

The Brazilian Pulp and Paper Industry and its Forestry Model for Sustainable Development

Celso Foelkel

Sustainable forest management has emerged as a major global issue. Since 1992 World Summit / UNCED in Rio de Janeiro, with the adoption of forestry principles, a global concern has been placed on management, conservation, sustainable forest products, landscaping, multiple impacts, multiple uses and biodiversity.

Brazil holds a great percentage of the forests of the world. Here, the forest resources used for pulp and paper production are plantation forests with eucalypts, pines or black wattle. Natural forests of high biodiversity, such the tropical rain forests, are not used for pulping. High tech plantation forests are responsible for providing the pulpwood, and in some cases fuelwood.

Forest-based industries are well concerned about developing forestry principles, criteria and indicators of sustainability, using preferably with the implementation of EMS - Environmental Management System, according to ISO 14001. Labelling of wood products is a market-driven issue and the manufacturers are ready to promptly respond to keep or to increase market share.

Brazil, the leading Latin America country in plantation forests, is moving very fast in the implementation of ISO 14001. Some companies have already achieved the certification, such Bahia Sul, Cenibra and Riocell. Several others are close to this.

It is important to mention the participation of Brazilian delegates in ISO TC 207 / Working Group 2, which is developing a technical document to assist the forestry organizations in the use of ISO 14001 and ISO 14004 standards. This working group comprises delegates from more than 20 countries.

Past year, in Chile, the 3rd International Forestry Round Table was held in Concepción; with representatives of 9 countries (Canada, USA, Australia, New Zealand, Sweden, Finland, Brazil, Chile, Mexico). The objective was to find common views about indicators of forestry sustainability, considering the global demands and the country to country differences. There was, as starting point, the knowledge that there is not a single model for forest sustainability, but many points could be shared and resulting in consensus. After 3 days of negotiations and healthy discussions, many subjects could come to consensus. The results brought to the participants good and reliable points to implement "Code of Best Forest Practices" or to become references to the implementation of environmental management systems.

This year, the 4th Forestry Round Table was held in Hinton, Alberta/Canada. It was a common view that forestry certification is an outstanding issue to drive the forest-based industry. Another relevant consideration was related to integration and communication to stakeholders. The industry was able to identify the urgent need to strengthen these weak points.

Forest sustainability, principles, criteria and indicators are key issues worldwide. There are many forums of discussions and many people are involved in the dialogue. Governments, NGOs, standard organizations, associations, manufacturing companies, legislators, etc., are working together to find common ground to guarantee sustainable production of wood to supply human needs and to minimize the impact on environment.

In December 96, in a meeting held in Rio de Janeiro, Brazil, delegates from several Latin American countries (Brazil, Chile, Uruguay, Argentina, Mexico, Colombia, Peru, etc.) had opportunity to hear and to contribute to the findings of the International Institute for Environmental Development - IIED/London-UK. Experts from this well-known scientific institute were responsible to the study on “Sustainable Paper Cycle”, a worldwide study sponsored by the Business Council for Sustainable Development. From the discussions, it became clear that forestry, paper recycling and globalization could be regarded as the most critical issues to Latin American countries. Both forestry and paper recycling had the social issues considered to be the most sensitive ones, due to globalization, reduction of job offer, technological development, automation and population growth. New technologies and new investments shall not discard the need of job generation in developing countries, at the same time, protecting environment and creating economical growth to the area and to investors. No-future companies are those willing to grow in miserable places.

Eco-labelling of wood products, better explaining, green labels attached to final wood products, are ways to show these products are manufactured using wood harvested in good managed forests (or sustainably managed). These labels are being demanded by some markets, such United Kingdom and Germany. In USA, labelling of wood products started early 90’s when Rainforest Alliance started its “Smartwood Program”. Since then, there has been a move to provide green labels to wood products and certificates to environmentally and sustainably managed forests. Sustainability is based on a three leg concept: environmental, economical and social. There is no sustainable development when you favor only one leg. A sound balance has to be achieved to guarantee development of the society in years to come.

According to the development of ISO standard series on Eco-labelling, three types of labels are in consideration.

Type I labels are those whose criteria are developed by third parties in an open, non-discriminatory and transparent process. Type II labels consist of self-declarations and proved practice of environmental principles/policy. The type III labels are based on life cycle assessment and scientific evaluation of impacts on some selected scientific criteria.

