

# SOCIAL AND ENVIRONMENTAL JUSTICE IN BASIC SANITATION: A VIEW ON MUNICIPAL PLANNING EXPERIENCES<sup>1</sup>

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## Introduction

With the new legal framework for sanitation in Brazil, the municipalities start to play a fundamental role in promoting universalization of services; they are responsible for providing the management of services, formulating its policy and elaborating municipal basic sanitation plans.

For many years, the policy and planning of services have followed the logic established by Planasa, the Brazilian National Sanitation Plan. The decision-making process was centralized by federal and state executive powers, to which municipalities had to delegate service provision activities.

The country democratic advancement led to a new stage that peaked with the Constitution of 1988, when the rule of law was implemented and themes such as social rights, equality, universalization, social justice and social participation started to integrate the principles of public policies, being addressed from 2003 on, when forces more sensitive to the most vulnerable sectors of society came to power. In such context, and under strong pressure from conservative and privatist sectors of society, in 2007 the National Bill for Basic Sanitation was sanctioned.

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According to Law nº 11.445/2007, planning is an activity to be performed by the holder of the service, the municipality, non-delegable to any another entity. The Law sees planning as a means of universalizing public sanitation services based in a public policy that promotes social and environmental justice through social participation, transparency of actions, articulation between policies, integration between infrastructures and services, using and promoting appropriate technologies.

With this commitment arises the central question of this research: what are the links between devising a basic sanitation plan and the promotion of social justice? To answer that, the Municipal Plans of Alagoinhas and Belo Horizonte were studied as both inaugurated the sanitation planning experiences, supported by a public policy established by the 2007 law, a municipal system of basic sanitation, a collective decision-making instance, and a municipal fund for sanitation.

## Social and environmental justice

The concept of social justice is not simple. It emerges from the articulation between different social ambits, and the access to goods and services, and is discussed in many disciplines. The challenge here is to work with the concept so it collaborates with the analysis of basic sanitation planning and its ability to promote the induction of social justice.

To such challenge Harvey D (2009) collaborates by reflecting upon social justice bringing an important contribution, as for the author:

justice is essentially to be thought of as a principle (or set of principles) for resolving conflicting claims. These conflicts may arise in many ways. Social justice a particular application of just principles to conflicts which arise out of the necessity for social cooperation in seeking individual advancement. Through the division of labour it possible to increase production: the question then arises as to how the fruits of that production shall be distributed among those who cooperate in the process. The principle of social justice therefore applies to the division of benefits and the allocation of burdens arising out of the process of undertaking joint labour. The principle also relates to the social and institutional arrangements associated with the activity of production and distribution (HARVEY, 2009, p. 97).

According to Harvey D (2009), it is instructive to follow the assertion of Rawls (1969) about distributive justice: “The basic structure of the social system affects the life prospects of typical individuals according to their initial places in society. [...] The fundamental problem of distributive justice concerns the differences in life-prospects which come about in this way. We [...] hold that these differences are just if and only if the greater expectations of the more advantaged, when playing a part in the working of the social system, improve the expectations of the least advantaged. (RAWLS J, 1969, author’s emphasis, *apud* HARVEY D, 2009, p.109)

According to Rawls J (1969), in order to have social justice, the social network's structures should offer spaces so that the ability to promote distribution valorizing humans as productive beings could be developed in the world, instead of flattening and confining human existence to the valorization that capitalist socio-economic structures previously establish.

To think of social justice is to think of the socio-environmental impact that the access to goods and services each citizen has represents and of the mechanisms that individual practices build and foster in society. Furthermore, it means holding accountability for inequalities that individual access to certain goods and services causes to the social body, specially, to its most fragile sectors, composed by individuals whose initial places are areas with low or no access to systems of professional valorization and benefits generated by the productive and inventive abilities of humankind.

How a practice able to promote social justice can be defined? That is the effort Harvey D (2009) makes to devise the concept of territorial distributive justice. For that, the author defined "a hypothetical figure for the allocation of resources to regions [...] to evaluate existing distributions or to devise policies which improve existing allocations." (*op cit*, p. 101). Among many other categories that could be used to discuss fair distribution, three were highlighted:

**Need:** a relative concept because needs are not constant, but influenced by human consciousness and society, which change as much as needs. The problem is defining what each need is relative to and how it arises.

**Contribution to common good:** there is much concern about how an allocation of resources into a territory affects the conditions of another. The contribution to common good suggests that technology and services should be used to increase transferences of inter-regional goods in a way that would have actual or potential consequences for the distribution of such goods in society.

