

Urban Networks And Sustainability

Diogo Gonzaga Torres Neto¹, Lindsay Oliveira Mesquita Torres², Lucélia Largura do Vale³
and Ademir Luiz Vidigal Filho⁴



ABSTRACT

In the Beginning of the year 1999, major cities in the number of nations have been making efforts to make the concept of 'sustainable development'. Nevertheless, they were poor in presenting detailed methodologies on how to assess and create urban sustainability. This study aims at developing a model to assess urban sustainability. Given the vastness of date to be built the well the time and financial constraints at hand, assessment indicators were chosen with a focus on elements affecting climate change and air pollution at an urban level. The territorial occupation generated by the invasions in the great cities has caused data quest insight to the environment and racketeer influenced directly in the quality of life of the man. In this work it was objectified to investigate the human being social occupation and consequences, having the base the aspects that the index of human development (HDI). The City of Manaus does not present the degree of urban sustainability the final output. Instead, it generates and applies a series of processes and methods of assessment in an urban sustainability perspective. In the process, the development pattern of the city and its negative impact on environment will be understood and appropriate and effective countermeasures will be confirmed. Such a process establishes urban sustainability and may be used the means for us to understand what specific actions we need to take in order to promote urban sustainability.

Diogo Gonzaga Torres Neto¹, Lindsay Oliveira Mesquita Torres², Lucélia Largura do Vale³ and Ademir Luiz Vidigal Filho⁴

From
Nucleus Studies of Philosophy,
Sociology and Management in the
Amazon - NEFISOMA.
Professors and Researchers from of the
Federal University of Rondonia - UNIR
(Brazil).
Department of Business Administration
- Cacoal City - RO (Brazil).

The Article Is Published On July
2014 Issue & Available At
www.scienceparks.in

DOI:[10.9780/23218045/1202013/49](https://doi.org/10.9780/23218045/1202013/49)

Keywords:

Networks, Urbanism, Sustainability.

1.Introduction

In 1999, the world population has crossed the barrier of 6 billion, doubling in less than 40 years. The number of inhabitants of the Earth grows at an annual rate of 1.2% Europe and North America. Each one of these people are dependent on an area equivalent to 8 hectares to play his style of life. The inhabitants of developing nations, on the other hand, use only 2 hectares. As exists on this planet less than 2 hectares of land and water per capita, it is clear that we are exceeding the capacity of regeneration of the Land.

In May 2000, India recorded its billionth inhabitant. Although

The family planning is being promoted by the authorities since the decade of 50, the country may have 1.6 billion people in 2050 and surpass China as the world's most populous nation (NATIONAL GEOGRAPHIC BRAZIL,2001).

The calculation of the rate of occupancy refers to the productive area of the Land required for the maintenance of the way of life of an individual in the population. It takes into account the land used for planting, pastures, forest management and housing, as well as the maritime areas producing food. Also includes the forests needed for the absorption of carbon dioxide generated by the use of fossil fuels. In industrialized nations, this occupancy rate is, on average, four times higher than in developing nations. Currently humanity uses resources a third more ideal level of balance of nature. Causing a significant impact on the environment and consequently in the cities that pass through the process of urbanization.



The urbanization represents a continuous process that is manifested in the world. In this case increasing, the exodus has been pointed out as a cause of negative impacts to the environment. Second, World Commission on Environment and Development at the turn of the century, almost half of the world will be living in urban areas - from villages up to immense megalópolis". With this increase, the dispute differentiated between men and women on the conquest of territorial space has transformed the urban environment, since antiquity and more intensely after the industrial revolution (BATISTA,2000). As noted above, 77 million people each year are in need of food, health and housing. With an average of six children per woman, Nigeria is one of the nations with the highest rates of population growth and the most populous in Africa. Its current population of 114 million, can suffer an explosion and reach close to 300 million by 2050 (NATIONAL GEOGRAPHIC BRAZIL,2001). From this perspective of space and resources available comes as a consequence the growth of cities in the light of human needs, especially with the advent of the industrial age.

After the industrial era the intervention of man over nature, has caused landscape changes. As a result, Carlos (1994) highlights that with the growth of cities, the environment is no longer natural, primitive and unknown to transform into something human. The cities have gained new colors and shades, new elements, being reproduced in accordance with the needs of the human being.

