconomic, educational, and sustainability characteristics of Santarém, concluding with a challenge outlining how to think about overcoming school segregation starting from the scenario that is presented in this text.

Socioeconomic aspects

With the objective of presenting a snapshot of the socioeconomic situation of Santarém we used data from demographic indicators, availability of social services, and the general social condition of the population of Santarém. When possible, we made comparisons with indicators from the State of Pará and from Brazil, and for selected indicators we used only data for the State of Pará due to lack of availability of these data at the municipal level.

The study results describe social inequality, especially for those members of the population identified as non-white (mulatto, black), and those who inhabit the rural zone[9].

[8] The Brazilian Amazon contains part of the Amazon Rain forest and represents 64% of Brazilian territory in nine States: Acre, Amapá, Amazonas, Pará, Mato Grosso, Rondônia, Roraima, Tocantins and part of Maranhão. The most common economic activities in these States are forest and mineral extrativism, agriculture, fishing, and industry (especially in the Manaus free trade zone), retail commerce and services (in medium-sized cities and State capitals). With respect to agribusiness this region has 39% of the national cattle herd, produces 37% of Brazilian soybeans, contributes 36% of national exports and 40% of cocoa production, and is the largest producer of dendê palm products accounting for 85% of national production. This region also accounts for 36% of Brazilian mining products including 30% of iron ore exports, and has the largest iron ore mine in the world, the Serra dos Carajás, and is a large producer of copper, zinc, nickel, bauxite, gold, and tin, among others. The Amazon region is also an important source of energy generation producing 16% of national energy, and is projected to represent 90% of total Brazilian hydroelectric potential due to the planned expansion of the sector by 2024 with 22 hydroelectric dams projected in the Decadal Energy Plan.

[9] The rural zone of Santarém is large and is predominantly composed of small-scale farmers who practice subsistence agriculture cultivating beans, manioc, rice, and corn, associated with extraction of açaí and other fruits. The housing structures are generally simple, made of wood and clay, with a roof of palm thatch, fiber cement tiles, or wood; frequently the floors of these homes are bare earth that has been compacted, wood, or cement. The majority of these communities does not have electrical energy coming from public services but do have diesel generators that are put into use for special social events, and most residents rely on gas lamps for lighting. Water is consumed from well or streams with no treatment. It is also important to highlight that besides the aforementioned

The study also attempts to identify initiatives that promote equality and that combat discrimination, actions that are in line with the objectives of the new 2030 Agenda and that are fundamental to attain the Sustainable Development Objectives (SDO).

Figure 2
State of Pará
Source: IBGE/2017

The population of Santarém in 2010 was 294,580 inhabitants with 73% of this total located in the urban area, and in the same year the population of Brazil was 190,755.799 with 84% of this total in urban areas. In 2010 Santarém was the third largest municipality of the 144 in the State of Pará, the 83rd largest of the 5,570 total municipalities in Brazil, and had a demographic density of 12.87 inhabitants/km^2, placing it in positions 62 and 4,005 in Pará and in Brazil, respectively. The population of Santarém in 2010 was identified as 73% mixed race, 20% white, 5% black, 1% yellow, and 1% indigenous, while in Brazil the proportions were 48% white, 43% mixed race, 7.5% black, 1% yellow, and 0.5% indigenous.

Santarém has historically been a city with a considerable size of population due to the fact that it is an urban enter located at the confluence of two large navigable rivers, and due to this situation it has experienced population expansion with changes in economic cycles[10]; these cycles that have not always occurred just within the municipality but also in the lower Amazon region[11] as a whole.

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agricultural-based communities there are other groups that are unique to the Amazon such as those that live on the margins of the rivers (*riberinhos*) and those with strong indigenous roots. Saint-Clair Cordeiro da Trindade Júnior. 'Das "cidades na floresta" às "cidades da floresta": espaço, ambiente e urbanodiversidade na amazônia brasileira'. Papers do NAEA, 321 (2013): 3-22.

[10] During the colonial period the Amazon region experienced successive threats of invasion by the Dutch, French, and English, who came to the region in search of resources to enrich their empires.

The rubber boom occurred at the end of the 19th and beginning of the 20th century, and in the 1940´s the Ford motor company constructed Fordlândia and started another rubber cycle. In the 1970´s a national security project of the military government resulted in the construction of highways, and in the 1980´s there was a mass migration to the Amazon from the Northeast to work in the gold mines in the Tapajós region, and this resulted in Santarém becoming a commercial way post that served to support these mining activities. Between 1999 and 2010 Santarém had a new spurt of population growth resulting from expansion of plantations of soybeans attracting, principally, people from the south of Brazil who migrated with their families.

This study shows that the indicators point, on the one hand, to Santarém as being a large and dynamic urban center attracting migrants, and on the other hand as a city marked by social inequality with precarious living conditions, especially in the area of the periphery of the city and in the rural areas on the Belterra plateau and along the margins of the rivers, areas that are partially or totally lacking in infrastructure and essential services, situation that has resulted, consequently, in social problems such as an increase in criminality and environmental problems.

The economic sectors that sustain economic growth in Santarém are extraction of raw materials, especially wood and fisheries, and services. However, in the last few decades of the 20th century, the Amazon has taken on a different role as a new agricultural or economic frontier due to the large increase in production of soybeans in the municipality and in the State of Mato Grosso; even so, it is the commerce and services sector that employs about 30% of all active members of the workforce. An important part of the services sector resides in tourism, in part sustained by the attraction of riverine beaches in the town of Alter do Chão, a district of Santarém, and this has contributed to dynamize the local economy. The manufacturing sector, in spite of growth in the last few years, does not make a significant contribution to the local economy.

Santarém is the second most important port in the Amazon for the export of wood, activity stimulated by the implementation of the Sustainable Forest District (SFD) in the region of influence of the BR-163 highway, the first of its kind in Brazil. Besides this the Cargill Company maintains a grain exporting terminal in the port area at the end of the BR-163 highway in the city.

It was the presence of these foreign agents in the region of the Amazon estuary that pressured the Portuguese colonization in the area. The Portuguese arrived in the Santarém region 126 years after having arrived in Brazil in 1500, and they founded the small town of Tapajós in the region inhabited by Tapaiçu Indians. As of March 14th, 1758 the town became known as Santarém, in accordance with the decree of the Portuguese government to substitute the use of indigenous names with names of Portuguese origin. In 1848 the town of Santarém was given the status of a city, and from 1948 to 1969 the mayor was directly elected by the citizens of the city. In 1969 the military government, under Institutional Act nº 5, instituted a Federal Intervention that eliminated the direct election of mayor in Santarém, and the city became a municipality in a National Security Area until the end of the military dictatorship in 1985.

[11] The Lower Amazon Integration Region includes the northeastern region of the State of Pará, traversed by the Amazon and Tapajós Rivers, and the BR-163 (Cuiabá-Santarém), PA-254, and PA-419 highways. The total area of this region is 315,857 km², which corresponds to 25.32% of the total area of Pará. Besides this, a total area of 229,510.50 km² of its territory is in protected areas, which represents 72.66% of its total area. The region is composed of the municipalities of Alenquer, Almeirim, Belterra, Curuá, Faro, Juruti, Monte Alegre, Óbidos, Oriximiná, Prainha, Terra Santa and Santarém. It population in 2010 was 678,543 inhabitants, or 9% of the total population of Pará in that year.

The GDP per capita for Santarém in 2014, discounted for inflation, was R$ 13,043.21; for Pará it was R$ 13,775.00; and for Brazil, R$ 24,626.00[12]. Compared to other cities in the State of Pará Santarém occupies position number 34 among 144 municipalities, and for Brazil it occupies position 2,933 among 5,570 municipalities.

Inequality of income in the city, as described by the Gini index, was 0.56 in 1991, 0.61 in 2000, and 0.59 in 2010. In 2010 this index was 0.63 and 0.61 for the State of Pará and for Brazil, respectively. Average monthly household income per capita was R$ 354.00, for Pará it was R$ 429.00, and for Brazil, R$ 767.02, in 2010. However, in Santarém there was a large discrepancy between urban and rural zones with R$ 418.00 and R$ 168.00, in the urban and rural zones, respectively.