**Merit:** a geographic concept related to the degree of environment difficulty. In the physical environment certain accidents (drought, floods, earthquakes...) place additional difficulties for human activity. If there is the need for a facility for common good in risk areas, extra resources should be allocated in order to counterbalance such accident. It means that if a facility is needed, if it contributes to common good, then and only then, an extra allocation of resources is justified.

Considering the relevance of the categories proposed by Harvey, they were used concerning the content analysis of the municipal basic sanitation plans to analyze their ability to induce processes that lead to social justice. Relevant aspects that should be considered in the perspective of basic sanitation are:

1. **Need:** Embodies questions related to the demand of quantity and quality of the water for human activities, types of technologies and services of handling excreta, solid residues and rainwater, whose management should be assured for the population.

2. **Contribution to common good:** Involves the analysis of how investments in the preservation of natural environments, through basic sanitation, constitute networks

of preservation/deterioration of environmental quality that go beyond the territory demanding services. Such consideration should be incorporated as a guiding and common thread of investments in the whole of municipalities.

**3. Merit:** In sanitation, environmental difficulty, according to the category proposed by Harvey, may arise from circumstances of the physical environment such as characteristics of springs, predisposition to floods, or risk areas that place additional difficulties for quality of life of populations. If this occurs, extra resources should be allocated to balance them. Merit can be translated as an allocation of extra resources to compensate the degree of difficulty of social (poverty) and natural (risk areas, brackish water, etc) environments. Furthermore, there is the positive component of merit in services, constituting the effort of valorizing actions, technologies and services that promote natural environment preservation, rational use of supplies and energetic efficiency as justifications for extra investments.

Thus the principles of territorial distributive justice for basic sanitation are:

1. Spatial organization and investment patterns should be able to satisfy the needs of rural and urban populations, considering the adequacy of technologies and services to their social, cultural, institutional and environments. Socially fair methods should be established to determine and measure needs with focus on the management of the demand and minimization or non-generation of residues. The difference between needs and allocations allows the evaluation of territorial injustice degree.

2. Extra resources may be allocated to a determined territory if such investment results in effects of oversupply to other territories.

3. Alterations in territorial investment patterns may be tolerated if destined to overcome specific difficulties in the environment that otherwise could jeopardize the quality of life of social groups residing in the area.

Thus, the distribution of public services of basic sanitation must consider that: (a) the needs of the population within each territory can be identified and satisfied; (b) resources may be allocated to maximize the multiplying inter-territorial effects; (c) extra resources can be allocated to help solving specific difficulties of social, natural and physical environments and ensure the needs of those who live in such conditions are met; and (d) institutional, organizational, political and economic mechanisms must be established to prioritize perspectives of the less privileged territories.

To create a plan with social justice in perspective, the development of mechanisms and instruments must clarify how the need, the contribution to common good and the merit are approached in different aspects and proposals of the planning. Basic sanitation's motivation must arise from factors that deal with: inequality in the access to quality services, degree of deterioration of natural environment, and effects of climatic change and economic crisis leading to increasingly unstable and compromised ensuring of populations livelihood via income (salary), especially the most vulnerable ones.

While the idea and practice of ensuring access to goods and services is considered an action of individual responsibility, as the liberal conception of society preaches, is-

sues being posed since the beginning of this century – work, territorial access, solidarity economy, climate change, ecosystem preservation, agro-ecology, social-environmental justice – will be far from being addressed. This conception of the world distances itself from the public dimension and common good. The creation of relationships able to promote long-term social justice should be guided by a collective goal able to offer citizens the possibility of accessing, in their day-to-day life, material and immaterial conditions necessary to a good quality of life, where consciousness about power mechanisms in society and the different flows and links between state, society and environment influence the attainment of social justice.

In sanitation, the selection of territorial justice-oriented strategies involves factors related to public management and technological aspects. Regarding the latter, it is important to observe the flow of energy and nutrients that rule primary natural substrates necessary for existence, decoding them into socio-spatial practices and the adoption of technologies for providing services directed to the needs related to common good and merit.

The concept of environmental justice has its origin with social movements that fought for civil rights of Afro-descendants, especially since the 1960s in the USA. People who belonged to discriminated and low income groups suffered greater exposition to environmental problems when deposits of extremely pollutant chemical, industrial and radioactive waste were placed quite close from areas inhabited by such vulnerable populations (ACSELRAD; HERCULANO; PÁDUA, 2004).

