SUSTAINABLE DEVELOPMENT: PUBLIC POLICIES TO SOLID WASTE IN BRAZIL

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SUMMARY
This paper aims at analyzing the importance of sustainable development since its origin in the first Conference of Human Environment, in 1972, in Stockholm, Sweden. Moreover, it highlights the key role of the Our Future Common Report in order to establish the pillars and its evolution until nowadays. In addition, the paper sorts out the three classic pillars of sustainable development and the paramount principles that support the pillars of sustainability. Furthermore, such study addresses the solid waste policy in Brazil, introduced by the law no. 12.305/2010 in order to make a link with the need to solve a problem that impacts the achievement of sustainable development. The solid waste is a great problem in the cities all over the world and in Brazil this is not different. The law sets principles, objectives and its main legal concepts in accordance with the sustainable development that is discussed in this work. It is also described topics such as the solid waste policy, that needs to be implemented by the country, states and municipalities; the Reverse Logistics; the selective collection of waste; its reuse or recycling practices. The law establishes the necessity to close down all of open dumps that must be replaced by sanitary landfills by August, 2014. Eventually, the paper deals with outcomes of the law application after four years that it was published and whether its main pillars have been put into practice to achieve the sustainable development.

Key words

INTRODUCTION

Nowadays there is an overwhelming use of the word sustainability. All the people, companies, government, nations, want to be sustainable. The theme has been present in

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academic discussions and public policies due to the environmental problems, such as the shortage of natural resources or the climate changes and their worsening as each day passes.

The first environmental problems were felt in the European countries and crossed their borders and now all the world feels their effects and the necessity to adopt public policies both locally and at an international level.

In this context, one expressive problem that is under the public administration concerning solid waste. Large cities are exporting this problem to other parts of their country or the world.

In Brazil the problem is not different. There is a public policy about solid waste, created in 2010, by the law no. 12.305. However, only part of the guidelines was implemented. This year, according to the law all illegal procedures of discharging waste must be replaced by sanitary landfills, and this is a great problem because the public administration does not worry about such issue.

This paper shows and analyzes the importance of sustainable development since its origin in 1972, with the key role of the Our Future Common Report in order to establish its three classic pillars the paramount principles that support the pillars of sustainability.

Moreover in the context of sustainability, such study focuses on the solid waste policy in Brazil and its implementation problems.

1. THE SUSTAINABLE DEVELOPMENT

1.1 Origin and classic pillars

The concept about the development with environmental concern dates back to the 1970s after the first UN Conference related to Human Environment in Stockholm. This discussion arose with the first great environmental problems reported by studies such Silent Spring of Raquel Carson and The Limits to the Growth conducted by The Club of Rome, given the urgency sense to discuss the environmental issues.

Furthermore, the environmental degradation caused by the human being transcended the countries borders, the political limits, affecting regions and populations all over the world.

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The Stockholm Conference gathered more than 113 representatives of different countries and it is considered to be a landmark in the environmental world history, wherein the UN Environmental Program (UNEP) was created together with the Stockholm Declaration Human Environment providing a new direction to the environmental issues. It was realized the necessity to reformulate the development concept.

This issue was established by the "Our future common Report", presented in 1987, in the UN General Meeting that created and defined the term Sustainable Development, as follows:

Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs. The concept of sustainable development does imply limits - not absolute limits but limitations imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities.4

The provision of necessities involves minimum conditions such as water, good quality air, food, basic sanitation, consequently, respect for human rights. The Universal Declaration of Human Rights (1948)5 focuses on the right to life (art. III), on a standard of living that enables every human being to have access to better health conditions and well-being, including food, clothing and housing (art. XXV).

It is important to highlight that the sustainable development encompasses solidarity, e.g. everybody needs to care about the neighbor and the people that will be here after us. We cannot use all the natural resources because the future generations need them too.

This issue has a link with the systemic vision that is somehow complexes because it needs to integrate all the aspects and all forms of life. Indeed, we are interdependent in the life context. This is the metasystem6 wherein the systems are fully integrated whose properties cannot be reduced to small unities7. In that sense, all living things are part of a system, and each system is part of a large system comprising the global system. In this way life and environment are umbilically linked and form one single body, which affects the environment and consequently affects the life in the planet8.

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Likewise, the sustainable development has its principles based on three pillars: the economic development, the social progress and the environmental protection or, alternatively, is based on the *triple bottom line* of *people, planet and profit*.\(^9\)

The sustainable development practice needs the balance among its pillars, because the economic development must come along with social progress and the protection of the natural resources. Moreover, the three pillars of sustainable development must stay together and integrated because we cannot talk about sustainability in the event of forgetting one of them.

