

Social constructions: Basic Infrastructure in health, security and comfort promotion for the population of Paripiranga/BA

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ABSTRACT

The present article shows in a wide form, how society of Paripiranga city needs basic infrastructure, especially basic sanitation because, through it, there is a significant improvement of health, security and comfort of the population. Taking into account that due to the administrator change became clear a significant change with respect to such problems, however the city still is far from offering residents infrastructure, even as a right of all enjoy this. The same will present a comparison of the last 16 years and how this current situation of the city and to show solutions that benefit the paripiranguense society.

Keywords: Basic infrastructure, Basic Sanitation, Paripiranga, Health, Comfort, Security.

1 INTRODUCTION

Currently, there is a need of the population to have a basic infrastructure, being sanitary depletion, solid waste handling, water, electric energy, street pavement and many others that eliminates diseases in cities, because when there is a lack of them, it generates big problems for the public health network, besides security and comfort which, through them the population benefits.

Brazil, despite of being the 7th economy in the world, occupied the 112^a position in a group of 200 countries in basic sanitation, in 2011, according to the Trata Brasil Institute and by the Brazilian Business Council for Sustainable Development. According to this, the rate of Sanitation Development reached 0,581, indicator that is below not only of wealth countries of North America and Europe as well as some Nations of North Africa, Middle East and Latin America, where the average income is inferior of the rest of the Brazilian population.

According to the SNIS (2014), in the Northwestern region, more than 13,5 million of people does not have access to those services and, in more than 6 million of homes, there was no treated water. The largest number of residencies without collection was registered in the State of Bahia (3,3 million), followed by Ceara (1,9 million). The sanitation situation has immediate reflexes in health indicators. They cite that, in 2011, the child mortality rate in Brazil came to 12,9 deaths by 1.000 living births, overcoming the ones that were registered in Cuba (4,3%), Chile (7,8%) and in Costa Rica (8,6%). The study highlighted that, if there were a wide basic sanitation coverage, the admissions of gastrointestinal infections which, according to the Ministry of Health, reaches 340 thousand of Brazilians, would low the level to 266 thousand. In addition to the improvement of the health quality, it would represent a cost reduction, since the admissions hit a cost of US\$ 121 million,

in 2013. With Paripiranga it is not different, because there is a large landfill concentration, open-air sewer besides the lack of water in a constant period. This chart is changing but, those absences of basic infrastructure still comes to notice, mainly in places with low-income residents.

Thus, the present article has, as main objective, to show the basic sanitation of Paripiranga, with a past and present perspective, taking under consideration the years of 2000 to 2016. Highlighting the difficulties faced by the residents, by living in a city without basic infrastructure, especially the sanitary citing, as examples, other cities, problems that still exists, searching for solutions for it.

2 THEORETICAL REFERENCES

Paripiranga is located in the interior of Bahia with an area of 435.698km², and a population of 29.654 residents according to IBGE (2016) in the 2013 sense and an estimation for the year of 2015 of 29.878 residents. The Paripiranga city makes border with Sergipe, located in the Northwestern zone, and is included in the drought polygon. Is bordered with Adustina, Cícero Dantas, Jeremoabo, Simão Dias and Poço Verde cities.

It is a city that has been developing even more, and this growth is more visible in the real state sector because the city receives weekly more than 5.000 students due to the University center UniAGES which rents houses to use as republic and live in the study period.

Those factors lead the city to a development because the students and professors will consume at the city's commerce favoring its economy, will also walk, drink, have fun, what will benefit the city's tourism. However, with a large flow of people that the city of Paripiranga receives, more residues will be generated, more energy consumed, more trash produced, more pollution, more water will be spent, among other things.

It is important that the city hall pays attention to the city's development because it is the city hall responsibly to support new houses and its residents, bringing favorable life conditions and a basic infrastructure, i.g. paved streets, energy, running water, weekly garbage collection and a good basic sanitation, so that the city can be clean and the population be healthier.

Figure 1: view of Paripiranga city



Source: University Center UniAGES (2013)

Basic Sanitation in the City of Paripiranga in the years of 2000 to 2007

Paripiranga, in the year 2000 to 2007, used to suffer with a large deficiency in the city's sanitation. In these seven years the city already had running water, garbage collection 3 times a week and public cleaning (street cleaner), but the city government which, at this moment, was led by Mr. Carlos Alberto de Andrade, whom let the city's sewage treatment aside which in most of the streets was open sky, passing through the middle of the street or in front of the resident houses and being placed in lakes, creeks and streams that surround the city and even lands of private properties, by having a crater format, as we can see in the figure 2 below.