Environmental justice “is understood to be the group of principles assuring that no specific group of people, ethnic, racial or social class-related shall suffer from a disproportional part of the collective space’s degradation”.<sup>i</sup> Complementarily, environmental injustice is

the very nature of the unequal collective existence where socio-political mechanisms that destine a larger load of the environmental damage of development to social groups of workers, low income population groups, racial discriminated segments, marginalized and more vulnerable groups of the citizenship operate.<sup>ii</sup>

In Brazil, the notion of environmental justice also contemplates the possession of territory and natural resources by the wealthier classes and the concentration of pollution in the surroundings of residencies and workplaces of the lower-income population. (ACSELRAD; HERCULANO; PÁDUA, 2004).

Dealing with environmental equity, Bullard (2004) presents three categories of analysis:

- **Procedural equity:** referring to the issue of justice and to the notion that governmental rules, regulatory and legal frameworks should be evenly applied in all regions in a non-discriminatory manner.
- **Geographical equity:** referring to the localization and spatial configuration of communities and their proximity to sources of environmental risk, dangerous installations and

locally unwanted land uses such as: landfills, incinerators, sewage treatment stations, lead smelting plants, oil refineries, among others.

- **Social equity:** criterion that evaluates the role of sociological factors in environmental decisions, such as race, ethnicity, social class, culture, way of life, political power, etc.

Based on environmental equity, environmental justice seeks to develop tools, strategies and public policies to eliminate unfair conditions and decisions to avoid that: unequal protections result in unfair and non-democratic decisions; communities and individuals who are poor, excluded and of color suffer from a vulnerability near harmful installations; poor people's employments continue to be the most dangerous ones. It seeks to unveil the subjacent presuppositions about who possesses what, when, how and how much (BULLARD, 2004).

Consequently, environmental inequity may manifest itself both as an unequal environmental protection and as an uneven access to environmental resources (BULLARD, 2004). In this sense, it is necessary to observe how environmental inequality manifests itself in society and territories.

Depending on the forces – as the market, for instance – operating on the implementation of environmental policies, or on their omission during their conception, they may trigger the generation of disproportionate environmental risks to groups with lesser access to financial and political resources of society. This is more the result of economic, social and political processes that distribute environmental protection in uneven ways than related to geographical localization or historical coincidence. Thus, is it possible to notice a relationship between non-democratic processes, oriented by elaboration and implementation of policies under the form of discriminatory norms, priorities that have not been discussed, technocratic biases; and the production of disproportionate consequences for different social groups (ASCERALD; MELLO; BEZERRA, 2009).

Unequal access may be seen in spheres of production and consumption. In production “it is manifested in the process of continuous destruction of non-capitalist forms of appropriation of nature, such as traditional extractive activities, artisanal fishing, small agricultural productions or the use of common resources”.<sup>iii</sup> The groups practicing them are affected by environmental impacts in areas of capitalism expansion projects and its form of manufacturing goods (ASCERALD; MELLO; BEZERRA, 2009).

It occurs with the introduction of practices such as monocultures, pastures, implementation of highway projects and mining activity, leading to strong effects of destabilization of traditionally occupied lands. The development of an activity that compromises the continuity of other activities, has an effect of transmitting its harmful effects to the common environment (ASCERALD; MELLO; BEZERRA, 2009).

The force correlation issue remains evident when it is observed that companies recurring to environmental harmful practices are integrated in the mainstream market, benefiting from privileged relationships with public authorities and often counting with their encouragement to install themselves and remain in the territories. The opposite happens to traditional populations excluded or much less inserted into market relationships. Their basic resources are destructed in an invisible way for state authorities.

From the social justice perspective, an aggravation factor should consider that market practices usually create a small amount of jobs in relation to the consumption of natural resources and degradation of the common environment they cause, while non-capitalist socio-economical practices are usually responsible for the direct subsistence of expressive amounts of people (ASCERALD; MELLO; BEZERRA, 2009, p. 74-75).

In consumption, the “unequal access to environment will express itself in the extreme concentration of goods among few people”.<sup>iv</sup> In global scale, a small portion of the social segment presents high consumption patterns – an ultra intensive and not very forward-looking appropriation of natural resources – and, another large portion “remains below the necessary level of consumption for their mere physical survival”.<sup>v</sup> This is reflected in municipal scale, environmental quality and unequal forms of access to services by different groups and levels of income.