Type III labels are been used and adopted in forestry. In Brazil, two hardboard manufacturing companies have obtained labels according to this system. There are good reasons to believe that other companies may follow this way.

Type II labels have till now gained little expression to the forest-based industry.

Type I labels have in FSC-Forest Stewardship Council, the most successful example. The FSC is the first international accrediting organization to develop a process to set principles and criteria for forest management in an open and well-discussed forum of discussions involving the interested parties. Established in 1993, with headquarters in Oaxaca, Mexico, the FSC has the goal of “setting worldwide standards for good forest management by promoting widely recognized and respected principles of Good Forest Management”. The principles and criteria set by FSC are meant to apply to all types of forests and a special principle has been developed to plantations. Many NGOs have worked together with the industry to set the principles and criteria. For this reason, the FSC scheme has increased acceptance and reliability. To avoid generalization, FSC has established offices on major forest-based countries, to adapt criteria and indicators to the local conditions, hearing social, economical and environmental interested parties.

In Brazil, the initial FSC approaches happened a couple of years ago, during forestry conferences and visits of FSC executives to selected mills. In 1996, FSC

established an office in Brasilia, shared with WWF-World Wildlife Fund in Brazil. The main challenge is to obtain shared views among representatives from industry and social and environmental NGO's. Meetings are taking place to adapt FSC principles/criteria to the local reality. The criteria for plantation forests and those for the Amazon forests are the first to be developed. Local industry is participating in the meetings to contribute with the work. An ambitious plan to have the local criteria in force in less than 18 months has been placed by FSC. Until they are not ready, those willing to be certified according to FSC, have to be audited against the international set of criteria/principles. There are some companies in late stage of implementation of the program to receive the FSC green label in a near future.

Although the FSC (Forest Stewardship Council) meetings are in progress to define local criteria, this forest labelling system is not the only one being considered in Brazil. FSC is a viable alternative, but success is very much dependent on the level of maturity among the players in the table of discussions. Till now, the indications are for good willing by all participants.

Parallel to FSC, the Brazilian Standard Association - ABNT, similarly to the Canadian Standard Association, has revitalized the forest certification project called CERFLOR. This system was originally developed by the Brazilian Forestry Society - SBS. In the later stage of development, the process was offered to ABNT, the most reliable certification agency in Brazil. ABNT has the mission to hear the interested parties, to adapt principles, criteria and indicators, in an open and transparent process.

The Brazilian Pulp & Paper Association has a special task force, comprising members of the leading P & P companies. This task force is responsible for the follow up and participation in the most important certification and labelling forums, including: FSC, ABNT/CERFLOR, ISO 14001 SFM, International Forestry Roundtable, BCSD (Business Council for Sustainable Development), and European Union eco-label.

Labels and certifications are customer-oriented processes. However, we shall not believe that the market is the single driving force to push forest certification. Surely, wood product customers would very much like to find environmentally friendly goods to shop. However, this is not being a must to them. Customers are very much different one from another, and they play different games, depending on emotions when buying. For this reason, I personally believe in other driving forces to speed up forest products labelling: trade agreements, government pressure, media, and marketing opportunity to the industry. Pioneers will be awarded by better image, motivation and business management.

Although in early age, and a very controversial issue to many, forest certification is going to play important role in upgrading the image and the management of the pulp and paper business. This is special true to Brazil, where the wood to the pulp and paper industry comes from plantation forests, and not from Amazon rain forests.

Forest certification criteria may vary from country to country and even in the same country. However, it is vital to the success that: a) environmentally friendly forest products shall be certified/labelled if voluntarily requested by the manufacturer; b) labels must be reliable and understood by the community.

Anyhow, I have no doubts that ordinary citizens are going to give credit to the certified/labelled products. Good image to the makers is a natural consequence. However, there is no guarantee to sell more and to be a successful business just because of this.

Today, we are living a promising moment in terms of changing the course. Forestry and environmental certification, although may be considered bureaucratic measures, they have a great positive impact and are strong improvers for awareness.

It is important to understand that wood is a man's necessity and forests are man's and Nature's requirements. It is good to know that we need production forests and preserved forests. This understanding is not to be restricted to the forest area, but enlarged to the agricultural, social and forest network. We shall avoid extremism "in favor of environment", many times with clear damages to man and to Nature.