Nowadays we have another component arising: the cultural creativity "we underline the fact that our practices, relationships, and institutions have to initiate and respond to change if they are to endure for long. Sustainability demands imagination and innovation"\(^{10}\). In fact, the cultural creativity appears to discover other possibilities to implement development with reduced use of natural resources, such as the recycling and reuse of the solid waste in the productive process.

It is important to observe that the sustainable development comprises the participation of all, Government and civil society because the environmental questions have a great repercussion in the course of our planet. In fact, to reinforce the conception of sustainable development is crucial to address its multidimensional concept.

Aiming at reinforcing the sustainable development, classic pillar studies indicate a link with a multidimensional concept based in seven key principles\(^{11}\).

The first principle is the countries responsibility to ensure the sustainable use of the natural resources, which originated is in the Stockholm Environmental Human Declaration, principle 21\(^{12}\), the second principle addresses the equity and poverty eradication, inserted in the Principle 5 of Rio Declaration of Environment and Development\(^{13}\) establishes that “all States and all people shall cooperate in the essential task of eradicating poverty as an indispensable requirement for sustainable development”.

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The third principle deals with the common but differentiated responsibilities of the States “in view of the different contributions to global environmental degradation” inserted in Rio Declaration of Environment and Development, Principle 7. The forth principle of multidimensional concept highlights the Precautionary Principle, formulated in the Economic Commission of the European Union in 1990, and inserted in international right, in Rio Declaration, Principle 15.

Furthermore, the fifth principle refers to the participation and information concerning the environment “including information on hazardous material and activities in their communities and the opportunity to participate in decision-making processes” (Principle 10, Rio Declaration). The sixth principle is the Good Governance, which acquired a central position in the debate on development, combining democracy, through popular participation and accountability of governments, according to the Rio Declaration, Principle 4.

The last principle that composes the multidimensional concept of sustainable development is the principle of integration and interrelationship (Principle 13, Stockholm Declaration\(^1\)). In this context, and aiming to achieve the sustainable development it is important to discuss the Brazilian law that sets the public policies to solid waste.

2. PUBLIC POLICIES TO SOLID WASTE IN BRAZIL

Nowadays each Brazilian citizen produces in average 1.2 kilo of solid waste per day and this amount is growing because in the last decade 40 million people achieved a higher social class\(^1\). There has been an economic evolution, mainly in consumption and an increase in the generation of solid waste without a correspondent preoccupation with its destination. This is a great problem for the effectiveness of sustainable development.

Despite the problems, in 2010 it was introduced in Brazil the law no. 12.305, which established the National Policy of Solid Waste. It is a very important law because it fixed the definitions, objectives, principles, guidelines, instruments and highlights the responsibility of the solid waste generators. To MILARÉ\(^1\), the law has an environmental holistic vision


(sanitary, social, economical, technical, cultural and political). The national policy is truly transdisciplinary such as the environment and needs to be applied under the sustainability principle.

The legal foundation of the law is in the Brazilian Constitution, article 225, that guarantees for all the right of an ecologically balanced environment that could promote a healthy quality of life and establishes that the government and collectivity must defend them for the present and future generation. Hence, the law 12.305 aims to reinforce this guarantee.

The main law’s principles are inserted in article 6th, such as: the precaution and prevention, the polluter payer, protector receiver, the systemic vision, the eco-efficiency, the cooperation between different spheres of government, business sector and segments of society, the shared responsibility and the sustainable development.

In fact, the sustainable development encompasses all the other principles as we analyzed previously. When we talk about solid waste, we have to concern about the necessity of our generation and the future generation, putting in practice the other principles that are expressed in the law and that are in the context of multidimensional concept.

In the objectives, the Brazilian law of the national policy of solid waste proposes, in summary, the direction for a sustainable society, wherewith all this policy might concern about the quality of life using the sustainable development to change the form of consumption and waste discharge, through enforcement of sustainable standards of production and consumption of goods and service.

In this context, the law aims to stimulate the integrated management of solid waste, making a link with the shared responsibility and the systemic vision, with special concern with the inclusion of waste solid cooperatives in the cycle of production of input derived from recyclable materials and to stimulate the recyclable material industry.

It is important to note that in Brazil there are approximately 400,000 waste pickers who live on this activity. The recycling and reusing of materials have an economic value and promote jobs and income for thousands of people. In addition, the law foresees economic instruments to promote those cooperatives in article 42, through government financial incentives for the cooperatives and associations in order to implement physical infrastructure.

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and the purchase of equipment. To MILARE\textsuperscript{18}, the concession of these economic instruments contributes to a more effective management of solid waste.

According to Brazilian Institute of Applied Research (\textit{Instituto de Pesquisa Aplicada – IPEA}), the Brazilian people throw away R$ 8 billion (approximately $3.5 billion) per year for not recycling\textsuperscript{19} which could be used to generate income. This possibility could be harnessed.