The acknowledgement of environmental inequity leads to recognizing that the main issue “is not only the sustainability of the resources and of the environment, or the technical choices displaced in the dynamics of the society, but the social forms of appropriation, use and misuse of such resources and of such environment”.<sup>vi</sup>

The mechanisms of production of environmental inequality are similar to those of social inequality, expressed by unequal appropriation of the environment and natural resources. Social and power inequalities are the root of environmental degradation: “environmental crisis cannot be faced without the promotion of social justice”.<sup>vii</sup>

The general characteristics of the analytical framework of environmental justice, aiming at mapping and emphasizing inequalities, are

- Adoption of a promotion/prevention model for public health as preferable strategy.
- Transferring the burden of proof for polluters who cause damage, discriminate and do not collaborate of the same form with less protected “social classes”.
- Admitting the evidences of discrimination from statistical data and differentiated impacts or “effect” tests instead of requiring evidence of intent.
- Evaluating disproportionate impact through defined actions and references, assessed in a ranking framework but not limited to a quantitative evaluation of risks.

The paradigm of environmental justice adopts an inter and trans-disciplinary approach aiming at the revision of consumption patterns, including a restructuring of ways of life, non-generation and minimization of residues, conservation of environmental heritage, assuring socio-environmental development guided by ethics, equality, democracy and freedom. In the case of implementing projects, they should be oriented towards socio-cultural, institutional, environmental and physical-natural realities of each area, decentralized and communitarian-comprehensive, seeking to assure public health and environmental conservation, promoting social participation in decisions and the empowerment of communities (BULLARD, 2004).

The analytical basis to characterize environmental justice promoting aspects is extracted from the conceptions of environmental justice regarding activities of basic sanitation.



Therefore, it is necessary to reflect upon how should be the strategy of a sanitation plan to confront environmental inequalities through territories, making it possible to induce the promotion of social and environmental justice. It is from such understanding that the analytical matrix is referenced in the present work.

## Methodology

The structure of this research is the investigation of the empiric reality with Case Studies method, used when the researcher's focus of study are contemporary phenomena in which interventions evaluated do not present a simple and clear group of results (YIN RK, 2001). The municipalities selected for the study were Alagoinhas-BA and Belo Horizonte-MG for being predecessors in the practice of planning in basic sanitation.

The research techniques used are the following:

### Data collection – Qualitative dimension

- Documentary research on public services of sanitation along with municipal plans of basic sanitation and related documents.
- Focus Group with social actors involved in the planning. The groups where represent by municipal public authorities, the service provider and the organized civil society.

For information analysis, content analysis was used as method (FRANCO, 2005).

For the specific analysis of environmental and social justice in sanitation an analytical matrix able to reference the aimed content analysis was developed. Contents that allowed a reflection on the advancements in the perspective of environmental and social justice induced by planning were searched in the sanitation plans from each municipality.

The objective of the analysis was to understand:

- A.1. Justice: Did the definitions, guidelines, programs and projects presented in the plan follow a tendency more concerned with the induction of social and environmental justice or with economic efficiency?
- A.2. Perception of actors who participated of the planning: How do social segments (public authorities, service provider and users) understand the plan and its ability of inducing social and environmental justice?

To make a more objective analysis, characteristics and directives necessary for a planning process with political, economic, social and environmental ability of inducing fairer public policies were identified. To observe aspects related to social and environmental justice, what was, at a minimum level, necessary to be present in the planning process and to be summarized in the plan was defined as the aspects listed on tables 1 and 2.



**Table 1 – Aspects for the analysis of social justice in sanitation**

JS1	Discussion of how much is necessary to assure citizens users of public services of their quality of life in a scenario of social inequalities, climate change and protection of natural environment.
JS2	Prioritization of public investments in communities with greater deficit of access to basic sanitation.
JS3	Strategies for the universalization of services considering social, energetic and environmental issues.
JS4	Orientation of service provision and public investments to common good contribution.
JS5	Merit related to investments direction, in which the long-term vision considers meeting of needs and contribution to common good as premises that result in effects of oversupply in other territories.
JS6	Consideration of the capacity of production of financial resources through public service provision and the definition of which routes these resources should cover, highlighting differences between private initiative and public initiative objectives in their utilization and destination. The wealth generated in service provision should have the objective to circulate within the service itself or in activities correlated to its systemic efficiency.
JS7	The economic feasibility of systems should be evaluated considering: <i>per capita</i> cost of implementation, maintenance and time needed for investment return and job creation.
JS8	Inclusive tax systems, assuring all citizens the access to services and promotion of equity.
JS9	Taxes that cover the costs of exploration and maintenance of services, but also the necessary inversions for the development of systems and substitution of obsolete infrastructures.
JS10	Discussion about the importance of prioritization of income generation in the ambit of local populations through decentralized and simple functioning technologies, stimulating the inclusion of local workers.
JS11	Mapping of areas with specific difficulties that may result in losses to other territories.

