

SUSTAINABILITY AS A COMPETITIVENESS FACTOR FOR THE BRAZILIAN PULP AND PAPER SECTOR

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The Brazilian pulp & paper production and trade sector has become one of the most important and successful agribusiness segments in the country. It's a sector with a wide variety of activities, which starts out with the production of planted forests of *Eucalyptus* and/or *Pine* in order to obtain the main of its raw materials, trees, continuing to its modern market-pulp and paper mills, culminating with the sale of its products in Brazil and a major portion of it abroad, thanks to its export-oriented profile.

Historically speaking, it is possible to say that many of its achievements are recent, since the commercial production of pulp and paper in Brazil started a little over a century ago. In turn, the export-oriented model is slightly over 40 years old, having started in the mid-1970s. In 2019, the sector produced roughly 20 million tons of pulp and 10.5 million tons of paper. Of this total, almost 15 million tons of market pulp and 2.2 million tons of paper were exported.

Certain factors were key for this growth: In 1966, the Federal Government created the Forestation and Reforestation Tax Incentive Program (PIFFR), which lasted 20 years; in 1974, the first National Pulp and Paper Program (PNPC) was introduced, whose purpose was to encourage the production of pulp and paper with a focus on exports. In 1974, the year that the first PNPC was introduced, Brazil produced roughly 1.29 million tons of pulp and 1.85 million tons of paper. In 2019, 45 years later, pulp production had grown 15.5 times (6.3% growth per year in the period) while paper production grew 5.7 times (3.95% growth per year in the period). Both products supply the domestic markets and the surpluses are exported.

Planted forests became the pillars of these industrialization and commercialization processes of forest products for Brazil and the world. Especially because Brazil's forestry sector was able to transform these planted forests into global leaders of forestry productivity. While the sector grew, so did scientific research and technologies in forests and industrial technologies, which is what has happened with the installation and modernization of public and private research centers to satisfy the sector's needs.

Perhaps the most effective factors for Brazil's planted forest sector to excel in its management model were the results obtained at the 1992 Earth Summit – United Nations Global Conference for the Environment and Development, better known in Brazil as Rio-92 or Eco-92. Two important drivers resulted from this Conference: strengthening of the Sustainable Development concept and the important “Statement of Forests”. As a result of these proposals, the following actions emerged and settled quickly and globally: forestry good-management certification systems and soon thereafter custody chain, and the ISO (International Organization for Standardization) quality and socioenvironmental standards (ISO 9.000 and 14.000) and the OHSAS (Occupational Health & Safety Assessment Series) 18.000 standard. Brazil's pulp and paper sector quickly embraced these systems as a means to conquer credibility and visibility for its positive actions in the socioenvironmental field. The “hidden advantage” of these systems, only discovered after being used, is that corporate management becomes much more committed and participative, thanks to the challenges that these systems instill and motivate in people. Independent third-party audits also add more visibility, reliability and credibility to corporate performances. At the end of the past millennium, practically all Brazilian companies in the pulp and paper sector that exported products had already obtained or were in the process of obtaining these environmental labels and certifications.

In the beginning of the 2000s, Brazil's pulp and paper sector underwent a new expansion phase, but having new available engineering projects and machineries with much more eco-efficient performances, minimum environmental impacts, particularly through substantial reductions in the generation of pollutants, recycling and reductions in specific consumption of inputs (water, energy, wood) and higher yields.

Sustainability became a global concept, with the belief that sustainability is an endless road, since it always needs to be perfected, as science develops and shows other proven realities about nature and mankind on the planet.

In the industrial forest-base sector, sustainability is envisioned in the form of four pillars:

- Sustainability of the company itself and its business activities, thanks to better performances, efficiencies and competitiveness.
- Sustainability of the productive capacity of its planted forest areas.
- Sustainability of the regional environment, encompassing planted forests, watersheds and native forests in the project's areas of influence.
- Sustainability of the people who directly or indirectly work and interact with forestry and industrial projects, including the surrounding communities and traditional populations.

Based on these realities presented, it is important to know certain peculiarities (forestry, industrial and market aspects) about this sector, to wit:

1. Planted and cultivated forests constitute the foundation for the forest base sector with the achievement of outstanding productivity growth rates, deemed global benchmarks. Average national values in 2018 reported by IBA (Industria Brasileira de Arvores/Brazilian Trees Industry): *Eucalyptus* (36 m³/ha.year) and *Pine* (30 m³/ha.year).
2. Forests produced by the pulp and paper sector are structured and planned to comply with responsible forestry management and are certified by independent parties. They are installed in an eco-forest mosaic scheme, where tree plantation areas for industrial purposes are merged with preserved native forest areas. Brazil's planted forest base sector currently possesses roughly 7.8 million hectares of planted forests and, at the same time, permanently cares and protects for roughly 5.6 million hectares of nature conservation and preservation areas. In other words, for each hectare of forest planted for industrial use, 0.7 hectare of regional natural resources is preserved. These preserved areas constitute a natural heritage protected for future generations in Brazilian biomes where the sector is present (Atlantic Rain Forest, *Cerrado* and Amazon), and this occurs through Areas of Permanent Preservation (APP), Legal Reserves (RL) and Private Natural Heritage Reserves (RPPN). The protection of biodiversity and water resources are priorities in all phases of forest projects and their industrial interfaces.
3. The wood raw material supply of pulp mills is based on their own certified forests, and wood coming from

rural producers or independent outsources. Companies also incentivize the forest certification of their wood suppliers.

