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## **SCIENTIFIC DISCLOSURE OF LIFE CYCLE ASSESSMENT IN BRAZIL**

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### **ABSTRACT**

The subject life cycle assessment is relatively recent and its practices are still poorly distributed in some nations, is the case of Brazil, where some initiatives have sought to publicize the subject and its practices. This article discusses the role of science communication in the dissemination of LCA in Brazil. The object of this work was conducted on the proposal by the Brazilian Institute of Information in Science and Technology (IBICT) and also the proposal of the Brazilian Association of Life Cycle (ABCV). This study intent to bring, through a bibliographic research, the concepts of scientific publication, pointing out the role of IBICT and ABCV in the disclosure of the subject in Brazil and show the importance of the subject.

### **INTRODUCTION**

The theme of sustainability, where the idea of a compromise between the interests of economic, ecological and social ranks extremely important role, this issue comes punctuating increasingly actions of governments, companies and researchers. In this sense, the proposed LCA, this approach directly addresses environmental conservation and sustainability.

Moreover, this methodology and its practices are still recent, little known and little used in some countries. Brazil is one of these cases, because despite having a significant interest in regard to Latin America, there is still much to do and at present the disclosure of the subject and their practices can be considered one of the most important actions in regarding the subject LCA.

The relationship between science and society has undergone changes and has narrowed increasingly, scientific disclosure can be considered as a good example of how to find this correlation. What was hitherto presented through isolated initiatives passed, gradually, especially after the scientific revolutions of the sixteenth and seventeenth centuries, to become a real and contemporary social demand.

The Brazilian Institute of Information in Science and Technology (IBICT), an agency directly linked to the Ministry of Science and Technology (MCT) of Brazil, has among its basic tasks, providing scientific and technological information, as well as promoting the exchange of information. Activity that IBICT has been doing since 1972, with regular publication of the Information Science journal, with the purpose of disseminating scientific information and technology in Brazil. Other proposals are made by IBICT regarding scientific communication,



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this study aims to address the work of the Institute in its virtual environment for the Life Cycle Assessment (LCA).

Another institution that has promoted the LCA in Brazil is the Brazilian Association Life Cycle (ABCV), which unlike IBICT, is a civil society, and also nationwide and nonprofit. Founded on November 29, 2002 that works with companies and academic institutions for teaching and research, government and organized society, aims to facilitate the dissemination and consolidation of Management Life Cycle.

As a proposal, somehow new and still little known, the role that IBICT and ABCV are doing in spreading the LCA in Brazil, has a great relevance to gather basic information and expertise on the subject for the general public as well as to experts. This paper seeks to clarify, through a literature review, the concepts of scientific disclosure, the IBICT and ABCV role in publicizing the issue LCA in Brazil and the importance of this issue for society in general.

## **SCIENTIFIC DISCLOSURE AND TECHNOLOGICAL AND SCIENTIFIC POLICY IN BRAZIL**

The scientific dissemination in contemporary societies, where knowledge of science and technology plays a key role in order to understand the complexity of the contemporary world and to assist in decision-making, is given a central role in the dissemination of this knowledge which become essential elements for social inclusion and effective exercise of citizenship. Thus, the scientific disclosure made in various means and media is increasingly present in our daily lives and has been discussed and presented by different professionals within the most diverse perspectives.

According to Pinheiro et al. (2009), science communication involves the transformation of a specialized language in a non-specialized language, with the goal of making the content accessible to a wide audience. For Valerio and Pinheiro (2008), when it comes to scientific communication, the application of new technologies and innovations in general, promote the emergence of opportunities that would foster a narrowing in the gap between those who do science and those that absorb.

Considering the science and technology policies, according to Moreira (2004), recent years have been marked by numerous scientific experiments disclosure in Brazil. For the author, some objectives to guide a national policy began to be drawn, namely:

- Increase the collective appreciation of the value and importance of science and technology;
- To stimulate the creativity and innovation;
- Provide greater presence of the Brazilian science and technology in the media;
- Contribute to the improvement and upgrading of science teaching;
- Stimulate the science communication activities also incorporate the social sciences;
- Encourage people's participation in the debate on the impacts resulting from science and technology.