Elaborated by the authors.

**Table 2 – Aspects for the analysis of environmental justice in basic sanitation**

JA A	<b>A. Climate change theme</b>
A1	Analysis of the alterations predicted for the region and how they will affect the most vulnerable populations.
A2	How the interference in the availability of water and distribution of rains for the assurance of assistance to the basic needs of the population are predicted and how the management of demands is considered.
A3	Discussion about technological issues connected to basic sanitation and their possibilities of innovation in mitigating and/or adapting to change.
A4	Consideration about the protection of fundamental ecosystems for public services of basic sanitation as a means to minimize activities that collaborate for climate change effects.

JA B	<b>B. Valorization of techniques and technologies used by traditional communities that develop productive activities for their subsistence.</b>
B1	Treatment of techniques and technologies of basic sanitation adopted and their adequacy to local environmental conditions.
B2	Contextualization of basic sanitation technology use according to physical, geographical and cultural characteristics of the area where sanitary services or solutions will be implemented.
B3	Priority given to the diversification of techniques/technologies used in basic sanitation systems that will be implemented.
B4	Forms of protection of fundamental ecosystems for public services of basic sanitation as a means to assure access to quality natural resources for communities that use them as an alternative means of subsistence.
JA C	<b>C. Adoption of policies where the mitigation and/or treatment of impacts, residues and effluents produced in basic sanitation activities are associated to its generating focuses in territorial and environmental ambits.</b>
C1	Strategies for supplying citizens in a way that prioritizes the use of streams which are closer to the users.
C2	Mechanisms to foster the non-generation and minimization of solid and liquid residues, incorporating users, the productive sector, organized segments of society and public authorities as key role players in the change of patterns and adoption of a pollution prevention system.
C3	Adoption of a form to distribute treatment systems and final destination of residues generated in basic sanitation systems – when inevitable – closer to their generating focuses.
C4	Adoption of a strategy of decentralization and “ideal” scale as indicators for the definition of installation of treatment and final destination systems to supply users.
JAD	<b>D. “Industrial ecology” perspective should be adopted as a strategy for service provision</b>
D1	Prioritization of the integrality between the components of basic sanitation in a way that the demand is a reference for the development of the other components.
D2	Encouragement to the development of a closed circuit between productive activities related to basic sanitation activities.
D3	Consideration of the eco-design principles, fostering constructive techniques that accomplish the segregation of effluent currents, making both final treatment and destination for other productive and/or consumption processes easier.
D4	Planning for reserved areas in neighborhoods and/or condominiums directed for the treatment of solid residues and management of rain waters, in a way to avoid large scale systems, as landfills in distant areas of the city, and the construction of water management systems, as retention basins, for example.

Elaborated by the authors.

## Results

From the analysis of municipal plans of basic sanitation of municipalities as inductors of social and environmental justice, the results are presented in tables 3 and 4.

The analysis of the municipality of Belo Horizonte about social justice revealed that although its Plan does not contemplate the different aspects of the analytical matrix integrally, the actors who accomplished it were attentive to the importance of making investments in areas of greater vulnerability; of assuring that part of the funds raised in services provision revert back to services themselves; and of promoting the expansion of job creation for local populations. Such approach in the Plan leads to the induction of social justice, in a way of conducting the municipality, throughout time, to a scenario where benefits and damages produced in sanitation service provision would be allocated and distributed in a fairer way, with benefits both for the society and the environment. In the case of Alagoinhas, PMSA had a focus directed to the promotion/induction of social justice through the planning of sanitation services in a participative form. PMSA has brought conceptual discussions about what should be service provision in basic sanitation; objectives for society; importance of avoiding excessive consumption of water and supplies; the need to have conscious and participative users of services in all different stages of planning; and also the urgency of using technologies oriented toward environmental preservation.

**Table 3 – Summary of the analysis of social justice in the plans of municipal sanitation of Alagoinhas and Belo Horizonte**

Analyzed Items	Belo Horizonte - MG	Alagoinhas - BA
JS1 – Definition of Need	Not present in the Plan (BELO HORIZONTE, 2010).	Not present in the Plan (ALAGOINHAS, 2004), but concern with a rational use of natural resources, water and energy was observed.
JS2 – Prioritization of need	Demonstrate acknowledgement of priorities in relation to investments.	PMSA has clearly prioritized the need for investments.
JS3 – Social, energetic e environmental objectives	Actions for the universalization of these services are not guided by these objectives.	Actions for the universalization of services are guided by these objectives.
JS4 – Contribution to common good	Present in the plan concerning the identification of actions presenting greater need for the poorer population segments.	Present in PMSA specially concerning individual practices and technological choices.

