1 GENERAL OVERVIEW

The Brazilian government has recognized the importance of LCA by creating a special department at the Ministry of Environment to push forward actions in this issue. Nevertheless, the participation in LCA research has been mostly from academia and research institutes. Although governmental research funding does not aim directly at LCA development, the strong participation of regional funding agencies shows positive evidence within Brazilian life cycle concept scenario. However, the increasing list of scientific papers and post-graduation thesis encompass mainly inventory analysis rather than complete LCA, and all of them are based in European database.

Otherwise, and due to external market and to the adoption of ISO14000 as a national standard in late years, there has been an increasing participation of industrial sectors in LCA studies. Up to 2001 350 Brazilian firms have been ISO14000 certified (strictly speaking, ISO14001 certifications), and despite the fact that this is only 0.9% of world share, this number has been increasing over the last years. These sectors encompass up to now automotive industry, paper and pulp, packaging systems, building materials and some specific polymer production.

During the last 5 years an always-increasing number of seminars, workshops and courses have been held in LCA, with special emphasis to ISO14040 methodology, in academia as well as in regional industrial associations. These events are mainly concentrated at the south and southeast Brazilian States, and are strictly connected with industrial sectors under monitoring of foreign market.

2 CURRENT STATUS OF LCA DEVELOPMENT

2.1 LCA Forum

In August/2002 a draft proposition for the creation of the Brazilian society of LCA as been spread by the Internet, addressing some Brazilian researchers linked with LCA issues.

However, there are an increasing numbers of professionals receiving information on LCA. Several courses, workshops, seminars and even training programs have been
active in building human resources capacity, and nowadays most of these courses are part of some universities undergraduate and postgraduate curricula.

2.2 Government Program

2.2.1 Federal

Despite the fact that the Ministry of Environment owns specifically the responsibility to carry out measures to implement and stimulate the development of LCA methodology, very few actions have been placed, all of them based on dissemination events. Indirectly, the national agency for research funding has been the major actor by allowing the development of several research projects of application of LCA concepts.

2.2.2 Regional

The key actor in promoting LCA applications has been the state agencies of research funding, mainly in the states of São Paulo, Minas Gerais, Rio Grande do Sul, Santa Catarina, Paraná and Bahia. These agencies have provided a continuous flux of financial support to research institutions involved with life cycle methodologies. Moreover, the industries based in these states take advantage of this situation and become more and more active partners of these projects.

2.3 Public Database

In general, the research projects already developed, or under development, use European LCA databases. However, during the last years several state environmental agencies, and industrial associations, have been active in collecting data of industrial waste, or sub-products, aiming at the development of the recycling market through waste management projects. Recently some specific industrial parks have been “upgraded” to eco-parks, based on the characterization of their waste mass flux, therefore allowing the optimization of its use.

2.4 Domestic LCA Software

None of the research institutions participate in projects aiming at the development of Brazilian customized LCA software. Only one group was identified, dealing with agro
industry research, as acknowledging the importance of specific LCA approach for each Brazilian scenario.

2.5 Practitioner of LCA Case Study

1. ACADEMIA
2. RESEARCH INSTITUTES
3. INDUSTRY / INDUSTRIAL ASSOCIATIONS

Although academia leads LCA development, regarding the amount of research projects, this figure has been changing during the last years, mainly because the new matrix concept of research financial support based on agencies of the main economic sectors. In this context, industry has presented a growing participation in these projects, targeting the optimization of their waste fluxes and, more interesting, linking economic success with environmental and social liability.

2.6 Type 3 Label

? NONE

Some specific industrial exporting groups follow international standards accordingly their particular sector, but only to the exportable production. Brazilian domestic market is not sufficiently developed to demand the certification by eco labels. A single exception is depicted by some agro businesses, which have used organic production labeling systems. However, and despite the fact that IFOAM standards mention the use of LCA, there are only few measures toward environmental impact assessment underway.

2.7 Social Responsibility

? A FEW

In Brazil there is a very strong commitment to integrate social issues within the limits of environmental assessment of industrial activity. In this context, main Brazilian and international NGO groups have been very active at the dissemination of social responsibility issues within a wide range of industrial clusters. This movement is based on public declaration of social indicators and social balance, altogether with the classic financial balances.
3 FURTHER REMARKS

The major barrier to LCA development in Brazil has been the lack of specific support from government, mainly based on a need to acknowledge the importance of LCA for long-term economic progress.

Otherwise, industry is slowly awaking from its lethargic position and realizing the need to increase its efforts on the development of a solid framework to build up LCA. In this first moment, there are several LCI studies being carried on, which can be in a near future the basis of Brazilian regional databases and of standards of an internationally recognized LCA methodology.

In the short term, we expect that the feedback mechanism of this movement can push government measures to effectively create the multi institutional partnership favorable to the development of LCA programs.