AND this current form of presentation is a product of history, and brings rooted a whole context of progressive modification of nature by technological advance. Santos (1997), points out that the history of man on Earth is the story of a progressive rupture between man and the environment.

To live in cities necessarily implies the satisfaction of a set of individual needs and collective. The latter are, in their majority, the responsibility of public authorities, which, generally. Face difficulties of various orders, making precarious the care of such needs. The Public intervention is essential in the search for solutions to the problems of environmental character, especially those most directly linked to the quality of the urban population (SILVA, 1995). The increase in the population of cities generate problems (housing, lack of sanitation, safety, pollution and other) that worsen to the extent that are deployed new techniques of production and consumption becomes more predatory (BURSTYN, 1994), this causes impacts on the environment and quality of life of their inhabitants.

These environmental damages has been observed in the city of Manaus since the beginning of the creation of the Free Zone. The problems worsen as a result of the inability of investments in infrastructure and services to compensate for the disadvantages of environments densely populated. Currently, urban planning and environment are different tasks of the organs of State, giving rise to different public policies. These components in the majority of cases, do not have any kind of involvement with environmental policies that will ensure the effective protection of the environment, health and quality of life of the population (GRIPPI, 2000). The population resulting from the interior of the State and from other locations in Brazil are not more space for living in the city itself and turns to a green area or area of primary forest, thus contributing to the intrusion that only this year in addition to 41 (forty-one) in progress. (Uncritical, 02-04 - 2002)

Any action promoted for the growth and development of the people living in the cities is by means of public and private bodies, must take into account the sustainability factor. Considering that this is a process to be followed, from environmental and social commitments with the generations contemporary and future . The challenge of urban sustainability is seeking to resolve the problems that the cities are known as the caused by them.

Air Pollution reinforces phenomenon

The inversion can occur in any part of the Earth, but it is more characteristic of cities and large urban centers, usually areas more polluted. Normally, this meteorological phenomenon is perceived in the early hours of the morning, but may extend throughout the day, depending on the weather conditions.

The displacement of air is the key to the problem. This movement can be horizontal, more noticeable, or vertical, unknown by the majority, but essential for the flight of birds, hang gliders and sailplanes. This displacement occurs from the cooling of the atmosphere in the direction of higher altitudes. The air on Earth will becoming hot, and rising, while the

cold air descends, occupying its place, generating such vertical wind. If the soil, which has absorbed large amounts of heat during the day, losing very well during the night, a fact that occurs in the very large cities, with many built-up area, the layers higher receive intense amount of hot air that cannot fall, temporarily stabilizing the atmospheric circulation.

Urban Space

The space is produced by man not as an object, nor as a means, but as a requirement of the human condition itself, in a process of production and reproduction. For Correa (1990) the man from their needs in terms of food and shelter, intervenes in nature. With social character, involving a tidy work collectively, this implies a certain division of labor and the definition of what, when and how will the production.

"The urban space that is produced in a place any of the Amazon is not unique, it is contained and contains a totality that includes both the process of recent development for the region, as a way of producing the national society, reflecting the way the spatialisation of other Brazilian cities, marked by contradiction: on the one hand, wealth and well-being and, on the other hand, poverty and misery" (OLIVEIRA,2000). However, there are special circumstances arising from the history of the place, the ability of resistance and the form does not equitable as innovations reach the place and how the people if relational with the new.

All these aspects, mediated by usages and customs, shall determine the form of production of space that is reflected in the linkage between the place, the national and the global. For Bardet (1990) "the urban space is not a simple geometric space, but a social space complex and heterogeneous, composed of a multitude of secondary groups ". As fixed objects to the Earth's surface in accordance with some logic can be seen in building urban (Correa, 1990; DIEGUES,2000; DORST, 1973). The set of all these forms sets the spatial organization of society.