The percentage of persons identified as poor was 22.17% and 11.5% in Pará and Brazil, respectively, in 2014. The proportion of poor people with household income less than R$140.00 (August, 2010 price base) was 59.5% in 1991, 49.55% in 2000, and 31.07% in 2010. In Pará average income inequality is evident. In spite of the increase in income observed during the last few years, Pará still presents levels of income very inferior to the national standard with the situation in the rural zone being the most precarious. From the point of view of extreme poverty, meaning those who have a monthly income less than R$67.07, in 2004 10.9% of the population of Pará lived at this level, but in September of 2009 this index was reduced to 7.2%. However, when compared to Brazil Pará still appears disadvantaged because this index was 8.9% and 5.2% in 2004 and 2009, respectively.

Taking into account the rural context, the indicators of extreme poverty in Pará (19.2% in 2004 and 9.9% in 2009) were much more elevated than those observed in the rest of the country. This might suggest the inadequacy of government welfare policies in Pará that contribute to alleviate poverty in the rural zone and to minimize the discrepancy between the conditions of extremely poor populations in rural and urban zones.

In 2015, the average monthly salary was 2.1 times the value of the minimum salary[13]. Considering households with monthly incomes of up to one-half of a minimum salary per capita, 45.6% of the population of Santarém was in this condition which put the city in position 111 of 144 municipalities in the State of Pará and in position 2,078 of 5,570 municipalities in Brazil.

In 2010 12.4% of children and adolescents between 10 and 17 years of age were categorized as working as child labor, and of these 60% were male. Between the ages of 10 and 13, 7% of children were classified as being involved in child labor, and 63% of these were in the rural zone; between the ages of 14 - 15 and 16-17 these values were 12% (56% rural) and 22% (46% rural), respectively.

The infant mortality rate in the city was 14.16 per 1,000 live births in 2014 which placed the city in position 78 in Pará and 2,225 in Brazil. The city´s infant mortality rate per 1,000 live births was 50.7 in 1991, 27.0 in 2000, and 17.9 in 2010. For the State of Pará this rate was 52.6 in 1991, 33.1 in 2000, and 20.3 in 2010. For Brazil the rates were 44.7 in 1991, 30.6 in 2000, and 16.7 in 2010. The reduction in this rate is a reflection of the improvement in socioeconomic development and infrastructure as well as in access to

[12] Considering R$ 1.00 equal to £ 0.24; or U$ 0.31; or € 0.27.
[13] Actual minimum salary in Brazil is R$ 937.00.

resources that aid in maternal and infant health care. According to the United Nations, the infant mortality rate (IMR) is an indicator that best reflects environmental, economic, and social conditions in a country or region, and it is used to gauge the health situations of populations.

Life expectancy at 60 years was 21.3 years for Brazil and 20.6 years for Pará in 2009. The population between 60 and 79 years old represented 6.7% of the total, and for 80 years or more it was 1% in 2010. Public health coverage and assistance for the population considered to be elderly (60 years or more) is an indicator used in the public health sector that describes the degree of vulnerability in which the population finds itself, and this also reveals the degree of coverage of the actions of the State with respect to social security.

In 2004, 77.4% of the elderly population of Brazil was covered by the public social security health system; in Pará this value was 76.7%. In 2009 this value remained 77.4% for Brazil but declined to 71.9% in Pará. For the elderly population in rural areas this value was 86% in Brazil and 79% in Pará in 2009.

In its efforts to promote social security for its population, the State of Pará, through the Federal government, promotes social assistance services as well as direct monetary transfers. These transfers represent a portion of the income of these families, and this can be measured using the percentage of retirement and pension benefits that are payed out by the State or the Federal government, remuneration for continued services, and other official programs such as Minimum Income, Child Benefit or Welfare monthly payment, Program to Eradicate Child Labor, Benefit for Continued Service/Organic Law of Social Welfare, and others of a limited territorial nature such as the Constitutional Fund for the Financing of the North[14], and the National and Territorial Plan for Qualification.

The per capita increase in household income that occurred in the rural zone of Pará (on the order of 8.6% between 2004 and 2009) can be associated to these direct monetary transfers. This means that, although these transfers are not sufficient to eliminate situations of extreme poverty, as explained above, here the importance of these policies is evident since the increase in the income of the rural population in Pará is basically directly linked to this source.

With respect to the health of the population, it is important to analyze the morbidity rate, which refers to a set of individuals from the same population that acquire diseases (or a specific disease) in a given interval of time, highlighting diseases that are “related to poverty” or are considered “neglected diseases”, related to climate, life quality (low income, lack of access to education, precarious sanitation infrastructure, poor-quality

[14] Law n. 7827 of 1989. Has the objective of contributing to the promotion of economic and social development in the region through financing private sector programs. There is also: *National Plan for the Strengthening of Family-scale Agriculture (Pronaf)* **–** Decree n. 3,991 of 2001. Formed by diverse sub-programs with a focus on women, youth, agroindustry, and agroecology, among others, whose objective is to promote sustainable development in rural areas, aiming to increase productive capacity, job creation, and increase in income. *National Qualification Plan (PNQ)* – Resolution 679 of 2011. *Integrated to the National Jobs System (SINE)* and has as objective the establishment of interaction between the spheres of Work, Education, and Development. And the *Territorial Qualification Plan (Planteq)* **–** Is one of the actions of the National Qualification Plan (PNQ) and has as objective the professional training of citizens who have completed high school and that are looking for work in the job market.

housing, and daily contact with places that have poor hygiene), pregnancy, and wounds caused by external agents.

Indices of malaria infection are important in order to estimate the risk of its occurrence as well as the vulnerability of the population of a specific municipality. In Brazil, endemic areas are located in Amazonia. Through the Malaria Parasite Index[15] it is possible to analyze population, geographic, and temporal variation in the distribution of cases of malaria as part of the set of epidemiologic and environmental vigilance actions against this disease. In 2007 the values of this index were 3.4, 10.52, and 2.38 for Santarém, Pará, and Brazil, respectively. These diseases are caused by infectious and parasitic agents and are considered endemic in low income populations. In 2013, Brazil was 16th on the list of countries with the most cases of these diseases.

Another indicator the must be considered is the male homicide rate (deaths/100,000 inhabitants) for the 15-29 year old age group. In the case of Brazil this rate fell from 101.4 in 2001 to 94.3 in 2007. At the start of this period Pará had a lower average than did Brazil; however, this rate grew and the rate in Pará surpassed that of Brazil going from 48.8 in 2001 to 107.1 in 2007.

With respect to housing, in 2013 the proportion of people living in improvised homes in Pará was 30%, and in Brazil it was 17%. In Pará, adequate access to running water is below the national average. Furthermore, disparities between rural and urban areas reveal worrisome inequalities. The absence of this service directly impacts the quality of life of the population, causing diverse diseases transmitted by water, and this is an important indicator to characterize basic quality of life.

The number of homes with running water in Brazil has increased going from 83.3% in 2004 to 87.7% in 2009. Regional differences, in spite of having diminished during this period, are still large, and notably in the case of Pará, about 48% of its population lacked access to running water in 2009. This low average is basically due to the low percentage of access to running water in the rural zone which was 44.2% in 2009.

In Santarém, about 60% of homes had access to running water provided by the city in 2010, 20% used wells, and 20% relied on another source (6% rivers; 14% small weirs or reservoirs, streams). In the rural zone only 27% of homes were served by the municipal water network in 2010.

The lack of a public sewer system or even a service that functions inefficiently is a factor that has contributed to the increase in the levels of pollutants and could lead to the degradation of water quality and a decrease in the sustainability of ecosystem services, with a consequent increase in toxin levels and a deterioration of human health. For homes in Santarém with access to a public sewer system only 2% of these were actually connected to the system in 2010, 38% had private septic tank systems, and 59% used other methods that are considered precarious. In Pará, 10% of homes are connected to a public sewer system and 86% use other methods, while in Brazil 55% of homes are connected to a public sewer system and 42% use other methods.