This neglect of the city government about the basic sanitation of the city brought big loss because it pollutes lakes, tanks, important lands of the city that until this day are contaminated. Besides the open sky sewages and by not removing the rubbles of the street. In almost every street there were rubbles with constructions waste, demolitions, landfills among other things. Society had to get used to urban lakes which are alike to open sky sewages, which receive in a daily basis, tons of wastes of artificial pollution founts.

According to Braga et al (2015) the accumulation of organic matter in lakes, especially compounds made by phosphorus and nitrogen, origins the eutrofization phenomenon, which prevents the solar light to come through and difficulties the water oxygenation. For this reason, the water from the urban lakes exhale a strong odor, resultant of the toxins that are eliminated by anaerobic bacteria which plays as decomposers agents. It took weeks and weeks for those waste to be removed, leaving the city even more dirty and unorganized, bring prejudice for the population's health.

The city's highway was also victim of the lack of sanitation, turning into a waste dumpster because there was no place for the garbage to be placed, by the lack of planning and interest of the city hall, as we can see at the image 3 bellow.

Figure 2: Ba220



Source: Google photos/Paripiranga photos (2007)

Basic Sanitation in the city of the year 2008 to 2016

Since the year 2008 a new administration assumes Paripiranga bringing ideas and new concepts, with a different administration. The new manager, Mr. George Roberto do Nascimento, had its first projects towards basic sanitation of the city what, at first was disorganized, was straightening little by little. Rubbles toasted in the street were forbidden, weekly public cleaning, pavementation of most of the streets with integrated sewerage system, as we can see in the image bellow.

Figure 3: Pavimentation of the Nova Brasília



Source: Google photos/ Paripiranga (2012)

Figure 4: Pavimentation of the streets of Paripiranga



Source: SANTANA, 2016

What was once seen as a secondary place, started to be a priority, and is even more in need of more investments in this area, because the city is developing even more. To make this kind of investment in the city is very important and advantageous, because a city with infrastructure of basic sanitation lowers environments impacts, infant mortality, diseases besides offering to the population, healthier environments, securing a better quality of life.

According to Olímpio Junior (2014), to deny life quality to any citizen, is to deny the right of citizenry. Is to put him into the margins of society. Sanitation is priority, is a matter of public health and, therefore, must always have a special attention of the public authorities.

Many still can be done by the Paripiranga sanitation because, we still find contaminated lakes, lands full of waste and streets without sewage or pavementation.

Basic Sanitation

The concept of basic sanitation corresponds to the set of public services, infrastructures and operational installations of water supply, sanitary exhaustion, urban cleaning, solid residual handling, drainage and handling of urban pluvial waters.

According to Nascimento Neto (2013), sanitation is a set of measures that seeks to preserve or modify the conditions of the environment with the purpose of preventing diseases and promote health, to improve the quality of the population's life and the productivity of the subjects and to facilitate the economic activity. In Brazil, the basic sanitation a right assured by the Constitution and defined by the law n°. 11.445/2007, National Policy of Sanitation.

To have basic sanitation in a city is very benefic, because it makes it more organized and developed. Nowadays, many cities of Brazil still do not have sanitation. Even if it's the population's right, many public administrators leave that fact aside. Even if the Paripiranga administration cares about basic sanitation, some problems still remain, such as rubbles on the street, although the garbage collection is being held (as we can see in figure 5). That can generate diseases in the population.

Figure 5: Open sky dumpsters in Paripiranga streets



Source: SANTANA, 2016

When the city holds the garbage collection, sewage treatments among others, it generates a better quality of life for the population. It also helps in the health not only of the adults but also of the children and teenagers, decreasing child mortality, improving education, besides of favoring the local tourism, because a clean and organized city calls other people attention and makes them want to go to the city, to have relaxing family moments.

Chart 1 – Medical advances in sanitation attendings – 2009-13

Ano	População atendida com água tratada (%)	População atendida coleta de esgotos (%)	Volume de esgoto tratado x água consumida (%)	Perdas de água na Distribuição (%)	Consumo água l/hab/dia	Investimento (em R\$ bilhões constantes de 2013)
2009	81,7	44,5	37,1	41,6	149	9,8
2010	81,1	46,2	35,9	39,2	159	10,6
2011	82,4	48,1	37,5	37	162,6	9,4
2012	82,7	48,3	38,7	36,9	167,5	10,4
2013	82,5	48,6	39	37	166,3	10,5
Avanços	0,8 pp	4,1 pp	1,9 pp	(-) 4,6	(+)17,3 lts	R\$ 50,7 bi

Source: Ministry of the Cities – SNIS

image description:

Ano – Year

População atendida com água tratada (%) – Population attended with processed water (%)

População atendida coleta de esgotos (%) – Population attended sewage collection (%)