To Moreira (2004), extend and improve the quality of science communication in the country is important to strengthen a scientific culture. Also emphasizing that this task is only possible



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from a broad collective process involving various segments of society such as: research institutions, universities, scientific society, government, journalists, educators and students.

## **METHODOLOGY**

This study is classified as exploratory research. As for the means of research, it can be classified as a literature search. In this work, based on published articles and research, we tried to point out the definitions and present the reality lived in Brazil considering science communication, particularly in relation to disclosure of the LCA, the proposal made by IBICT and ABCV through the activities in which both act disclosing LCA and also through their homepages: <http://acv.ibict.br> and <http://www.abcvbrasil.org.br/>.

## **SCIENTIFIC DISCLOSURE OF LIFE CYCLE ASSESSMENT (LCA) IN BRAZIL**

The advent of the internet phenomenon, according to Neves (2004), brought revolution in the arrangement of things in the world of information and knowledge, where barriers are down, shortened distances, broken paradigms and behaviors modified. According Massarani (2004), many of the science communication activities developed in Latin America make use of new technologies, especially the internet.

This is the proposal of IBICT and ABCV, as their web pages related to LCA. The LCA methodology is directly related to the sustainable development proposals. The debate on the subject environmental sustainability globally, gained undisputed centrality and strength in recent years. In 1997 he published the first standard of the ISO 14040 family, directly related standard LCA. In Brazil the translation is released in November 2001, being held by the Brazilian Association of Technical Standards (ABNT), which is the body responsible for technical standardization in the country, providing the necessary basis for the Brazilian technological development, standards are: ISO 14040:2009 environmental management - life cycle assessment - principles and framework and ISO 14044:2009 environmental management - life cycle assessment - requirements and guidelines.

The LCA, according Valt (2004), study the complex interaction between a product and the environment, taking into account the evaluation of the environmental aspects associated with the life cycle of the product. Taking into account the entire supply chain of this product, so a proposal very complete and complex, involving several variables.

The IBICT and ABCV webpages about ACV, proposes to disclose the methodology of LCA for both the lay public and for specialists, including in this target industries and Brazilian companies. The pages provide: newsletters, success stories, tips, environmental education for elementary education, events related to LCA; LCA courses; community outreach; community forum, news about ACV; publications and other sites with more information related to LCA, all this information can be found for free at the IBICT webpage and some of this information can be found at the ABCV webpage, with most of it restricted to associated members.

## **CONCLUSIONS**

The rapprochement between science communication and science disclosure derived mainly from the use of the internet, which is nothing but a conglomeration of communications



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networks worldwide that has enabled thousands of new users of the information could travel on the network, significantly expanding this audience, a reality which has been observed in recent years, bringing greater attention to the new information technologies. In this sense, the role of IBICT as manager of information system of science and technology in Brazil, now has a great importance for the advancement and strengthening of production and dissemination of new knowledge related to science and technology. Serving as a tool to create greater social awareness of scientific activity, clarifying their role and importance to society.

This study sought to present the scientific disclosure of Life Cycle Assessment conducted by IBICT considering the IBICT webpage on LCA as an environment where the general public can have: access to scientific information on the subject through publications; best practices performed information; possibilities for exchange of information through forums, access to information about events related to the subject; access to material relating to environmental education for elementary education and information on other websites with more information related to LCA. The ABCV, also collaborating in this release, providing information on the basis of LCA and its applications, links to the area, event information and a database of theses and dissertations that members can access.

This paper attempted to highlight the importance of IBICT and ABCV web pages, to be disclosing such information on the subject as relevant as the LCA, this issue is still little known and not yet widespread in Brazil. Thus, to be linked directly to environmental proposals, the importance of this scientific publication meets social expectations about sustainable practices and has a political importance as well, since the proposed development is consistent with sustainable prospects governmental and environmental policies.

As the subject is quite comprehensive scientific disclosure and its relationship to sustainability can still be considered fresh, new studies on the subject and in particular on the dissemination of scientific analysis of the life cycle should occur so that we can better understand how this disclosure this occurring and what a way to maximize the expected results regarding access by the general public.

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