The cities as a social space, occupy vast areas, interspersed with empty. In these cities, there is interdependence of that we call spatial categories relevant times: size urban road model, lack of infrastructure, periphery growth of population, generated thanks to the dimensions of poverty and its geographic component, a specific model of center-periphery (SANTOS, 1999; DAY, 1998; HOGAN, 1992). The process of the occupation of spaces, as well as the model of splitting adopted in the various sectors that have arisen since the original design, are responsible for traffic chaos, of the difficulties of parking, the bankruptcy of the historic center as a place of greater urban dynamics, and especially by inadequate system of collective transport (www.ucb.br , 08-12-2002)

The question of the occupation of the urban space imposes great challenges in a perspective that combines the democratic ideal with the environmental sustainability. This new line of work tries to move forward in this effort to "translate" the environmental themes to the specificity of the urban space and pointing out where and how to consolidate the inequality and conflict socio-environmental. As the urban space is focused social actors of natures and distinct agendas, fortune in this way requires a great effort of drafting and articulação partnerships (www.ibase.org.br, 12 21/08/ 2002).

One of environmental damages after the occupation of space is the demand for places for housing; due to a logic of the real estate market that favors the occupation, the middle class and high areas, well located and equipped with better infrastructure. The low-income population is pushed to the outskirts of cities or pra for localities less attractive, especially for places of topography and geological conditions less attractive, especially for places of topography and geological conditions less advantageous or with environmental restrictions for a regular occupation (ROLNIK, 1999)

The acts of degradaç Environmental (deforestation, urbanizing of water courses, etc) could be avoided in large part if the police power was effective, concrete and less bureaucratic. In the same way, the use, the occupation and the fragmentation of the urban soil would be ordered if there were active surveillance of the administration, in order to inhibit the underground (SANTOS,2000).

The correct adoption of a housing policy and works would avoid the problems with the periodic flooding in large cities, that so many lives have already claimed numerous material damage caused. In fact, in the field of public policies, when the authorities entrusted with implementing them fail in their mission, you can handle the public civil action to compensate for the missing or correct distortions (SIQUEIRA,2001)

Beside the transgressions committed by individuals in activities that threaten the

environment, in general the conduct commissiva of these agents has been accompanied by the inertia of the municipality in combat the infractions, that does not have the constitutional powers of the ordination of habitable spaces and planning of the city, to bring about the development of social functions of the city and the well-being of their inhabitants (CF, arts.30 VIII and 182)

The disorderly occupation of ground starring, for example, by illegal subdivisions, has led to widespread proliferation of dwellings built without technical criteria of soundness and stability (insecurity) and in subhuman conditions (unsanitary conditions); the outbreaks of degradation of the environment and of health (blending in environmental protection area); the population density incompatible with the physical environment (bad location) and devoid of urban equipment and community, generating the chaotic growth of cities; the marginalization of its inhabitants with the increase of social inequalities and reflections on the security of the local population and surrounding (FREITAS, 1999)

Urban Settlement

The Economic Commission for Latin America and the Caribbean (ECLAC), component connected to the UN in a study entitled "Accommodate the development: a task for the human settlements", paper prepared for the UN Conference on urban settlements that the growing regional urbanization concentrates poverty in the big cities. This commission that after decades of internal migration and growth of cities, the Latin America and the Caribbean have become one of the regions most urbanized (expansion) of the planet. This brought aggravation and deficiency of basic services. The problems of poverty are increasingly predominantly urban (PALEN, 1993).

In Brazil, urban environmental problems are exacerbated because of the inability of investments in infrastructure and services to compensate for the disadvantages of environments densely populated (MARTINS, 1996; JONH,2001). The economic models, adopted throughout history have caused strong concentrations of income and wealth, with exclusion of expressive social segments. Only a small group has access to a good quality of life while the majority does not have the minimum conditions necessary for survival (SECTMA, 2000; GRUN, 1996). This is reflected in the process of expansion of large cities leading to impairment of natural ecosystems.