Access to electrical energy by homes in Santarém in 2010 was 99% in the urban area and 69% in the rural zone; for Pará these values were 95% and 81%, and for Brazil

[15] Annual Malaria Parasite Index (IPA): low (0.1 to 9.9); medium (10.0 to 49.9); high (≥ 50.0).

tey were 99% and 93%, urban and rural, respectively. With respect to garbage collection services available to homes in the urban and rural areas of Santarém in 2010, in the urban area this value was 76% (5% burned, 10% discarded in the streets or in the rivers, 9% buried), and in the rural area it was 18%. For urban and rural areas respectively, homes possessed, in 2010, the following proportions of goods: refrigerator 81% / 40%; radio 70% / 69%; television 86% / 54%; microcomputer 20% / 3%; microcomputer with internet access 12% / 1%; automobile 18% / 4%; motorcycle 19% / 14%; landline telephone 19% / 3%; cell phone 74% / 35%.

Access to and use of cell phones in Brazil currently stands out as one of the most rapidly growing trends. In 2001 31% of households had at least one person that possessed a cell phone, and this increased to 81.1% in 2009. The trends in the North and in Pará closely follow that of Brazil with 73.9% and 73.1% of households having at least one person that possessed a cell phone in 2009.

Internet Access on 2014 was restricted to just 42% of the population of Brazil, and rural areas are practically left out of this process. Regional differences are intense, and in Pará household internet access was just 17% and 2.2% for the urban and rural populations, respectively.

Based on the study "Urban characteristics in the vicinity of households"[16], a systematized analysis of data for Pará with respect to elements of an urban environment found in the immediate vicinity of homes that can guarantee greater quality of life and mobility to their inhabitants. The following elements were identified and quantified, for Pará and Brazil, respectively: signs identifying streets 25% / 60%; public illumination 89% / 95%; sidewalks 29% / 68%; pavement 50% / 81%; curbs 38% / 76%; open-air sewers 45% / 11%; garbage accumulated in streets or public areas 9% / 5%; culverts 27% / 41%; presence of trees 27% / 67%; wheelchair ramps 1% / 5%.

For Santarém the available data showed that 7.8% of urban households had adequate urbanization of nearby public areas (culverts, sidewalks, pavement, and curbs), and that 43.3% had an adequate number of trees. When compared to the other 144 municipalities in Pará, Santarém is in the 20th and 51st positions for these categories, respectively.

This portrait of Santarém characterizes it in a category reserved principally for cities considered a sub-normal population cluster. These clusters generally have inadequate housing with precarious basic services such as sewage collection and treatment, running water, garbage collection and electrical energy connection.

This analytical snapshot conducted by the IBGE[17] had as objective the description of the diversity of the population clusters in Brazil, often times referred to as shanty towns (favelas), invasions, shacks, stilt houses, among others. The results from the research project "Sub-normal Agglomerations"[18] show that in Brazil there are 3,224.529 households located in sub-normal agglomerations with a total of 11,425.644 inhabitants, or equal to 6% of the Brazilian population. Analyzing by State in the northern region, in 2010 Pará had

[16] Instituto Brasileiro de Geografia e Estatística, "Características urbanísticas do entorno dos domicílios" (Rio de Janeiro: IBGE, 2010). (accessed 18 Aug. 2017).
[17] Instituto Brasileiro de Geografia e Estatística, "Características urbanísticas do entorno...
[18] Instituto Brasileiro de Geografia e Estatística, "Características urbanísticas do entorno...

the greatest number of these sub-normal agglomerations (248) that have a total population of 1,267.159 people, equal to 68.51% of the total for the North of Brazil. These sub-normal agglomerations were distributed in thirteen municipalities: Afuá, Almeirim, Altamira, Ananindeua, Barcarena, Belém, Benevides, Cametá, Marabá, Marituba, Parauapebas, Tucuruvi and Santarém.

According to Oliveira[19], the Santarém urban area is characterized as being an urban sprawl with serious housing and infrastructure problems in the periphery region. In these neighborhoods on the periphery there is a large population that has a low income and that lives surrounded by constant violence that is a true expression of exclusion and segregation.

The role of cities and their urban-regional centrality in the Amazon, especially in Pará, was analyzed by Trindade Jr.[20] who used the study "Study of the Regional Influence of Cities of the Brazilian Institute of Geography and Statistics"[21] as a base to understand the levels of centrality of the urban network, the definitions of metropolis, average city, and small city are established using Santos[22], Sposito[23], and Oliveira[24] as a base, for each term, respectively. This is done in order to describe the internal dynamic of these cities as well as the diversity of its form and content. The city of Santarém (average city) is used as an empirical reference wherein, starting with it peculiarities reveals the complexity of the urban network in the region and the need to consider the use of new methodologies for the analysis and comprehension of the urban citizen in the Amazon.

Santarém is considered in this study as an average city because it exerts a function in the network that goes beyond its characteristics in and of itself because it has a territorial responsibility that turns it into an important internal node in the network. The city has diverse urban functions and has institutional arrangements that are important not only for the city but for other municipalities near it in the region.

However, the appearance of new intermediate-sized cities in the Amazon has altered the urban network in the region. These cities began to attract a large flux of people which guaranteed them a degree of centrality in the region. This attraction is principally due to the offer of goods and services, stimulating people to seek these offers in places

[19] José Aldemir Oliveira and Tatiana Schor, "Amazônica: questões sobre a gestão do Das cidades da natureza à natureza das território". In Cidades ribeirinhas na Amazônia: mudanças e permanências, edited by Trindade Júnior, Saint-Clair Cordeiro da, Maria Goretti da Costa Tavares and Bertha Koiffmann Becker (Belém: EDUFPA, 2008), 15-26.

[20] Saint-Clair Cordeiro da Trindade Júnior, "Cidades Médias na Amazônia Oriental: Das Novas Centralidades à Fragmentação do Território". R. B. Estudos Urbanos e Regionais, Vol: 13 num 12 (2011): 135-151.

[21] Instituto Brasileiro de Geografia e Estatística, Estudo das Regiões de Influências de Cidades, 2007 (accessed 18 Aug. 2017).

[22] Milton Santos, "A natureza do espaço: técnica e tempo, razão e emoção" (São Paulo: Edusp,1996).

[23] Maria Encarnação Beltrão Sposito, "Cidades médias: espaços em transição" (São Paulo: Expressão Popular, 2007), 313-42.

[24] José Aldemir Oliveira and Tatiana Schor, "Amazônica: questões sobre a gestão do Das cidades da natureza à natureza das território". In Cidades ribeirinhas na Amazônia: mudanças e permanências, edited by Trindade Júnior, Saint-Clair Cordeiro da, Maria Goretti da Costa Tavares and Bertha Koiffmann Becker (Belém: EDUFPA, 2008).

other than their city of origin. Trindade Jr. and Ribeiro[25] emphasize that the classification of an average-sized city in the Amazon should first be done considering the role that it plays in the regional space, and that this classification should be done using the population size or level of modernization only afterward. According to these authors, average cities in the Amazon are better classified not by their level of modernization but rather by the existence of flux of people and goods of the same magnitude.

In this case, Santarém is strategically located, which guarantees it a special position in the Amazon urban network, characterized as being a node of the flux of people and goods that arrive or leave the Amazon. The coordination and connections occur at a local level, together with nearby municipalities, principally with respect to the offer of goods and services, manifesting the horizontal characteristics of the network, as well as the vertical characteristics at the regional and national level[26]. Santarém stands out as a crossroad of the flux of goods, services, and people, integrating different types of transport such as highways (the Santarém-Cuiabá and the Trans-Amazon highways), airports, and principally transport via rivers on the Amazon and Tapajós Rivers[27].

With the goal of calculating the level of human development of the city, the Municipal Human Development Index (MHDI) is used adapting the Global index to the Brazilian national context. In this way the MHDI uses the same three dimensions-health, education, and income- but goes further because it modifies the global method to the Brazilian context and the availability of national indicators. The MHDI of Santarém was 0.691 in 2010 which puts the city in the average level (between 0.600 and 0.699) on the MHDI scale. The dimension which most contributed to this score was longevity, which had an index of 0.807, followed by education with an index of 0.648, and income, with an index of 0.632. Between 2000 and 2010 the MHDI went from 0.555 in 2000 to 0.691 in 2010, a growth rate of 24.5%. The gap in human development, meaning the distance between the upper limit (1.0) was reduced by 69.44% between 2000 and 2010. In the municipality, the dimension that grew the most, in absolute terms, was education (growth of 0.426), followed by longevity and then income.