<b>JS5 – Merit of investments</b>	The Plan does not present this intention explicitly.	PMSA composes a group of intentions showing concern with the generation of oversupply effects in other territories.
<b>JS6 – Direction of profits of service provision</b>	There is an orientation about the production of financial resources through the public services provision.	SAAE defines potential profit originated from service provision should circulate within the public service of sanitation.
<b>JS7 – Analysis of economic viability</b>	These elements were not present in the Plan.	This directive was not found in the Plan.
<b>JS8 – Inclusive tax system</b>	These principles were not contemplated.	There was a definition of directives related to this criterion.
<b>JS9 – Tax composition</b>	Not contemplated in the Plan.	Concern about the sanitary exhaustion component was observed.
<b>JS10 – Generation of local income with service provision</b>	Contemplated in the special programs oriented to the most diverse areas of sanitation.	Partially contemplated, especially in managing solid residues.
<b>JS11 – Mapping of priority areas</b>	Plan presents local maps and recognizes specific difficulties.	Plan presents a group of elements that show observation to this criterion.

Elaborated by the authors.

In terms of the induction of environmental justice, it is possible to observe that Belo Horizonte's Sanitation Plan presents some advances in the area of industrial ecology by minimally predicting segregation, recycling and reuse of residues. For the climate change topic, a direction was detected, although still incipient, that could lead to a deepening in the addressing of these questions in a near future, especially concerning the service of managing and draining pluvial waters. However, regarding the re-discussion of technological patterns for basic sanitation public services provision, the results revealed that there is still a long and conflictive way to go, especially, facing the resistance to changes from the technical and managerial bodies, and the pressure from corporations interested in keeping high energy and material consuming engineering solutions already technically dominated by them. In the case of the Municipal Government of Alagoinhas, it was observed that PMSA contemplated aspects connected to: valorization of techniques and technologies used by traditional communities; predicting actions in which the generation and mitigation/treatment, and final destination being nearer to generating focuses; and presence of industrial ecology principles. Thus, the conception of the Plan predicts environmental fairer practices in the form of providing services; in the prediction of technological adequate models; in the search for efficiency in the protection of natural ecosystems and natural resources and; finally, in the forms of including participation of service users in everyday practices of service provision, among other practices.

**Table 4 – Summary of the analysis of environmental justice in the municipal plans of sanitation of Alagoinhas and Belo Horizonte**

Analyzed items	Belo Horizonte	Alagoinhas
<b>JA.A – Observation of Climate Changes</b>	No attention was directed to this phenomenon in the planning process. The only action that could denote some advancement is anchored in the partnership between SUDECAP and UFMG for a project of sustainable management of waters for the improvement of the quality of life in the cities of the future.	No attention was given to this phenomenon in the planning process. Even though PMSA has brought proposals that could in long term be important for the coexistence with climate alterations, they did not focus on the questions of climate change and its influence in service provision.
<b>JA.B – Utilization of appropriate technology</b>	Not much attention was given to this criterion. The closest approach, although superficially and incompletely explored, was the addressing of difficulties presented in the implementation of sewage systems in areas of low income populations and the possible alternatives to assure service provision.	Concern towards this topic was not observed. However, due to the participative process of planning including users in the discussion about the technology to be adopted before the elaboration of the project, it may be considered, to a certain extent, that the topic was contemplated.
<b>JA.C – Territory in relation to generation and treatment</b>	It was observed an attention to the ability of the streams to correspond to the demands of the population. However concern with the adoption of strategies to accomplish user supply by using streams closer to the citizens was detected. It certainly contributes for environmental justice, as it holds users accountable for the environmental quality of the stream, discouraging them to pollute natural environment.	This topic was contemplated in some aspects. Even though the PMSA did not define that strategies for supplying citizens prioritizing streams nearer to the users should be adopted due to the characteristics of their supplying stream and underground water, this was already the strategy adopted by the municipality.
<b>JA.D – Strategies of Industrial Ecology</b>	The special programs present in the plan contemplate actions oriented to improving conditions of sanitation of the municipality, but few tend to value and foster a productive logic of closed circuit between the residues generated in the activities of sanitation that could serve for other productive chains.	Propositions oriented to water abstraction, storage and use of waters from the rain to decrease both the superficial water drain and the use of drinking water treated by SAAE for productive activities with lesser demand of the drinkability of water (as car washing, garden irrigation, etc) were observed.