Many expansion projects in the State of Amazonas lead or led the population to destruction of rivers, forests and especially of the way of life of the population from the time of its colonization. This was from the center geoeconômico and institutional, aiming at the conquest and defense of some places and the implementation and other fortification. Thus, as the former provinces of Bahia, Sao Paulo and Rio de Janeiro had its structure influenced by Portuguese settler. This colonization was performed empirically, showing little concern with the planning aspects, notably due to the type of colonization that was being made in the Americas, merely exploited (GOULART, 1968; PEREIRA, 1996)

After the process of colonization of the Amazon, many cities have a disordered occupation, such as Manaus. Its urbanization has resulted in a dramatic occupancy and disorderly, causing the crowding of neighborhoods. This problem reflects negatively on the environment, to the extent that the green areas are devastated to give place to the villas. In turn, cause the suburbanisation, unable to absorb the entire population contingent that comes from the different regions and especially the interior of the State, causing problems complex and difficult to solve, reflecting the worsening of social issues, economic, health and environmental (SILVA, 1998; SCHNEIDER, 2000).

The Expansion of the city of Manaus, on the basis of the relationship between man and the environment, is culturally with characteristics of life, similarly to other existing in the Northern Region. The city of Manaus has its economic and social life represents by inter-relations with several rivers and creeks. What differentiates it from other inhabitants of different regions is this interconnection. This characteristics certainly led the human populations that occupied the develop adaptive strategies peculiar (MELO, 1984; WHITE, 1999; BECKER,2000).

This way, Oliveira & Guidotti, (2000) described that the disorderly development in Manaus and in other cities in recent years has resulted in serious urban problems. As an example, in Manaus is the process marked benefited areas from the creation of the Manaus Free Trade Zone. Until then the city was stagnant since the beginning of the century. From there, he began to deal with new shocks, affecting not only the landscape of the city, but mainly

the way of life of people (based on extraction, collection of rubber, brown, Sava, balata, etc.)

Because of the outbreak migration, started in 1975, when you complete the installation of the Free Zone, there has been a demographic change significantly. Manaus has reached an increase of more than 103.3% of its population between 1970/1980, presenting a health infrastructure and urbanisation, unable to follow the same indexes. From there, started to occur serious social problems and haphazard occupation of soil (WHITE, 1999).

To have an idea of the increase of the population, the industrial district has reached its peak in 1989, with 425 firms and 112 in the process of deployment. The labor represented 127,804 direct jobs in the city of Manaus and 74,818 in the industrial district (MELO & MOURA, 1990).

Oliveira & Guidotti, (2000) highlighted the fact that since 1990 has deepened the crisis of the Brazilian economy, which had been dragging since 1983 as a result of wage crunch and by opening a "disastrous" to the foreign market, or is incomplete. The economic crisis has led to the idleness of companies from the industrial district reached the end of 1991, 80% on average with downtime of some sectors. The unemployment in Manaus reached in the industrial sector, 78,17% in March of the same year. Two months after the level of direct jobs in the industrial sector was 20,000 representing a reduction (comparing December 1989), of 84,56 %.

With the implementation of the Real Plan, in Manaus occurred new dynamism in terms of the production and sales of industrial district. However, this did not mean the recovery in the level of employment based on the year 1989. The crisis of the Manaus Free Trade Zone, so it is basically due to the lack of a job offer. However, with the process of automation robotics and with high industrial technology decreases the offer of employment and on the other hand increases the productive system (MOURA et al. , 1993).

This framework without doubt is the result of the problems that the country currently faces. At the same time that occurs the impairment of quality of life of man, these patterns of developments also favor the environmental degradation through the predatory exploitation of natural resources and pollution (SECTMA, 2000).

The society is complex, because demand collective needs increasingly demanding. AND in the care of these societies to humanity began to act irrationally and irresponsibly, exploiting predatory form natural resources (MOREIRA, 1997; REIGOTA, 1999). To minimize these impacts, the public and private sector managers should invest in the preservation, conservation and restoration of the environment, without environment balanced, it is necessary to draw up policies oriented to environmental sustainability (MARTINS, 1996; CARVALHO, 1995)

Management and urban sustainability

The management of urban environmental started to be incorporated as one of the major concerns of the Ministry of the Environment, Water Resources and the Legal Amazon from 1996. It was created in the same year the National Reference Center for Urban Environmental Management, whose objective is to raise, collect and organize information, as well as, promote the exchange of technologies, processes and management experience related to urban environment (DERANI, 1997; MMA, 2001).