The growth of the MHDI can be attributed to the set of social programs that were implemented in the beginning of the 21st century in Brazil, highlighting education, which saw two important moments of change during this period: the creation of the National Education Plan (NEP) (law n. 10,172 of 2001) with a duration of ten years, and the expansion of the mandatory school age from 7 to 14 years (elementary and secondary school) to 4 to 17 years (second phase of preschool through high school). This change was the result of achieving a NEP goal to make fundamental education universal, solidified by a Constitutional amendment that caused immediate changes in all sub-constitutional legislation and administrative acts. Since Santarém is a city that depends on external resources, it is understandable that it would be immediately affected by the impacts of national policy administration.

[25] Saint-Clair Cordeiro Trindade Júnior and Rovaine Ribeiro, “Marabá: novos agentes econômicos e novas centralidades urbano regionais no sudeste paraense”. In Pequenas e médias cidades na Amazônia brasileira: a construção de uma plataforma socioambiental urbana (Universidade Federal do Pará e Federação de Órgãos para Assistência Social e Educacional, 2008).

[26] Milton Santos, “A natureza do espaço: técnica e tempo, razão e emoção” (São Paulo: Edusp, 1996).

[27] Saint-Clair Cordeiro da Trindade Júnior, “Cidades Médias na Amazônia Oriental: Das Novas Centralidades à Fragmentação do Território”. R. B. Estudos Urbanos e Regionais, Vol: 13 num 12 (2011): 135-151.

From 1991 to 2010 the MHDI of Santarém went from 0.421 in 1991 to 0.691 in 2010, while the MHDI of Pará went from 0.493 to 0.727. This represents a growth of 64.13% for the city and 47% for the State of Pará, and likewise a reduction of the gap between the MHDI value and the maximum value (1.0) was 53.7% for the city and 53.85% for the State. For Pará, the dimension that grew the most in absolute terms was education (+0.358), followed by longevity and by income. Santarém occupies the 2,161st position for MHDI among the 5,565 municipalities in Brazil. The highest MHDI in Brazil is 0.862 in São Caetano do Sul, in the State of São Paulo, and the lowest is 0.418 in Melgaço, in Pará.

Another way to evaluate the development of the city is to use the FAPESPA Index of Municipal Development (IDM/FAPESPA) which is a set of 34 indicators aggregated in two corresponding dimensions that express aspects of the concept of development: the FAPESPA Index of Economic Development (IDE/FAPESPA), and the FAPESPA Index of Social Development (IDS/FAPESPA). The results of the IDM/FAPESPA are presented on a scale of 0 to 100 (zero to one hundred), in which a IDM/FAPESPA score nearer to 100 represents a higher level of development for the aspect being analyzed, and nearer to zero is a lower level of development. The IDM/FAPESPA results for 2005 and 2010 were divided into four levels. The average IDM/FAPESPA score for the State of Pará was 15.75 in 2005 and reached 17.04 in 2010. In class 1 (75 – 100) there were no municipalities. In class two (50 – 75) there was just one municipality, and in class 4 (0 – 25) there were 125 municipalities. In class 3 (25 - 50) there were 16 municipalities which represent approximately 42.49% of the population of Pará and present an average score of 31.12. The ranking of the ten highest-placed municipalities on this list are Belém, Canaã dos Carajás, Santarém, Marabá, Oriximiná, Ananindeua, Barcarena, Paragominas, Castanhal and Ourilândia do Norte. In the ranking of the ten municipalities that presented the highest scores on the IDS/FAPESPA index, Santarém had the second-highest score in 2005 and 2010, and for the index of the level of health it occupied the 4th position in 2010. In other components Santarém occupied the following positions: 12th for the Index of the level of education, 22nd for the Index of the Availability of Basic Services, 39th for the Index of Average Income, and 49th for the Index of Public Security. In the ranking of the ten municipalities that presented the highest scores on the IDE/FAPESPA index, Santarém had the 5th highest score in 2010 and the 6th in 2005. In 2010 Santarém was 12th on the Infrastructure Index (INF), 5th on the Qualified Workforce Index (IQM), 8th on the Municipal Production Index (IPM), and 28th on the Environmental Index (IMA). At first glance the data from the FAPESPA indices might seem contradictory to other indicators presented previously in this paper, whether national or international, since Santarém occupies important positions that affect economic development of the State of Pará; however it is important to consider the focus of the index and its relation to the ranking within the national context.

Since redemocratization in Brazil, with the creation of the Constitution of 1988, the northern region has been the target of diverse economic development —FNO, Pronaf, PNQ, and Planteq, among others— whose focus is the qualification of the workforce and production on small and medium scales, which justifies its 5th position on the IQM and the 8th position on the IPM in Pará. Add to this the fact that the city has participated in a special way in the various economic cycles that have occurred since the end of the 19th century, accumulating experience which also permits, 100 years later, a certain form of recognition. When comparing Santarém with the situation in Pará, the city is always in the top 50%, result that corroborates with those from the FAPESPA indices, but on a national scale the city is almost entirely in the second 50%. This situation could reveal the precarious nature of the economic and social situations in Santarém.

Examining this set of circumstances, if one of the most qualified labor forces in Pará is poor, of mixed-race, with precarious health, inadequate housing in sub-normal agglomerates, without internet access, with poor access to running water and adequate sanitation, exposed to a high index of malaria parasites, homicides and child labor, this situation must be entirely reminiscent of exploited workers that borders on slavery. Therefore, the fact that the city has the 39th highest index of average index and the 49th for public security in the State is justified in light of the aforementioned scenario. We cannot ignore the fact that the city has advances on diverse fronts at the end of the 20th and beginning of the 21st centuries. However, such advances have been insufficient to overcome social segregation, especially since economic development as a whole, usually is given higher priority compared to social development. In this context we must also consider political policies that link socioeconomic aspects to educational ones, for example the Child Welfare Benefit Program[28], PETI[29], and the Social Assistance law[30], but even merging distinct sectors these programs are unable to overcome the alarming socioeconomic scenario of the city.

Educational Aspects[31]

Analyzing the question of illiteracy among people 15 years-old or more, Santarém had a reduction of 11.7% in 2000 to 7.4% in 2010 which put the municipality in position 139 of the 144 municipalities of Pará, and in position 4,380 in Brazil. The situation gets worse when the focus is put on the rural population of Pará. Even though the trends for reduction

[28] Law n. 10.836 of 2004. Unified and augmented previous direct money transfer programs, among them the National Program for Minimum Income which was linked to education through the School Stipend Program, and the National Program for Access to Food—Zero Hunger. Consists of financial help for poor families wherein there is pregnancy or children between 0 and 17 years of age.

[29] Social Development Ministry of the Federal government. Decree n. 2.917 of 2000. Conducts actions to remove children and adolescents less than 16 years of age from work situations. Ensures direct transfer of income to families and offers inclusion of children and young people in services that provide orientation and that accompany school attendance.

[30] Law n. 8742 of 1993. A series of integrated public initiative actions with the goal of guaranteeing the provision of basic needs on a continuous basis aiming to increase social protection and guarantee quality of life, and prevention and reduction of risks and damage to populations.

[31] "The current structure and functioning of the Brazilian Education follows the Law of Directives and Bases of Education n. 9394/96 – Lei de Diretrizes e Bases da Educação (LDB) - which is linked to the Constitution's general guidelines, as well as to the constitutional amendments ruling. It is organized into two blocks: basic education, consisting of childhood education (0-5 years), fundamental education (6-14 years) and regular and/or vocational middle education (15-17 years); higher education, consisting of graduation and post-graduation lato and stricto sensu. The Federal, State and Municipal spheres organize their educational systems under collaboration (art. 211, CF/88), however, municipalities must act primarily in childhood and fundamental education (art. 211, § 2°, CF/88), and states in fundamental and middle education (art. 211, § 3°, CF/88), while the federal sphere acts supplementary balancing the educational offer (art. 211, § 1, CF/88). In the education area one cannot find that the laws are the only source of public educational policies (art. 59 CF/88) because once there are private actions to certain levels of education, each public sphere will act in a specific way. Therefore, educational public policies are results of both legislative discussions and their regulations, and administrative acts lighted by the current rules of the legal system, left in charge of the Judiciary with the Parquet to contribute to the effectiveness of policy" Ana Elisa Spaolonzi Queiroz Assis and José Roberto Rus Perez. "Implementation and Evaluation of Policy Education: conflicts between the stakeholders". In: The International handbook of cultures of education policy volume one: international issues in policy-outcome relationships? Achievement with family and community involvement, edited by Béatrice Boufoy-Bastick. (Strasbourg: Analytrics, 2014), 913-930.

of illiteracy were higher in these areas, the levels of illiteracy are still alarming, with rates around 20%, and 25% of people 60 years of age or more never went to school. This situation is similar to that in the city in the decade of the 1960´s when the census showed that 44% of the population of 92,144 in Santarém was illiterate, and 27% of the population lived in the urban zone[32].