Hence, the government needs to improve the economic incentives for the waste pickers and the initiatives to the selective collection because 40.2\% (2012)\textsuperscript{20} of the municipalities do not have this service available for the community. The selective collection is an essential instrument to achieve the goal of final environmentally adequate disposal of the rejects established in the Brazilian National Policy of Solid Waste.

It is good to remember that waste pickers’ work is important not only in the economic or social vision, but they realize a relevant environmental service avoiding the use of natural resources in the productive process. The recycling or reusing of solid waste in the productive process produce also a lot of environmental services because non consumption of natural resources or raw material that are replaced by inputs generated by solid waste\textsuperscript{21}. To MACHADO\textsuperscript{22}, the law recognized the waste solid has a social value and it is an economic good for waste pickers and promotes citizenship.

A good example in Brazil is the recycling of aluminum cans wherein 98.2\% (2011)\textsuperscript{23} are recyclable because this is business and people sell those cans to the industry.

To implement the Brazilian policy, the article 9\textsuperscript{th} sorts out some instruments such as the plans of solid waste management in the federal, state, municipal levels and also in companies. The minimum content of these plans is in the articles 15 and following, such as in the

\textsuperscript{22} MACHADO, Paulo Affonso Leme. \textit{Direito Ambiental Brasileiro}. 2012, p. 641.
selective waste collection, environmental education, encouraging the creation of cooperatives and associations, economic incentives, among others.

In the guidelines insert in article 10, the most important is what establishes the order of priority in the solid waste policy: no generation, reduction, reusing, recycling, treatment of solid waste and the environmentally adequate disposal. In fact, this is an important guideline because it is necessary to invest on environmental education to change the consumerist way of life, the consumption form that has no concern with solid waste generation and the use of natural resources and consequently neglects the sustainable development.

In this context, the legal guidelines correctly sets the need to make the population aware of the generation of solid waste proposed by the consumption society, and in the same sense, to reduce its generation. In case it is not possible, the solid waste generated must be reused, recycled or treated. Lastly, only the material in which there is no possibility of being reused, the solid waste must be disposed in an environmentally adequate site.

It is important to highlight that the article 54 establishes the necessity to close down all of open dumps that still exist in the country until August 3rd, 2014. The reality is that this legal provision was not implemented in this time. In accordance to ABRELPE in 2012 only 57.98% of the urban solid waste in Brazil has an environmentally adequate disposal in landfills. In other words, 42.02% or 32,794 ton/year are disposed in open dumps, which causes a lot of environmental damage.

After this deadline, the municipalities are subject to sanctions in civil, criminal and administrative liabilities for not been adequate with this legal obligation. The federal government stipulated also, that the states and municipalities that do not have the solid waste plans and the municipalities that do not close down the open dumps will lose possibilities to obtain federal financing.

CONCLUSION

The sustainable development involves the main principle established in the international environmental documents that, in summary, reinforce the multidimensional concept that establishes the way to hold the three classic pillar: economic and social progress with environmental protection. A paramount key to achieve this goal is the creativity and the

24 Id. ibid., p. 31.
innovation in order to enable possibilities that promote the development with the minimum negative externalities in the environment.

The law 12.305 in Brazil, that establishes the National Public Policy of Solid Waste, has its foundation in the three classic pillars of sustainability. Its objectives, principles, instruments and guidelines demonstrate that the key law is to make the government, companies and the society aware that the solid waste problem involves the common responsibility and requires actions of these actors to avoid the damage caused by indiscriminate use of natural resources or an illegal discharging of the solid waste.

The main concern of the law is the priority order that establishes the no generation or reduction of solid waste production that involves the environmental education and aware consumption. After this, in case of solid waste generation, it must be recycle, reused or treated.

Lastly, in order of priority, when it is not possible to reuse the solid waste, it must be disposed in an environmentally adequate site. This is a great concern in Brazil because more than 40% of this material are disposed in open dumps.

Therefore, it is necessary to invest in economic incentives such as tax reduction in the municipal, state and federal levels for people and companies that have mechanism to recycle or reused the solid waste or that assist the cooperatives of waste pickers. Another incentive is to implement the residues stock market, wherein the residues produced by one industry can be an input to another and they can trade with one another, or yet, incentives to stimulate the cooperation actions to reduce the solid waste impact in the environment.

However, it is possible to conclude that the goal to eliminate the open dumps in August, 2014 is not possible to be achieved in this time which demonstrated that the government, in the three spheres (federal, state and municipal) must adopt public policies to implement the landfills in all the country and at the places where the law has not been complied with, the civil, criminal and administrative liabilities must be applied.

In respect of the Brazilian policy of solid waste, to achieve the sustainable development everybody needs to do their part in this process, government, companies and the civil society have an important duty to implement them.

Finally, the legal measures confirm that the systemic vision is crucial when we analyze the environmental problems.

REFERENCES