After the Rio Conference in 1992 and the Habitat II in 1996. there was a change of inflection in the approach of the sustainability of cities. The main reasons for these changes are based on: - first the failure of policies for retaining the rural population, regardless of the political or economic; - second, the actual reality of which the city has been the way that human beings had chosen to live in society and promote their needs (Farias AND LIMA), 1991; IBAM, 2001).

It seems evident that urban life, as observed today, is in a state of crisis. Pollution, vioencias, famine, precarious, jams, turmoil, are problems that have been disregarding the life in the cities. This situation coupled with the other problems arising from the model of existing development has created a climate conducive to a discussion about alternatives. Where the idea of "Sustainable Cities" (USP, 2001; COIMBRA, 1985).

After all, what would be the Sustainable City? It would be the city that recycles its waste, recycles water, makes use of renewable energy, which is planned as the sustainable uses of spaces, which makes rational use of transport, with buildings that take advantage of the resources of nature, that preserves green areas and springs, that consumes organic food, etc. In this way, without wishing to belittle the proposal, the sustainable city depends on the

mantle of "clean" technologies (Benevides, 2001).

The projection of the sustainable city must involve the sustainability of resources that it picks up outside its walls. The sustainable city is done not only with technological alternatives, but, mainly, as another culture lived by its inhabitants, a culture formed by patterns, habits, desires and needs adjusted to the human reality and environmental (BRAGA, 2001; Benevides, 2001).

The cities because they are considered open systems, with a dependence on profound and complex, external factors, add difficulties to efforts to move toward sustainability (a principle deeply related with self-sufficiency, consumption and disposal of wastes generated occurring within the same space). A sustainable development of cities suffers, thus, the contradiction imposed by aspects intrinsic to these spaces: urban systems do not meet all the needs of the human being. And these consumers of energy, produce huge amounts of junk and its expansion causes profound changes in land use and land use, consequently impacts on the natural system (OVERSEAS, 2001).

It is necessary to change livingã in relation to natureza. Their actions should be directed mainly to the preservation of the environment, under the risk of future generations be severely penalised. Consequently, loss of the ability to withstand the planet by impacts caused by man (GRIPPI, 2001; KAPAZ, 2001).

Furtado (www.cec-br.org, 22/08/02) describes that, to face the challenge of taking our cities to stages of urban sustainability it is necessary to understand some central aspects of urban management.

- It is necessary to promote the productivity and strengthen the comparative advantages of cities, which are shaped by local factors and diversity. Thus, we must ensure the economic dynamism of cities, avoiding the obsolescence of its infrastructure and the abandonment of its public spaces. We are, thus, avoiding the calls desenconomias urban, that, to the extent that reduce the productivity of the urban economy, increase poverty and the decline of the quality of life of the population.

- Sustainable urban management should not ignore the growing dependence of urban processes of macro conditions general economic, the country and the world.

- The technological question also should be an important part of sustainable urban management. Technological innovation is crucial because the conditions of sustainability are defined by population, by technology, by social processes and by patterns of consumption. The technology will act in the spatial organization of the city and take care of interaction sector of public policies.

- THE explicit introduction of environmental concepts to the management of the city is another central factor for urban sustainability. With the model of western city current produced is the paradox that the concentration of population, far from saving land and resources, induces globally to a greater waste of same. The cities require a huge influx of concentrated power and materials for food and as a consequence their waste outlet, are also great. Therefore, it is essential produce information that will allow the management of cities know, quantify and seek control those inflows and these emissions of waste .

- Promote an environment of co-responsibility between the various sectors of society and between the various levels and sectors of government.

- Ensure the planning a territorial approach, where the specific characteristics of each city are seized, considered and worked in relation to the aspects that are unique opportunities and peculiar for its sustainable development or present as an obstacle to be overcome.

- Explore the interfaces of urban management with other priority issues to be addressed, even if many of them push the boundaries of local administration.

The sustainable city, this phenomenon in construction, presupposes a set of changes, some subjective and other objective and that must be reached in a collective way. Mobilizing the imagination, should be colts new paradigms, defining what you want, what must become, the limits and the modalities of the processing, based, always, in human desire to live in the fullness of being.