The State of Pará has a level of education that is measured by the average number of years of schooling of the population that is 15 years old or older, and this level was lower than the national level in 2009. In the State, this average was 6.7 years of study, and for Brazil it was 7.5. The rural population of Pará in 2009 had a low level of schooling with an average of 4.8 years of study.

In Santarém in 2010, for people 10 years old or older, 50% had no schooling or had only partially completed elementary and secondary school, 21% had completed elementary and secondary school with high school only partially completed, 24% had completed high school, and finally just 5% had completed college.

The city stands out with respect to college-level education with two public institutions and four private ones, with a total enrollment of 12,759 students, 61% of them in public institutions.

With respect to the rate of school attendance, the data from 2010 show that just 10% of children between 0 and 3 years of age attended public daycare. School is not mandatory for this age group, but the great need of this service is justified by the necessity of parents who work and have to have a place to leave their children during this time. School attendance for children in the 4-5 years-old group, the first group for which school is mandatory, was 71%, but one-third of these children did not have access to preschool.

School attendance for children in the 6-14 years-old group was 97.3% in 2010 placing Santarém in the 24th position among 144 cities in Pará, and in position 3,221 among 5,570 municipalities in Brazil. For children 6 years-old, and in groups 7 to 9 and 10 to 14 years-old, school attendance is practically universal since for these groups frequency of attendance was 95%, 98%, and 97%, respectively, and this is a result of the PNE of 2001. In the 15-19 years-old age group school attendance was 71%; for ages 20-24 it was 26%, and for ages 25-29 it was 14%. School attendance for age group 30-59 years-old was 7%, and for 60 years or older the rate was just 1%. For children and adolescents between 10 and 17 years of age 7% of these did not attend school, and 83% of this group was of mixed-race or black.

Proportions of children and young people that attend school or that have completed certain levels of schooling, indicate the situation of education among the school-age population in Pará. In Santarém, the proportion of children between 5 and 6 years-old attending school was 89.16% in 2010. The proportion of adolescents between 15 and 17 that had completed elementary and secondary school was 60.2%, and the proportion in age group 18 to 20 with high school completed was 37.61%[33].

[32] Maria Lília Imbiriba Clares, “Políticas educacionais para a formação docente na educação básica”. EccoS – Rev. Cient., São Paulo num 40 (2016): 67-82 (accessed 13 Aug. 2017).
[33] Brasil, “Desenvolvimento Humano para Além das Médias: 2017” (Brasília: PNUD, IPEA & FJP, 2017) (accessed 13 Aug. 2017).

The indicator of the population 18 years of age or older with elementary and secondary school complete carries with it a large inertia related to the effect of the generation that came before that had a lower level of schooling. Between 2000 and 2010 this percentage went from 39.26% to 56.86% in the city, and 39.76% to 54.92% in Pará. In 1991 the percentages were 25.76% in the city, and 30.09% in Pará. In 2010, considering the municipal population of 25 years of age or older, 10% were illiterate, 51% had completed elementary and secondary school, 34% had completed high school, and 7% had completed college. In Brazil these percentages were, respectively, 12%, 51%, 36%, and 11%.

In the city of Santarém in 2015, 85,973 people attended school, corresponding to 1/3 of the total population of the city. Of this total, 12% of the enrollments were in preschool, 66% in elementary and secondary school, and 22% in high school.

	State	City	Private	Total
Preschool	0	81	19	10.568
Elementary and Secondary School	13	76	11	56.689
High School	92	0	8	18.716

Table 1
Percentage distribution of school enrollment for level of instruction– 2015 .
Source: MEC/INEP

Of the 108,044 people in Santarém that attended school in 2010, enrollment was divided as in Table 2 below:

	Public Schools	Private Schools
Day Care (0-3 years)	74	26
Preschool (4-5 years)	70	30
Literacy class for young children * (≥7 years and illiterate)	73	27
Literacy class for youth and adults (≥16 years and illiterate)	100	0
Elementary and secondary school (6 a 14 years)	91	9
Elementary and secondary school for youth and adults that can read and write (≥16 years)	97	3
High School (15 a 17 years)	93	7
High School for youth and adults with secondary school complete (≥18 years)	93	7
College or University	25	75
Specialization	18	82
Masters degree	51	49
Doctorate degree	100	0
* discontinued		

Table 2
Percentage distribution of school enrollment for type of school– 2015
Source: IBGE

The proportion of enrollments in the different levels of school in the rural zone in relation to the total, in 2015 were: daycare 5%; preschool 35%; primary school 36%; secondary school 32%; high school 2%; vocational education 7%; youth and young adult education 13%; special education 33%. The proportion of enrollments in full-time schooling (morning and afternoon) was 32% for elementary and secondary school and 1% for high school.

In 2017, the Municipal Secretary for Education attended 33,686 students in 58 urban schools, 10,302 students in 91 rural schools in the Belterra plateau region, and 15,844 students in 233 schools in the region of the margins of rivers. Seventy-percent of these schools had several different series, or grades, studying together.

As for the indicators of performance, State schools had worse performance than Municipal and private schools, and in order to emphasize this poor performance we highlight that State high schools had a dropout rate of 26%, as Table 3 shows.

	Elementary and Secondary School			**High School**	
	State	***Municipal***	***Private***	***State***	***Private***
Pass	77	93	98	74	92
Fail	14	6	1	8	92
Evasion	8	0,5	0,2	18	5

Table 3
School performance for level of instruction and school type – 2015. Source: MEC/INEP

It is also possible to gauge the performance of students using data from the performance evaluation systems of the Ministry of Education: the IDEB[34] –and the Evaluation System of Fundamental Education—SAEB[35]. The students in the first two years of school in the municipal public system had an average grade of 5.2 for the 2015 IDEB; for students in the final years this grade was 4.1. Comparing cities in Pará, the grade for students in the first two years of school put Santarém in the 6th position among 144 municipalities; considering students in the final years this position was 9th out of 144.

Comparing the results of the SAEB from Santarém with the same results from Pará in 2015, the students from the municipal schools do better than do students from the State schools, with the exception of students in the 9th year (last grade of secondary school) in the rural zone. Furthermore, the performance of students in the urban schools is always better than those of rural schools. Summarizing these results on a national level, we see that in the 5th year of fundamental school (the first year of the second phase of

[34] The IDEB is the Education Development Index. It has existed since 2007 and aims to measure the quality of national learning and establish goals for the improvement of teaching. The scale ranges from 0 to 10.

[35] This system was instituted in the 1990´s by the Brazilian Federal government and its objective consists in making a diagnosis of the fundamental, or basic level of the education system and also of some factors that could interfere with student performance, providing an indication of the quality of the teaching being given. It is composed of three large-scale evaluations: National Evaluation of Basic Education (Aneb), National Evaluation of Academic Performance (Anresc), and National Evaluation of Literacy (ANA). The results from these evaluations are linked to goals established by the IDEB. These evaluations are divided into tests of the Portuguese language and mathematics, each one having ten levels of points so that the first level goes to 149 points, and the ninth level goes to 350 points, with variations of 24 points between each level.

fundamental school, also known as the first year of secondary school in some English-speaking systems), performance in the Portuguese language was 198.6 in State schools (181.99 for Pará) and 199.61 for municipal urban schools (184.9 for Pará), and 178.85 for municipal rural schools (167.16 for Pará). For mathematics the result was 201.71 in State schools (189.85 for Pará) and 205.84 for municipal urban schools (194.87 for Pará), and 189.71 for municipal rural schools (184.52 for Pará). These scores placed schools in Pará between levels 3 and 4 (of 9) in the SAEB performance evaluation.