Elaborated by the authors.

## Discussion

Social justice has shown itself to be a fundamental concept for the analysis of the ability of planning in terms of making social improvements effective. It has allowed emphasizing the importance of the relation between individuals and their force as a collective in order to make the necessary transformations effective. From the analytical categories of need, contribution to the common good and merit brought by Harvey (2009), a group of principles of territorial distributive justice with focus on the public services of basic sanitation was formulated allowing the interference on the direction that the analyzed municipal plans were indicating – concerned with justice or oriented towards economic efficiency and profit generation.

Likewise, the concept of environmental justice was fundamental to collaborate in the broadening of the concept of social justice, with emphasis for social and distributive aspects, and advancing towards the understanding of the productive and economic logic of capitalist society and the use of natural resources, according to Acselrad, Herculano and Pádua (2004). Thus, environmental justice when it approaches equities of geographical, social and environmental procedures, according to Bullard (2004), and fosters the revision of the consumption patterns; the re-thinking of ways of life; the valorization of different socio-cultural realities, of the natural environment, of traditional communities – such as indigenous peoples, *quilombolas* [Afro-Brazilian enslaved descendants who escaped from plantations], *fundo de pasto* communities [who share common resources and pasture area], fishermen and *marisqueiras* [shellfish gatherers], etc –; the valorization of the traditional knowledge, of social participation and the empowerment of communities; it contributes for the thinking and the establishment of basic sanitation planning in a way these premises are observed and put in practice.

In order to analyze how the perspective of basic sanitation planning services collaborate to the production/induction of environmental and social justice it is fundamental do know which aspects constitute a public service of basic sanitation that promotes justice. In this direction, Pereira (2009), by studying the implications of territorial planning, highlights the ability of the Land-use Planning to contribute with policies and agendas for promoting health and healthy and sustainable development.

The analysis of Alagoinhas and Belo Horizonte experiences, from the conceptual, theoretical and methodological reference of planning for the induction of environmental and social justice, has brought contributions in order to think the practical aspects of basic sanitation planning.

Although difficulties and facilities were identified in each one of the studied municipalities, it was evident that in both experiences the ability of inducing social and environmental justice through planning of basic sanitation actions was also identified. These differences between municipalities may be related to local realities; predispositions towards advancement into certain directions; demographic differences; socio-political characteristics and level of citizenship advancement; besides specificities of the macro region where they belong. In each case it was certainly possible to identify predispositions of answering to different aspects, what

highlights the importance of actors participating in the planning in order to attain transformation of that reality.

Besides that, it is worth mentioning that the contents approached in the plans not always result in practices actually established during the time elapsed after its elaboration. Thus, the fragility of planning implementation is an aspect of great relevance, reaffirming the importance of dedicating, in a more effective way, to public policies aspects of essential services, aiming to promote social and environmental justice.

Ultimately, as the experiences of Belo Horizonte and Alagoinhas have showed us, although there are differences pointing to a same direction, the links between the implementation of municipal plans of basic sanitation and the promotion of social and environmental justice are directly related to: social organization and mobilization; idealistic references, supra-local articulations; interests at stake; correlation of forces; institutional/political ability of public authorities to enable Plan implementation; degree of citizenship advancement; world view of segments legally responsible for service planning (public authorities and service provider); society's interest in developing everyday life practices that reflect social end environmentally fairer actions; mechanisms that protect these services from the market and economic efficiency logic; and the understanding that promoting protection of natural ecosystems is fundamental for the valorization of knowledge and techniques that demand lesser amounts of environmental resources to maintain the populations quality of life. However, it is evident that elements cited above cannot cover the totality of this complex reality, but they are a starting point to advance in terms of such important issues for society.

Finally, considering the theoretical contributions from researchers of social and environmental justice, the importance of social practice in establishing the strategies of appropriation and valorization of instruments able to conduce the transformations of reality towards a fairer society is clearly marked. Some examples are: laws, planning and social participation, besides always seeking to find techniques and technologies appropriate to these tendencies.

By analyzing one of these instruments, the municipal plan, the complexity of determining its driving forces is evident, because these forces either work in a way to neutralize or to potentialize its main social function. So, the better understanding of processes of planning and plan elaboration, aiming to identify routes that lead to transforming programs for the social-environmental reality, is an important challenge in order to advance with the valorization of public policies that collaborate with the promotion of collective health.