It is fundamental to plant trees in the planet. We cannot fight against this need. It is also a way to avoid that the remaining natural forests be harvested for human consumption. How and where to do it? Once more, it is something to be faced case by case. There is no generic rule, but planting of new forests could be destined to already degraded areas, that had forests in the past. It is also important to evaluate the social benefits to the local population, not only the benefits to the fauna and flora.

Production forests demand sustainable environment for their growth and recognition by people. Are we able to predict the forest world at next century end? What to do, since population will grow as far as forest-based products consumption? We cannot forget that one century flies and we must be fast to implement new measures and new philosophy.

In a program to build a sound future, the mistakes of the past are to be considered as lessons and not for bringing feelings of guiltiness. Realities change with time: something considered very good today may be considered a disaster tomorrow, and vice-versa.

Besides all, there are different futures to be built. The futures of forestry in USA, Canada, Scandinavia, Indonesia, Brasil, China, etc. will be surely different one from the others. The importance to build the desired future is to be fast, courageous and with good vision. We cannot let emotions to lead to an irrational environmentalism, believing that world will be always worse. With this viewpoint, it is better to stay home crying and praying for the black future it is being predicted. We have to get away from the "back-to-the-past" philosophy. It is better to believe in the "jump-to-the-future". Past is gone, will not be back; it only brings lessons to build future. The new forestry model cannot be romantic, but based in science and common sense. We cannot forget that population will be eager in the outside, wishing to consume forest products. Forest is no longer a source of wood at low price; it is no longer a renewable resource; but it is a social, environmental and economical asset that is to be shared. We shall not feel guilt for using it.

We can not forget that man is an important component of environment, thus social problems are environmental problems. Most of the next century demands will be of social character, since we'll be too many compressed in an Earth of even more limited resources

Relevant issues in the forestry model

Brazil has about 4.5 million hectares of planted forests, mostly Eucalyptus and Pinus. This corresponds to roughly 0,5% of the territorial area. Pulpwood comes from 1.6 million hectares (0.2% of Brazilian total area)

On the other hand, the pulp and paper industry brings enormous social and economical advantages to the Brazilians. The size of the industry corresponds to about 1.2-1.5% of GDP, depending on product prices.

The history of high tech plantation forests in Brazil covers about 30 years. In the early stages, thanks to forestry management and tree breeding, forest yields were sharply increased. Plantations were associated to agricultural crops and the terms “fiber farms” or “wood farms” came to common use. Unfortunately, these terms became associated to “enormous green deserts” to the ordinary people. The pulp and paper industry was not able to show to public that it was not managing only homogeneous plantations, but an amazing environmental network. This network comprises planted forests, lakes, dams, protected areas of native forests and wildlife, agricultural crops, pastures, etc.

For this reason, some important issues related to the Brazilian plantation forestry model, and commonly regarded as question marks, are discussed and explained ahead.

Issue 1: Loss of biodiversity

This is not applicable when new forests are established in degraded areas, old and eroded pastures, etc.

Issue 2: Plantations / monocultures

There are restrictions to homogeneous plantations when they are huge and with no care about blending plantations with other forests and agricultural activities. We shall consider the whole network to identify its environmental health.

Issue 3: Concentration due to economy of scale

Again, the network is fundamental, It is also possible to compensate by the multiple use of the forest and of the tree, blending forestry and agroforestry systems to enrich them. Rotating cultures may also be used, cooperating to soil conservation.

Issue 4: Exotics

It is difficult to speak about geographical frontiers now-a-days. Since exotics are well studied and adapted to the places they are growing, like eucalyptus in Brazil, why to be afraid of them?

Issue 5: Clear cuts

It is a controversial issue, but in the way to be clarified through good science. Through a good harvesting planning, the problems of clear cutting may be minimized. Also, multiple uses cooperate to remove wood gradually from the forest.

Issue 6: Preservation of natural forests

This is an everybody's commitment and a legal obligation. Harvesting of natural forest must require special permits.

Issue 7: Minimum environmental impact practices

The forester must evaluate the environmental impact of his activities and look for minimum effect techniques. This is a fundamental issue in environmental certification systems.

Issue 8: Use of agrochemicals

Toxic compounds are still required in the combat of pests, diseases, insects. However, through research and creativeness, this practice may be minimized.

Issue 9: Social impacts

Although some improvements in this subject, there is still a lot to be done. It is important to consider the impact of mechanization on the local job generation. This measure, when required, shall be well planned.