In the 9th year of fundamental school performance in the Portuguese language was 241.78 in State schools (231.01 for Pará) and 248.85 for municipal urban schools (239.26 for Pará), and 214.5 for municipal rural schools (223.36 for Pará). For mathematics the result was 239.61 in State schools (231.72 for Pará) and 245.7 for municipal urban schools (239.42 for Pará), and 221.91 for municipal rural schools (234.35 for Pará). These scores placed schools in Pará between levels 1 and 2 in the SAEB performance evaluation.

With respect to the 3rd year of high school (last year of high school and final year of mandatory education), for State schools in Pará, performance in the Portuguese language was 250.68, and 250.30 in mathematics, maintaining levels 1 and 2 in the SAEB performance evaluation. In relation to indicators of physical infrastructure, Table 4 presents the number of schools in Santarém, highlighting the large number of municipal schools.

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	State	City	Private	Total
Preschool	0	285	38	323
Elementary and Secondary School	26	378	37	441
High School	26	0	7	34

Table
Percent distribution of the number of schools based on administrative classification – 2015
Source: MEC/INEP

Of this expressive number of schools in the public municipal system in Santarém, 57.6% are composed of just one room, as Table 5 shows. This reality is more highly concentrated in the rural zone, and is inadequate to promote a quality learning process taking into account the installation in general, equipment, and sanitary facilities[36].

	Urban		Rural	
Daycare	19	83%	4	17%
Preschool	69	12%	216	88%
Elementary and Secondary school	85	21/%	319	79%
High School	26	76%	8	24%

Table 5
Number and proportion of public schools in the urban and rural zones – 2015
Source: MEC/INEP

[36] Maria Lília Imbiriba Colares, "Políticas educacionais para a formação docente na educação básica". EccoS – Rev. Cient., São Paulo, num 40 (2016): 67-82 (accessed 13 Aug. 2017).

The author also emphasizes that many schools do not have running water from the municipal network, with water coming from wells, rainfall, rivers and streams, and in some exceptional cases distributed by large water trucks. As for electrical energy, in spite of the Federal government rural electrification program, many communities still are not connected to the grid, which makes difficult or impossible for schools to function at night, reducing opportunities for workers and/or their children to attend school. Added to these factors are the inherent difficulties in obtaining funds to improve school infrastructure, and many of these schools are located along the riverfronts (várzea) that are subjected to periodic flooding during parts of the year, which has the effect of accelerating the deterioration of the schools´ structure and further reducing security and well-being. It is also worth noting that the canoa, or small wooden boat with a small outboard motor, is oftentimes the mode of transport for professors as well as students in this environment.

The increase in the number of students, in spite of the decrease in the number of schools and classes in the rural zone, can be explained due to the adoption of new forms of organization of the teaching system such as school nucleation, better organization of class hours and school physical spaces, etc. The increase in the number of students enrolled is accompanied by an increase in the number of classes that mix several grades together in the rural, as well as in the urban zone. These classes contain students from the first through the fourth grade of elementary school grouped in the same space and taught by the same teacher (C).

In spite of these concentrated efforts to coordinate school functions in an informal manner that have allowed schools to accommodate a greater number of students, the teaching profession is faced with new challenges, among these being that the quality of professors must be maintained or even improved. In urban schools in 2010, professors with a high school education level represented 21% of professors, and those with a college education were 79%; in rural schools these values were 40% and 60%, respectively. Furthermore, just 41% of professors in State schools lecture courses that are compatible with their college or university education[37].

In the same manner that developmentalist actions have achieved a degree of success, educational policies in Santarém can also be recognized as have the dual nature of being inefficient but of imparting social emancipation.

In the case of education, having met the PNE goal with respect to universalization of elementary and secondary education is a factor of great relevance, and it could be concluded that the social programs that link school attendance with family financial aid such as the Child Welfare Benefit Program and Minimum Income, were determining factors because they were able to address the problem of child labor. In other words, from the moment that going to school generates income, the family no longer feels the pressure to enlist the family member (now in school) to contribute to the monthly household budget.

The political policies that link economic and educational aspects have had an impact on a specific portion of the population of Santarém, but neither economically nor socially have they been able to modify the scenario of segregation, and may have even contributed to making segregation even more entrenched since these policies create

[37] Instituto de Pesquisa Econômica Aplicada, Série Situação Social nos Estados – Pará, http://www.ipea.gov.br/portal/index.php?option=com_alphacontent&view=alphacontent&Itemid=16. (accessed 13 Aug. 2017)

conditions for the formation of a workforce that in general receives a low income, but is qualified and well-prepared for the dominant type of economic activity in the region, which is centered on the raw material extraction and commerce and services sectors of the economy.

A worrisome problem is the consistent trend of illiteracy and school evasion starting with the 15 year old age group. In the last 50 years the city has not been able to effectively reduce the percentage of illiterate people as well as the school evasion rate of students with 15 years of age or more, with enrollment rates always below 40%. Added to this is the precarious situation with respect to access of these people to the job market, a situation that is worse in rural areas in which school enrollment rates do not pass 36% for basic education (between 4 and 17 years of age).

The scenario becomes even more troubling when considering that just 1/3 of the population goes to school, with a large proportion of this enrolled in preschool and elementary education in municipal public schools, institutions that are in the same conditions as those identified in residences located in sub-normal agglomerations, in which the majority of schools have classes that are a mix of several different grades, and half of these have just one classroom.

In the case of Santarém, the option to adapt school organization to make it more flexible has demanded of professors, many of whom have only a high school education, new methods in order to attend the diverse realities that can be found in a single classroom, and this has resulted in a larger enrollment, especially in the rural zone. This may be the data or result that is the most relevant for recognizing that Santarém is in a scenario of educational emergency. It is not a matter of simply implementing an educational policy that has a progressive pedagogical bias that is able to respect the individuality of those being educated, but rather this crisis is due to the impossibility of implementing the original educational policy.

Aspects of Sustainability

Starting in the 1970´s the Amazon became a strategic geographic space in the national plan for territorial integration, and assumed the condition of an economic frontier[38]. It was in this period that some cities in the Amazon, among them Santarém, became targets for programs, projects, and investments.

In this context, during the following 30 years, the Lower Amazon Integration Region went through a period of expansion of cattle ranching, mineral and timber extraction, traditional and mechanized agriculture, and industrial activity. Urban expansion intensified and brought with it degradation of the environment leading to deforestation, fires, pollution of rivers and loss of biodiversity, thus compromising environmental quality and consequently the well-being of the urban population.

There arose, then, the necessity to evaluate the condition of the environment as a subsidy for the elaboration of public policies, and to this end the government of the State of Pará created the Indicators of Environmental Quality (IEQ) for all of the regions of

[38] Bertha K. Becker, “Amazônia” (São Paulo: Ática, 1990).

integration, which were grouped into protected areas, deforestation indices, fire or heat hotspots, and institutional capacity.

Protected areas are those that express the dimension, distribution, and extension of territorial spaces that are legally protected in relation to the region of integration of the municipalities of which they are composed. As such, indigenous lands were also included as areas there are institutionally protected.

The law n. 9,985 of 2000 institutes the National System of Nature Conservation Units and defines a Conservation Unit in article 2, clause I as:

> A territorial space and its environmental resources, including waters in its jurisdiction, with its relevant natural characteristics, legally established by Public Power, with the objective of conservation and with defined limits, under a special administration regime, to which are applied adequate guarantees of protection [39].

Conservation Units are divided into two groups: Integral Protection (IP) and Sustainable Use (SU). These areas are important for evaluation of environmental quality indicators because, according to research, deforestation rates in the interior of these areas are significantly lower than those in adjacent areas. According to the study Ecological and Economic Macro-zoning of the State of Pará[40], 57.52% of the territory of Pará is composed of protected areas (indigenous lands and Conservation Units). The Lower Amazon Integration Region has a total of 229,510.50 km² of its area in protected areas which represents 72.66% of its territory; for Santarém this value is 20%.