Final Considerations

The urban societies have a key responsibility in the dynamics of the main environmental problems contemporaries. A good part of anthropogenic sources of heat has its origin in the cities, the production of clorofluorcarboneto that affect the ozone layer is

performed and consumed mainly in cities. Urbanization threatens biodiversity, occupies areas productive agricultural increasing soil degradation, is responsible for the depletion of freshwater reserves in specific sources and generates waste that finish in the sea, among other responsibilities of a global nature. However, the cities generate environmental problems themselves, such as the pollution of the air, the sound the visual, the problems of lack of housing, drinking water, congestion, etc.

In addition to the urban societies are responsible for a large part of environmental degradation, they share the major environmental problems and there is a common need to draw up a collective rules of use of the urban environment. The cities, to raise the level of quality of life, need to flee the rationality of the market, even if not explicitly, to move forward to a rationality based on social productivity. In most of the large cities still prevails the logic of profit and market speculation in property governs the direction of cities, modifying any planning and goodwill of municipal administrators. Nevertheless, some cities of the world have realized that it is impossible to plan a city without a rigid control over the income of the urban soil, which is the basis of the price of urban soil and the main cause of real estate speculation.

A subject linked to sustainability are the intrusions to green areas close to town, the invasions, as was presented some examples of them, indicate a "industry" very well organized and equipped for the possession of land close to the urban areas and the worst of all is the lack of respect for the environment, making this way a relationship untenable.

This problem of invasion, under the focus human-landscape, is old. As noted above, as well as the city of Lima, Manaus increases as a function of migration unbridled, rural exodus and the main: the greed. AND the price of greed we will pay in future as a low quality of life not to mention the people who end up living in conditions subhumanas.

Large part of the challenge of urban sustainability lies in the ability to deal with the cities in its specificity and in all its complexity, with an approach that takes into account its various dimensions and the 1952 for a development which allows overcoming the imbalances resulting from these unequal trade, be they internal or external.

It is bias of Thomas Malthus (Malthusian) by which, sometimes, if it attaches to the population a predatory potential due to the pressure caused by its own population growth. Our attention must develop to the understanding of the complex web of relations man-environment. In the current period technical-scientific knowledge and human ingenuity should be the recovery of the Land in those contexts in which the resources were brought to the point of exhaustion by the mechanisms of the production.

References

1. Uncritical On-Line. Available at: <http://www.acritica.com.br>
2. The Formation of the Urban Space x Mobility of the population. Available at: <<http://www.ucb.br/deparcursus/arq/urbano/>>. Access at: Aug 27. 2002.
3. Bardet, G. The Urbanism. Campinas, SP: Papirus, 1990.
4. Batista, I. H. Urbanization and Environment: Analysis of Indicators of Quality of Life in the Town of Parintins - AM. 2000. 170F. Dissertation (Master of Science in Environmental Sciences and Sustainability in the Amazon) - Center for Science of the Environment, Federal University of Amazonas, Manaus.
5. Becker, B. K. Scenarios for the Short term to the development of the Amazon. PPUR Books. (S. l), v. 14, No 1, p. 53-85. 2000.
6. Benevides, S. Of alternative communities the city self-sustainable. The Boitatá. Available at: <[HTTP://WWW.GEOCITIES.COM /ABOITATA/EDITORIA/CITY _SUST.htm](http://WWW.GEOCITIES.COM /ABOITATA/EDITORIA/CITY _SUST.htm)>. Access at: Aug 25. 2002.
7. Braga, B. Sanitation, Floods and the Management of Urban Water. Available at: <[HTTP://WWW.ANA.GOV.BR /NOTICIAS/ARTIGOS/SANEAMENTO ;htm](http://WWW.ANA.GOV.BR /NOTICIAS/ARTIGOS/SANEAMENTO ;htm)>. Access at: Oct 23. 2002.
8. White, F. M. C. Appropriation of Urban Space and Vegetation in the City of Manaus. 1999. 80F . Dissertation (Master of Science in Environmental Sciences and Sustainability in the Amazon) - Center for Environmental Sciences, Federal University of Amazonas, Manaus.
9. Burstyn, M. A. A. Environmental Management: tools and practices. Brasilia: IBAMA, 1994.
10. Carlos, A. F. The (re)production of Urban Space. St. Paul: University of Sao Paulo, 1994.
11. Carvalho, No Self-Management. The Birth of NGO's. 2.ED . Sao Paulo: Brasiliense, 1995. 193 P.
12. Correa, R. L. Region and Spatial Organization. 3.ED . Sao Paulo: Attica, 1990. 93 P.