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## Notes

i Free translation from: "*entende-se o conjunto de princípios que asseguram que nenhum grupo de pessoas, sejam grupos étnicos, raciais ou de classe, suporte uma parcela desproporcional de degradação do espaço coletivo*" (ACSELRAD; HERCULANO; PÁDUA, 2004, p. 9)



- ii Free translation from: “*a condição de existência coletiva própria às sociedades desiguais onde operam mecanismos sociopolíticos que destinam a maior carga dos danos ambientais do desenvolvimento a grupos sociais de trabalhadores, populações de baixa renda, segmentos raciais discriminados, parcelas marginalizadas e mais vulneráveis da cidadania*”. (op. cit., p. 9 – 10)
- iii Free translation from: “*manifesta-se no processo de contínua destruição de formas não capitalistas de apropriação da natureza, tais como o extrativismo, a pesca artesanal, a pequena produção agrícola ou o uso de recursos comuns*” (op. cit., p. 74).
- iv Free translation from: “*o acesso desigual ao meio ambiente vai expressar-se na extrema concentração de bens em poucas mãos*” (op. cit., p. 75).
- v Free translation from: “*permanece abaixo dos patamares de consumo necessários para a sua simples sobrevivência física*” (ibidem).
- vi Free translation from: “*não é simplesmente a sustentabilidade dos recursos e do meio ambiente, ou as escolhas técnicas deslocadas da dinâmica da sociedade, mas sim as formas sociais de apropriação, uso e mau uso desses recursos e desse ambiente*” (op. cit., p. 76).
- vii Free translation from: “*não se pode enfrentar a crise ambiental sem promover a justiça social*” (op. cit., p. 77).

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# SOCIAL AND ENVIRONMENTAL JUSTICE IN BASIC SANITATION: A VIEW ON MUNICIPAL PLANNING EXPERIENCES

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**Resumo:** O estudo faz uma reflexão sobre os vínculos entre o planejamento em saneamento básico e a promoção de justiça social e ambiental. Articulando-se com as categorias analíticas de justiça social e ambiental, constrói-se uma matriz analítica para estudar as experiências dos municípios de Alagoinhas-BA e Belo Horizonte-MG. A partir de entrevistas com diversos atores e análises de conteúdo, os resultados indicam que os vínculos entre a implementação dos planos municipais de saneamento básico e a promoção de justiça social e ambiental se relacionam com o empoderamento da sociedade, as articulações supralocais, os interesses políticos, a correlação de forças, a capacidade institucional/política do Poder local, os mecanismos que protejam os serviços da lógica de mercado e da eficiência econômica. Demarca-se, pois, a importância da prática social para estabelecer estratégias de apropriação dos instrumentos passíveis de conduzir a transformações da realidade rumo a uma sociedade mais justa com participação social.

**Palavras-chave:** Planejamento. Saneamento básico. Justiça social. Justiça ambiental.

**Abstract:** The study makes a reflection on the links between planning in the field of sanitation and the promotion of social and environmental justice. In coordination with analytical categories of social and environmental justice, it is built an analytical matrix to study the experiences in the municipalities of Alagoinhas-BA and Belo Horizonte-MG. Based on interviews with several actors and content analysis, the results indicate that the links between the implementation of municipal sanitation plans and the promotion of social and environmental justice are related to the empowerment of the society; supra-local articulations; political interests; correlation of forces; institutional/political capacity of the local authority; mechanisms to protect services from market logic and economic efficiency. It marks, therefore, the importance of social practices to establish strategies to the appropriation of instruments that could lead to the transformation of the reality towards a fairer society with social participation.

**Keywords:** Planning. Basic sanitation. Social justice. Environmental justice.

**Resumen:** El estudio realiza una reflexión sobre los vínculos entre la planificación en campo del saneamiento y la promoción de la justicia social y ambiental. En coordinación con las categorías analíticas de justicia social y ambiental, se construye una matriz analítica para estudiar las experiencias en los municipios de Alagoinhas-BA y Belo Horizonte-MG. Basado en entrevistas con varios actores y análisis de contenido, resultados indican que vínculos entre la aplicación de los planes de saneamiento municipal y la promoción de justicia social y ambiental están relacionados con la potenciación de la sociedad; articulaciones supra-locales; intereses políticos; correlación de fuerzas; capacidad institucional/política de la autoridad local; mecanismos de protección de servicios de la lógica del mercado y eficiencia económica. Así se marca la importancia de prácticas sociales para establecer estrategias de apropiación de instrumentos que puedan conducir a la transformación de la realidad hacia una sociedad más justa con participación social.

**Palabras clave:** Planificación. Saneamiento básico. Justicia social. Justicia ambiental.

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