It is important to highlight that there is a significant presence of protected areas and indigenous lands located around Santarém. Forest management activities are highly concentrated in the region, especially on the right side (eastern; opposite of the Tapajós National Forest (FLONA)) of the BR-163 highway. The FLONA Tapajós is itself experiencing forest management, including a pilot project that represented the first sale of wood from public lands in the Amazon.

The environment is an important indicator of the identity of the Lower Amazon region. Among the activities that degrade the land, one of the most important is land-use change for implantation of soybeans and cattle ranching, principally in Santarém and Belterra, and mineral extraction in the municipalities of Juruti and Oriximiná. These activities have generated deforestation with incentives and financing from the State, benefitting national and international firms.

Additionally, local populations have, with certain frequency, been under pressure from agents of these businesses that are considered strategic to international commerce. Large investments in mineral extraction, agriculture, ports and railroads, for example, have sought to serve sectors that historically have accumulated wealth and income concentration. Grain production, particularly soybeans, has contributed in a significant manner, together with gold and bauxite extraction, in order to promote the expropriation of

[39] Brasil, “Sistema Nacional de Unidades de Conservação da Natureza Lei n.º 9.985 de 2000”. (accessed 18 Aug. 2017)

[40] Secretaria de Meio Ambiente do Estado do Pará, Macrozoneamento Ecológico Econômico do Pará, https://www.semas.pa.gov.br/. (accessed 29 Aug. 2017)

family-based farmers, deforestation, timber extraction, and contamination of riverbeds with mercury.

There is a tendency of concentration of collective goods and services in the city of Santarém, and policymakers and stakeholders hope to see, as a result of this tendency, the spreading of development actions throughout the entire region as a sort of trickle down process. Development plans for the region historically have sought to integrate development with environmental protection, such as the Regional Sustainable Development Plan of the Xingu (PDRSX) – Ministry of the Environment decree n. 7,340 of 2010, the Regional Development Plan of Amazonia (PRDA) of the Superintendency for Development of the Amazon of the Ministry of National Integration (2012), and the Strategic Plan for the Sustainable Development of the State of Pará (PEDSP) – Secretary of State for Economic, Mining, and Energy Development (SEDEME), Federal decree n. 1,570 of 2016. In spite of the ambitious environmental agenda of these plans, more weight is always given to development and that when accompanied by the word sustainable seems to give greater emphasis on the environment, which, in reality, does not happen.

According to Barbosa[41], "the environmental question becomes a problem if the strategy is to continue with the same processes that exploit nature using as a base neo-developmentalist and neo-industrial political policies that are created in an exogenous form with respect to the dynamics of local populations", particularly those of large soybean plantations that are stimulated by the dynamics of the agricultural frontier, and also by the implementation of new port terminals and mining operations.

According to the Indicators of Environmental Quality of the municipalities of the Lower Amazon Integration Region and of the Institute for Economic, Social, and Environmental Development of the State of Pará (IDESP), the *deforestation index is that which:*

> (...) expresses the loss of forest cover in the territory considering the relationship between annual deforestation and the areas of municipalities in Pará. The removal of the original vegetation cover generates consequences such as the loss of biodiversity, soil degradation, erosion, change in the dynamics of water bodies, and contributes to climate change[42].

With this definition in mind, the Lower Amazon Integration Region had a total of 19,732 km² deforested between 2001 and 2011, corresponding to 6.25% of its territory, and analyzing the historical trend of deforestation for the municipalities in the region shows that Santarém was the leader.

With respect to the *index of hotspots*, which are fires in forests or fields and other areas that are detected by satellites that monitor heat sources on the Earth´s terrestrial surface[43], in Pará as well as in Brazil, the use of fire is a common practice used to renew pastures and liberate recently cleared areas for agricultural and cattle ranching activities. Forest fires generally originate from unauthorized use of fire to prepare an agricultural

[41] Maria José de Souza Barbosa, "Relatório Analítico do Território do Baixo Amazonas – Pará". (Belém: Instituto de Ciências Sociais Aplicadas, Universidade Federal do Pará, 2012), 10.
[42] Instituto de Desenvolvimento Econômico Social e Ambiental do Pará, "Indicadores de qualidade ambiental dos municípios da Região de Integração Baixo Amazonas" (Belém: IDESP, 2013).
[43] Instituto de Desenvolvimento Econômico Social e Ambiental do Pará, "Indicadores de qualidade ambiental dos municípios...

area, and these uncontrolled fires destroy large areas of native and non-native vegetation, pastures, and crops. Fire set for clearing, as well as forest fires, annually destroy large areas in Pará and are a threat to local ecosystems. In the Lower Amazon Integration Region, fire hotspots increased 25.16% between 2006 and 2012 when 2,900 hotspots were identified in the region. In Santarém there were 385 in 2006, 161 in 2007, 268 in 2008, 783 in 2009, 344 in 2010, 430 in 2011, and 487 in 2012.

Finally, institutional capacity is measured by the managing government body and the municipal environmental council. Among the eleven cities in the Lower Amazon Integration Region, the cities of Alenquer, Almeirim, Prainha, Curuá, Santarém and Juruti were the only ones who had, in 2015, a Environment Secretary equipped and prepared to conduct environmental management activities. In relation to the staff of these agencies, the Lower Amazon Integration Region had a total of 81 people working in this area[44], and Santarém had the largest number with 25.

According to the Portal of the National Meeting of Watershed Committees, a committee created by the National Plan for Water Resources, the entire Amazon region has just 3 committees, with none in Pará, although the Lower Amazon Integration Region is linked to the Tapajós Amazonas (CBH – TAPAM) Watershed Committee with 4 members. This appears to be insufficient to validate and bring to life any plan to manage the watersheds in this region in an integrated manner joining different sectors of government. The majority of municipalities do not have a municipal environmental council as part of their administrative framework, and this compromises the participation of the community in environmental discussions together with the representatives of public authorities, although the municipalities of Belterra, Santarém, Alenquer and Óbidos have a municipal environmental council that has a consulting and deliberative character.

Currently, Santarém, as is the case for many other cities, is suffering from diverse problems with respect to the environment. In its immediate surroundings, part of the vegetation cover has been totally removed by the installation of farms and by informal occupation of lands. Recently, the advance of soybeans has constituted a threat to forested areas. This situation has increased the possibility of erosive processes silting in the Tapajós River, river that is also affected by mining activities and disposal of domestic sewage, since just 2% of the population, in 2010, was connected to the municipal water treatment system.

The Amazonian Foundation for Support of Study and Research (FAPESPA) created the “Barometer of Sustainability of the Amazon”, a publication that unites analyses of human and environmental well-being, pointing to a level of sustainability of the States that compose the Amazon region[45].

According to Kronemberger *et al.*[46], the method used for the construction of this barometer of sustainability (BS) is extremely flexible. In its composition there is no fixed number of indicators, and the choice of indicators to be used is in agreement with the

[44] Instituto Brasileiro de Geografia e Estatística, “Estudo das Regiões de Influências de Cidades” (Rio de Janeiro: IBGE, 2007). (accessed 18 Aug. 2017)

[45] Fundação Amazônia de Amparo a Estudos e Pesquisas, “Barômetro da Sustentabilidade da Amazônia” (Belém: Diretoria de Estudos e Pesquisas Ambientais, 2016).

[46] Denise Maria Penna Kronemberger et al., “Desenvolvimento sustentável no brasil: uma análise a partir da aplicação do barômetro da sustentabilidade”. Soc. nat. (Online), Uberlândia, Vol: 20 num 1 (2008): 25-50. (accessed 29 Aug. 2017)

possibility of construction of scales of performance, of the area being studied, and the availability of information. The BS can be applied on a local to a global scale, thus permitting comparisons between different places and along a defined temporal horizon.

The BS was developed by researchers from the World Conservation Union (IUCN) and the International Development Research Center (IDRC), and has become a widely-used method to evaluate sustainability wherein, in spite of taking into account indicators that are only loosely connected, is able to equalize the differences between them along two broad axes in a bi-dimensional graph: human well-being (HWB) and environmental well-being (EWB). Each one of these two broad dimensions is subdivided into themes, for example, for society it considers health and population, wealth, knowledge and culture, community and equity. For the environment axis it considers soil, water, air, and natural resource use.