-
13. Coimbra, J. A. The other side of the environment. Sao Paulo: CESTB/ACETESV, 1985.
 14. World Commission on Environment AND Development. Our Common Future. 2.ed. Rio January: Foundation Getulio Vargas, 1991.
 15. Derani, C. Law and the Environment. Sao Paulo: Max limonad, 1997.
 16. Diegues, A. C. The modern myth of untouched nature. 3 Ed. Sao Paulo: Hucitec, 2000.
 17. Dorst, J. Before the nature dies. Sao Paulo: Edgar Blücher" 1973.
 18. Days, G. F. Environmental Education: principles and practices. 5.ED . Sao Paulo: Global, 1998.
 19. Farias. G. L. & LIMA, M. C. Collection and Environmental Legislation Federal and State 2.ED . Curitiba: (S. n.), 1991.
 20. Freitas, J. C. illegal buildings and their fraudulent arrangements: preventive action of public officials. Journal of Law Imoboliário. (S. 1), vol. 48 , pp.11 -28, (1999).
 21. Furtado, F. Sustainable Cities. Available. Diegues: <HTTP://WWW.CECI-BR.OR/TEXTOS/Fátima2.doc> .Access: Feb 22. 2002.
 22. Goulart, R. F. Contribution to the Study of the Evolution of Urban Brazil, 1968.P.235 , In: Proposition of a Urban Development Policy Regional - SEPLAN/CODEAMA, 1980.
 23. Grippi, S. Who pollutes more water in Brazil? Available at: <HTTP://WWW.UOL.COM.BR/AMBIENTEGLOBAL/SITE/ARTIGOS/ARQUIVOS/1225_at.htm>. Access at: Aug 1. 2002.
 24. Grun, M. ethics and Environmental Education: the necessary connection. Sao Paulo: Papirus, 1996. (Collection Magisterium: Training and Pedagogical Work).
 25. Hogan, D. J. & Vieira, P, F. Dilemmas socio-environmental and sustainable development. Campinas, SP: Unicamp, 1992. (Collection Moments).
 26. Ibam. Sustainable Cities. Available at: <http://www.ibam.org.br/parceria21/Cidsus21.htm >. Access Aug 28. 2002.
 27. John, L. Cities ravage the forest. Available at: <URL Estadao.com.br/ext/magazine/mapa17/lapouge2.htm> Access Aug 27. 2002.
 28. Kapaz, E. The garbage requires a national policy. Available at: <HTTP://WWW.UOL.COM.BR /AMBIENTEGLOBAL/SITE/ARTIGOS/ARQUIVOS/123_at.htm>. Access at: Aug 27. 2002.
 29. Martins, O. P. M. J. A Town green. Goiania: A and B, 1996.
 30. De Mello, M. L. & MOORISH, H. A. Migration to Manaus. Recife: Joaquim Nabuco Foundation, 1990. 327 P.
 31. Melo, Thiago. Manaus, Love and Memária. Rio de Janeiro: Philobilion, 1984.
 32. Environment and Democracy. Available at: <http://www.ibase.org.br/paginas/exclusao.html >. Access at: Aug 26. 2002.
 33. Brazil/MINISTRY OF THE ENVIRONMENT. Environmental Management in the Urban Environment. Available at: <http://www.mma.gov.br>. Access: 28 ago.2002 .
 34. Moreira, D. F. N. Introduction to environmental law and the urban law: legal instruments for a better future. 2.ED . Rio de Janeiro: Forensic, 1997.
 35. Moura. E. A. F. ET al. Manaus Free Zone: the sons of was electronic. Bethlehem: UNAMAZ /FUA/UFPA , 1993.
 36. National Geographic Society. Available in: Growth Desemfreado on the Planet. National Geographic Magazine Brazil. Sao Paulo, p. 6. edition of May 2001.
 37. De Oliveira, J. A. & GUIDOTTI, Fr. H. The church weapon his tent in the Amazon. Manaus: EDVA, 2000.
 38. UNU/ORGANIZATION OF THE UNITED NATIONS. <HTTP://WWW.UNITEDNATIONS.ORG>. ACCESS: 1 SET.2002 .
 39. Palen, J. The Urban World. (S. 1): Forensic - University, 1993.
 40. Pereira, A. C. F. The Disabilities of Urban Infrastructure in Outlying Areas of the City of Manaus and its consequences on the environment and population. 1996. 80 F. Dissertation (Master of Science in Environmental Sciences and Sustainability in the Amazon) - Center for Environmental Sciences, Federal University of Amazonas, Manaus.
 41. Reigota, M. Green daily: the environment in discussion. Rio de Janeiro: DP & A, 1999.
 42. Rolnik, R. Urban Adjustment and Social Exclusion in the State of Sao Paulo: Myths and Truths. Journal of Real Estate. (S.L.). RT, vol. 46, pp. 126-133, (1999 ?).
 43. Santos, M. V. M. Irregular Subdivisions and illegal immigrants - the Slav administrative due to the omission of public officials in their duty of supervision. Themes of Urban Law 2. Sao Paulo: Public Ministry of Sao Paulo and Official Press of the State, pp. 241-253, 2000.
 44. Santos, M. The Brazilian Urbanization. 3.ED . (Sao Paulo): Hucitec, 1999
 45. Santos, M. The nature of Space. 2.ed. S Paulo: Hucitec, 1997.
-