Volume de esgoto tratado X água consumida (%) – Treated sewage volume X consumed water (%)

Perdas de água na Distribuição (%) – Water loss in the distribution (%)

Consumo água l/hab/dla – Water consume l/hab/dla

Investimento (em R\$ bilhões constantes de 2013) – Investment (in U\$ constant billions of 2013)

Sewage and Pollution handling

According to the Ministry of the Cities (2014) the sewage system exists to move away the possibility of contact of dumps, sewage, human detritus with the population, with water supplies, disease vectors and food. The sewage system helps to reduce expenses with the water treatment and supply as well as diseases provoked by human getting in touch with the detritus, besides of controlling beaches pollution, lakes, tanks, rivers etc. It is very important that a city has a sewage system because with the system working, not only the city but the population.

Figure 6: streets of Paripiranga city



Source: SANTANA, 2016

Polluted water

As said before, Paripiranga is a city surrounded by river, lakes, tanks etc. Most of the natural wealth that the city has, were affected by the lack of basic sanitation in the city. A lot of streets did not have sewage reservoirs of natural water so, those became deposits of sewages in the streets of Paripiranga, i.g. the hidden and the mission tank. Both located inside de city. One downtown and the other in the BR 220, way out to the division with Sergipe. Both lakes have cultural history in Paripiranga and have already been contaminated with the city's dirt. The most prejudiced is the mission tank, which for decades and even for the actual days, receives every detritus of the city, prejudicing the nature, families who use that water for drinking, cooking, fishing, feeding, etc. The precarious basic sanitation is a big treat to the human health. Although widespread, the lack of basic sanitation is still associated to poverty, affecting mainly the population with low income, more vulnerable due to sub nutrition and, in many times, by inadequate hygiene. Silva (2016) explains that related diseases to water systems and inadequate sewages and the deficiencies with hygiene causes millions of deaths every year, with prevalence in low-income countries.

Polluted Lands

With the lack of sewage treatment of the Paripiranga city, because of the lack of adequate locals for garbage deposits, rubbles and wishes, many lands in the city were also affected. It was affected in a way that the garbage accumulation, with the sewage that comes from the streets and from the rains, forming contaminated lakes, affected by the deficiency of the city's basic sanitation. The roadsides of the BR 220 were true dumpsters, as we see in the figure 2, and even to the first semester of the 2015 were still active, bringing a bad impression to the travelers who walked by the city and, in the entrance, already encounter many dirt and disorganization.

On the website of the Ministry of Cities (2014) is stated that, due to an inefficient action of public policies, those diseases are more common in regions with a low-income, where the basic sanitation is delegated to a plan B. In Brazil, the Northern regions are the most affected by its diseases.

Paripiranga in the years of 2000 to 2007 was a big mess when it comes to basic sanitation. There was no public investment, and no doing towards it, everything was delegated. It looked like the manager did not worry about the environment or with the health of the cities because, the lack of basic sanitation in a city is a big threat for the nature, because if a sewage is treated in a right way, if the garbage is dumped in the right place, rivers were cleaner and the fishes would live longer, the city would be cleaner and more organized.

Figure 7: open sky sewage polluting an empty lot



Source: SANTANA, 2016

The population needs to be convinced that the sanitation works is the Mayors responsibility. He also must charge and follow the investments made in the city area. But many times, before those works, other matters must be solved in the urban and favelas agglomerations, especially when they are forming near rivers.

3 METHODOLOGY

The methodology execution of this article, was held through the reading and searching of bibliographies and articles related to the theme, approaching the need of basic sanitation for the population, because the lack of it, interferes in health, mortality, longevity, and quality of the population's life.

Lastly and more important for this article success is the analysis of the city from the year 2000 to 2016, noticing that even with the government incentive, the city does not have any type of basic organization, as well as comparisons about current legislations and the government terms.

4 RESULTS

For a city to have an adequate sanitation system, it is necessary to have running water supply, sewage treatment collection, solid waste reduction among others.

According to the Ministry of Environment (2016), the actions of sanitation are classified in the following groups: Water, water treatment stations, supply system and capture system. Sewage, collecting net, interceptors, missioners, lifting station, sewage treatment station and, according to the figure 3 and 4, where this type of activity was not properly held.

Industrial solid and liquid residues and treatment pits and industrial residues destination, treatment/disposition of special residues (agrochemicals, medicines etc.) treatment and urban solid residual destination. The water supply system must be projected to supply the entire city. The collection and treatment of sewage must be projected to a proper place, where it can be processed and go back to nature, without harming the environment. An example of sewage collection a treatment is from Switzerland, which has nearly 900 treatment stations of urban sewages and, therefore it has been involved, for many years, in helping projects of development in the field of health exhumation.