This method uses monitoring of human and ecologic conditions related to the progress of sustainable development. To evaluate sustainability 27 indicators were chosen, the majority linked to the Millennium Objectives (MO); additionally, indicator selection took into account the sensitivity to immediate actions of the State. Twenty Human well-being indicators and seven Environmental well-being indicators were selected (most recent data, from 2010 and 2016).

The dimension that considers society, in Pará, is in a "potentially unsustainable" condition. There were no indicators in this dimension that reached levels considered sustainable, but a few of them were close, such as rate of activity, school evasion in elementary and secondary education, and access to electrical energy. Indicators such as adolescent and childhood pregnancy, child labor, internet access, and theft had the worst performance in relation to the levels considered sustainable. Such situations reaffirm the importance of the socioeconomic and educational aspects previously presented in this text:

> The incentives and fiscal exemptions granted to promote infrastructure, transport and logistics aimed at helping implant agroindustrial and agribusiness enterprises have profoundly transformed the local reality, whose results have generated serious socioeconomic and land ownership problems, besides violence in urban and rural areas[47].

The dimension for the environment in Pará is in an intermediate situation. The best performance in relation to the sustainable goals was the indicator related to forest resources. There was no indicator in this dimension with a performance considered below sustainable.

Levels of sustainability in the north of Brazil are situated between potentially unsustainable and intermediate, which reveals an imbalance in the evaluated indicators with respect to acceptable sustainability parameters. The State of Amazonas has better environmental quality than does Pará, however, in relation to human well-being, both States have equal indices, indicating that different public policies that deal with development was determinant for this difference. The public policy of Amazonas has been concentrated on industrialization in the Capital city, and the result has been less pressure on the forest, while in Pará there has been a stronger pressure on the environment due to the fact that public policy has been based on use of natural resources.

[47] Maria José de Souza Barbosa, "Relatório Analítico do Território do Baixo Amazonas – Pará" (Belém: Instituto de Ciências Sociais Aplicadas, Universidade Federal do Pará, 2012), 17.

What this indicates is that certain important management tools are still non-existent in the region, such as Executive Director Plans for municipalities, Management Plans for the lower Tapajós and Lower Xingu water resources, Rural Environment Management Plans, Implementation of the Formalization and Sustainable Development Program for Small Mining Operations, as well as the creation and implementation of Extractive Reserves (RESEX) and Sustainable Development Reserves (RDS).

This scenario of the aspects of sustainability simply confirms what was already highlighted, that if economic development has expanded in detriment of socioeconomic and educational development of the population, then it has simply exploited, in an uncompromising and irresponsible manner, the Amazon biome.

Even though Santarém has a majority of its area in protected areas, in the last 10 years the municipality has been the leader in deforestation, increase in fires, expropriation of family agriculture lands, and change in land use for grain plantations in the region. This situation appears to be contradictory if, in the State, it is one of the few cities that has an environment Secretary and a municipal environmental council. However, if the regional and national public policies are concentrated on extraction of raw materials, without emphasis on sustainability criteria, then the existence of these social institutions contributes to the institutionalization of degrading actions instead of combating them.

It is important to recognize that Santarém has favorable natural conditions to foster sustainable development, and even though many tools for such management are still lacking, others are already available so that the city can place great value, above all else, on sustainability that will guarantee not only economic development but social development as well. In this way, the city will be able to revert it potentially unsustainable social scenario and avoid worsening the intermediate situation with respect to the environment, which is currently considered as at an intermediate level of sustainability because of the high concentration of forest in its region.

Some considerations to overcome school segregation

A population living in a situation of social vulnerability does not have the conditions to break from the cycle of social segregation, and although it may recognize the importance of its culture and land, it doesn´t possess the conditions to give these their due attention because the populations lacks even minimal conditions for survival. This represents a context in which the forest as well as human populations are seeking to survive when at the same time are subjected to developmentalist exploitation.

In this sense, considering that the PNRH permits planning at the level of the environmental basin, and that an analysis of Amazon urban areas demands new methodologies[48], and also because Santarém has a special role in the dynamic of relationships within the region, public policy that articulates socioeconomic (social dimension), educational (political dimension), and sustainability (spatial dimension) aspects, and that involve the Municipal, State, and Federal spheres, is not only urgent but necessary.

[48] Milton Santos, “A natureza do espaço: técnica e tempo, razão e emoção” (São Paulo: Edusp, 1996).

The relationship shown between the PNE and the Child Welfare Benefit and Minimum Income programs indicate that, if public policies are sufficiently broad in their coverage, encompassing the complexities inherent to the place where they are implemented, without focusing on a specific population, these will meet with success, since as shown in this study, the universalization of elementary and secondary education caused a reduction in incidence of child labor for children up to 14 years of age. Even so, this reduction can still be characterized as a small victory in light of the persistent scenario of segregation in the city, which relegates this advancement as still insufficient.

Furthermore, it is necessary to recognize that, due to the fact that the context here is the Amazon, the definitions urban and rural to describe a geographic space are insufficient, and what is needed is a comprehension of a "city of the forest" and not simply "city in the forest"

> "Until the 1960s, "towns of the forest" were the most common types of places inhabited by people in the Amazon region. Their characteristics of small towns and often associated to river travel caused them to create strong links with the dynamics of nature, with rural life far from the modern world and the pace of life dicated by the forest still remained largely undisturbed. Moreover, these towns always established strong links with their respective surroundings and nearby locations. Although many towns have been losing these characteristics, considered as rural, effectively speaking, they have not completely disappeared, and are still present in certain sub-regions of Amazonia. "Towns in the forest", on the other hand, are those that tend to create links principally to demands from outside the region, making the forest an element of little importance with respect to integration with new values of urban life, and their denial of the forest can be interpreted as seeing it as a space for economic exploitation[49]."

These conditions resulting from a public policy that has as objective overcoming school segregation, we return to objective 4 of the 2030 Agenda: "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all", to identify that, in spite of placing emphasis on education, success here depends on converging actions that happen before, during, and after it.

Ensuring something for future generations requires guaranteeing the same thing for present ones, and this guarantee depends on a solid foundation so it can be consolidated. In other words, thinking about permanence requires thinking about access and not Access on an immediatist sense that simply is concerned with the possibility of a vacancy to place the child in the school, but about being concerned everything that comes before this such as health, alimentation, hygiene, decent housing situation, respect for culture of origin and many other rights that have been hard won. The diagnosis using socioeconomic and environmental indicators would be a first step because this would subsidize the organization and coordination of a public policy articulated for the city of the forest in order to guarantee access to education in an egalitarian and equitable manner.

Another important situation treated in this paper is that of permanence, with the aim of an inclusive, equitable, and quality education, whose indicators not only help to think about the structure and organization of schools, but also depend on pedagogical indicators

[49] Trindade Júnior, Saint-Clair Cordeiro, "Das 'cidades na floresta' às 'cidades da floresta': espaço, ambiente e urbanodiversidade na amazônia brasileira". Papers do NAEA, num 321 (2013), http://www.naea.ufpa.br/naea/novosite/paper/215. (accessed 13 Aug. 2017), 3.

in order to problematize the evaluations, including on a large scale. This means to think about how to bring to life what is understood as being a quality education.

Finally, there is the situation of continuity, in order to promote opportunities for lifelong learning for everyone. Education does not happen just in the classroom, and neither can it be attributed entirely to an academic trajectory. If education is related to sustainable development, it will have to consider its diverse aspects, in the most diverse situations, which is guaranteed not only by strengthening access to permanence, but especially by admitting the subjects as agents of transformation, because these will be the best multipliers, evaluators, and promoters of this public policy.

To that end, it is necessary to break with the idea of stages, since the universality of public policies will attend to different people in different situations. Public policy will attack, simultaneously on three fronts, which are the conditions of access, permanence, and continuity, and this, considering not only the subjects of these public policies, but in the same measure, those that make them function, such as professors, schools, public institutions, social movements, and other stakeholders.

In the same way that a globalized world permits that we identify similar situations and problems around the planet, it also gives us conditions to think in an articulated and global way, uniting all types of professionals to elaborate, implement, evaluate, and ensure continuity to a cycle of public policies that are not only social, or environmental, or educational, but that are, effectively, all these in one, since they are all public.

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