46. Schneider, R. R. ET al. Sustainable Amazon: Limiting and opportunities for rural development. Brasilia, DF: World Bank/ Imazon, 2000.
47. Brazil/Secretariat for Science, Technology and Environment. Environmental Education for a New Environment. Pernambuco: Don Bosco, 2000.P3 .
48. Silva, R. L. Production of Garbage x Ecotourism. 1998. 85F. Dissertation (Master of Science in Environmental Sciences and Sustainability in the Amazon) - Center for Environmental Sciences, Federal University of Amazonas, Manaus.
49. Silva, J. A. Right Brazilian Urban. 2.ed.S Paulo: Malheiros, 1995.
50. Siqueira, G. M. F. Public Policies and Planning Law: The Role of the Judiciary and Public Civil Action. Themes of Urban Law. 2. Sao Paulo: IMESP, pp.217 -247, 2000.
51. Overseas, C. The viability of a sustainable development for cities. In: Bulletin of Urban Development and Environment, no. 33, May/June 1998. Available at: <HTTP://WWW.GEOCITIES.COM /HEARTLAND/VALLEY/5990/CIDADES .html>. Access at: Aug 28. 2002.
52. USP. European Sustainable Cities and Towns. Available at: <HTTP://WWW.DIREITOSHUMANOS.USP.BR /DOCUMENTOS/TRATADOS/CUPULA_ONU/declaration-of-estocolmo.html >. Access: 29 ago.2002



Diogo GONZAGA TORRES NETO

Master in Environmental Science And Sustainable in Amazon - CCA/UFAM (Brazil). Professor of Philosophy, Sociology, Human Behavior *and* General Administration Theory. Actually works at Department of Business administration, Federal Univer sity of Rondonia – UNIR.



LINDSAY DE OLIVEIRA MESQUITA TORRES

Master in Environmental Science And Sustainable in Amazon - CCA/UFAM (Brazil). Professor of Scientific Methodology, Organization & Methods, Quality Management. Actually works at Department of Business administration, Federal University of Rondonia – UNIR



ADEMIR LUIZ VIDIGAL FILHO

Master of Administration – FEAD – Minas Gerais (Brazil). Professor of Financial Maths and Financial Management. Actually works at Department of Business Administration, Federal University of Rondonia – UNIR.



Lucélia Largura do Vale

Master of Administration – FEAD – Minas Gerais (Brazil). Professor of Marketing and Mercadology . Actually works at Department of Business administration, Federal University of Rondonia – UNIR.