The management of solid residues also have to be worked on, because there is no separation of the residues. They are all mixed and discarded in dumpsters, which makes it impossible on many times to waste pickers to do a selective separation for recycling.

The constant growth of residents and houses in Paripiranga, without an adequate planning turns to ultimately impair the city because, in many times, the houses are built in locals that has no infrastructure for the residents. For that, the city hall with the secretaries linked to the project must accompany closely the growth of the city, the new residencies, if they are in a proper location besides promoting public policies for awareness of the population to throw their garbage on the right places, to preserve lakes and tanks to save clean water among other things.

The city of Paripiranga has a large rural zone, and not every town has running water or sewages for dumping wastes in proper locations.

In this case, the city hall could use technologies that already exist, that are not expensive and would help the population of those localities and save water and to avoid diseases by the lack of a proper sewage system.

It is what is shown in the Forum Magazine (2010) that many locals still doesn't have the infrastructure of tubulation to collect and treat the sanitary sewage, many social technologies promote other alternatives. For being built for small volumes, as a place in a rural area for example, these initiatives improve health conditions at a low cost.

Get to know two of them: Seco Humus Sapiens Sanitary without using water for the toilet, a box is built for storage the solid residual, transformed into composting with sawdust to organic fertilizer. A bioseptic bed or banana pit in a closed ditch is directed to the sewer of a house. Anaerobic and aerobic microorganisms turn in the decomposition of the material until the minerals can be absorbed by banana pits planted over the structure.

In addition to these alternatives presented by the magazine, it is crucial that the city's public administration searches for resources with the federal government to invest in the sewage treatment, creating a treatment station for the water to be processed and for it to return to the city's lakes or even for the population, for domestic use. It is also fundamental to think about the cleaning of

contaminated lakes, i.g. the mission tank that, even nowadays, is the main reservoir of Paripiranga sewage, receiving human detritus, street dirt and a lot more.

5 CONCLUSION

It is concluded that the Paripiranga city is day by day more precarious because of the lack of basic infrastructure, due to the lack of governmental incentive, and disinterest to change this chart where, most of the population have no access to processed water, pavement, solid residuals collection, green areas and, overall, there is the correct discard of grey and black waters of residential and institutional areas. Thus, it is necessary for the society to mobilize and charge the government about its rights, because a clean city promotes life quality for its residents.

Another big importance about investing in the city's sanitation is the population's health. Most of the diseases comes through a bacteria generated in the open sky sewages, therefore, the sanitation will help the city to fight them.

REFERENCES

- BRASIL, Ministério das Cidades. SNIS – Sistema Nacional de Informações Sobre Saneamento. **Diagnóstico: água e esgotos, 2014.** Available in: <<http://www.snis.gov.br/diagnostico-agua-e-esgotos/diagnostico-ae-2014>> Accessed in: May 3rd, 2016.
- BRAGA, Benedito; HESPANHOL, Ivanildo; CONEJO, João G. Lotufo; MIERZWA, José Carlos; BARROS, Mario Thadeu L. de; Spencer, Milton; PORTO, Monica; NICCI, Nelson; JULIANO, Neusa; EIGER, Sérgio. **Introdução a engenharia ambiental – 2ª ed.** São Paulo: Pearson Prentice Hall, 2005.
- INSTITUTO TRATA BRASIL. **Ranking do Saneamento 2015.** Available in: <<http://www.tratabrasil.org.br/ranking-do-saneamento-2015>> Accessed in: May 3rd, 2016.
- NASCIMENTO NETO, Paulo. **Resíduos sólidos urbanos: perspectivas de gestão intermunicipal em regiões metropolitanas.** São Paulo: Atlas, 2013
- REVISTA FÓRUM. **Duas soluções de saneamento básico previnem doenças e preservam o ambiente.** 2010. Available in: <http://www.Revistaforum.com.br/2010/06/04/duas_solucoes_de_saneamento_basico_previnem_doencas_e_preservam_o_ambiente/> Accessed in: May 16th, 2016
- SILVA, Júlio César Lázaro Da. **Saneamento Básico e a Poluição Hídrica.** Brasil Escola. Available in: <<http://brasilecola.uol.com.br/geografia/saneamento-basico-poluicao-hidrica.htm>> Accessed in: May 3rd, 2016.
- SANÁBIO, Helena; DAMASCENO, Ana A.; FERREIRA, Camila; BARRETO, Lucas; COSTA, Raquel; MARTELLO, Henrique. **Consequências da falta de saneamento básico.** Available in: <<http://ecoo-mundo.blogspot.com.br/>> Accessed in: May 3rd, 2016.