Issue 10: Social forestry

Social forestry is associated with the production of wood by small farm owners, in small scale, as part of their agricultural products. Few years ago, social forestry was poorly valued by the large scale wood producers. However, it is being now considered as one the best alternatives to promote wood production and increased wood offer.

Issue 11: Agroforestry

Farmers and forest-based companies have already discovered the agroforestry potential. Thus, agroforestry is a natural trend. There are many many alternatives, as those involving growth of trees and soybean, corn, beans, pastures, coffee, palms, etc. Eucalyptus and pines are perfects for agroforestry systems.

Cattle growing is one of the most synergistic system: a) cattle receives food, protection, shade; thus having a faster growth; b) the forest receives manure and natural removal of weeds (weeds are no longer weeds, but food to cattle). To avoid damage to the trees, it is better to grow young animals or sheep. When cultivating leguminous species as pasture, the trees thanks the fixed nitrogen.

Agroforestry may also requires fewer trees than usual. This procedure may be compensated by the larger volume of harvested trees, with logs more valuable for lumber.

According to the World Development Report 1992, a World Bank's publication, 25% of the total available land in the planet is occupied by permanent pastures for steers/oxen and sheep. Forest lands corresponds to 31%, but are being reduced 0.2% yearly. Agriculture requires 11%, but grows 0.3% / year. It is not difficult to conclude that we live in the "cattle age", being ox, this curious animal, the most important animal in Earth.

The agroforestry farming may reduce this impact and predatory land-use by cattle.

Another great potential for the agroforestry activity is the joint production of trees and fruits for juices. Mangoes, avocados, pineapples, papayas, they are some of the many examples of possible integration with forests. This is a precious alternative for a juice demanding world.

Issue 12: Multiple uses of forests

There is a growing interest in having more than a single product coming from the forest. Essential oils, fuelwood, bark, wood chips, honey, fruits, and many more: this is the new menu from the forests. The forest-based industry is very much dependent on scale of production. This leads to a high sensitivity to market fluctuations. One of the manners to reduce this dependence is by diversifying production. Multiple use covers: multiple use of the forest, of the tree or of the wood.

In this complex system, we may have wood for different purposes (furniture, pulp, hardboard, fiberboard, veneers, etc.); trees with segregated components (leaves for essential oil; bark for tannin, cork or fueling; etc.). From the forest, we may have sustainable production of wood, medicines, hunting, entertainment, etc.

In a model like this, we may scape from production, production, production of a single product, which is, in general, raw material of low cost to a productive process elsewhere.

The integration of multiple use management with local community helps local economy. The industry will be able to transfer technology and to provide raw material, many times wood residues from its main production line. It is very well-known in Brazil, the example of blossoming small saw-mills in the surroundings of pulp/paper mills. This generates jobs and brings power to local economy.

Issue 13: Forest legislation

Legal restrictions are necessary but cannot be stricter than required. Forest-based industry must follow the process in a continuous dialogue and good willingness.

Issue 14: Forest research and the role of universities

The academic world is aware to perform the role of extension and to be more linked to the public, helping community to better understand technical, environmental and social issues of forestry. Research has to provide knowledge to decision-making processes. The next R & D generation will not be regarded only with the technological issues of forestry. Instead of focusing on specific subjects, the research will be more holistic, more interdisciplinary, more cooperative, and covering broader matters. Research will be directed to problem-solving, aiming results and helping to understand questions marks. R & D is no longer a process just destined to add knowledge without demands. Our prediction is that the preference for researching will be fields as: natural resources conservation, environmental education, sustainable management, agroforestry, social and community forestry, environmental impacts and minimization, etc.

Issue 15:Forestry, society, sustainability, enhanceability

We know that social issues belong to environment. There is no way to separate man from the environmental question. Quality of life and social justice are growing demands of all society. As far as we do not live alone, quality of life is something shared among people. Poor life quality for a group of persons in general leads to raised violence, reducing life quality of the whole. In our continuous search for development, everybody must have this in mind. The distance between rich and poor people cannot continue to grow. The income distribution is another key point to deal in the next century.

Every society is the summing up of the experiences along the life span. This process results in different cultures to be respected and admired. Differences shall be respected.

We cannot pray economical development without sharing it with social and environmental developments. Everything today is connected. The forces of these links are strong and shall be known.