4. The planted forest base sector is based on large production scales in Brazil, but the benefits generated are also wide. The sector represents 7% of Brazil's industrial GDP (Gross Domestic Product), it is present in more than 20 states, and more than 1,000 municipalities are located in forest-base-industry influence zones, mainly in inner Brazil, far away from large urban centers. With this, it also contributes to significant improvements in the quality of life in these municipalities, measured by the Human Development Index (HDI). The sector also generates 3.8 million direct, indirect and income-effect-derived jobs. Such dimension not only contributes for generating jobs, but also for the creation and strengthening of thousands of companies that work and interact with the forestry sector.

Some driving-forces helped change the pulp and paper sector's relationship and positioning towards Sustainability issues. This can be noted based on the following considerations about the current behavior of industry governance in the pursuit of its competitiveness anchored on sustainability:

1. The pulp and paper sector acknowledged that localized problems of some companies and the environmental management of most of them in the past ended up deteriorating sector image and relations with certain communities. This became a vital factor to seek continuous improvement in all companies, especially those with certified forests and mills.
2. From reactive and complaining attitudes of the past (1970s to 1980s), the sector took on a disruptive proactiveness, pursuing new management systems through certifications (1990s), to finally taking on a commitment-oriented practice of seeking sustainability (2000s).
3. Investments in research and development have occurred in both the forestry and industrial areas, through projects by companies in the sector, own or consortium-based research centers, universities, and suppliers of technology and engineering. The advancements achieved allowed for their introduction in the planted trees sector and in state-of-the-art technology mills. Cutting-edge technology and technological modernization in the forests and in mills are vital issues for companies in the pulp and paper business that depend on production scale

and low production costs. Today, any new production line for a new project or modernization of an existing mill is only approved if Best Available Technologies (BAT) are implemented.

4. Eco-efficiency and operational continuity practices associated to responsible management and technological modernization are not only useful to develop better environment performances, but also yield financial results for companies, through reductions in waste and operational lost time, rework, etc. The environment, which in the past was considered an additional cost, became part of corporate strategies to make businesses more efficient, durable, with less pollutants, better efficiencies and results, including the socioeconomic ones.
5. The certification of forests and socioenvironmental management systems strengthened the sector's social pillar, humanizing its actions in and outside companies. Communication, transparency and dialogue with stakeholders became part of the management systems of companies, and also valid within corporate command lines.
6. The dialogue with stakeholders, which in the past was even feared, started being practiced in Forestry Dialogue Forums, in public interest events and, especially, in public hearings for analyzing, discussing, suggesting and validating Environmental Impact Studies of new projects.
7. Corporate governance gradually started to include factors such as social well-being, health, safety, education, culture and happiness of people in its targets. Several companies in the sector are the recipient of awards such as "Best Companies to Work" in the country. Another relevant aspect within today's governance is the willingness of companies to share the wealth of the business with communities. This occurs through educational, cultural and partnership projects with rural producers (forestry, agro-ecologic farming, cattle and bee producing), with local suppliers (regional purchase of inputs like wood, fuel, etc.). These projects developed with communities transfer an important part of a company's financial resources to communities inserted in the company's areas of influence. It's not just a process of sharing, but rather a win-win situation for companies and society.
8. Companies in the pulp and paper sector started to include in their strategic plans various socioenvironmental commitments that they make public to society, boosting transparency and dialogue. These commitments include also those within the sphere of Global Sustainability, such as: Water Footprint (use of water in forests and

mills); Carbon Footprint (reduction in the use of fossil fuels, and the production and consumption of renewable biomass), Incentive towards Recycling and Conscious Use of Paper, Zero Illegal-Logging, Climate Change Warming, Zero Poverty, etc.

9. The pursuit of sustainability became a vital and consolidated activity of everyone at leading companies in the Brazilian pulp and paper sector, through actions and policies in all areas that comprise the business environment (forests, mills, ports, administrative sectors, etc.) and external interfaces (communities, suppliers, outsourced companies, rural producers, etc.).

The world changes every second, new demands arise, new products are created, while other technologies, products and habits are destroyed. Change is the main driver of evolution both in the sense of creation and destruction. The pulp and paper sector is aware that many of its products are in the process of aging and disappearing. This motivates people in the sector to continuously seek new products, services and business platforms. It's precisely what's been going on for roughly one decade, in the entire pulp and paper sector, in Brazil and worldwide. They are hardly pursuing the development of other products based on forest and agriculture biomass, that are to become useful to and desired by society. Through the concept of biorefineries integrated with pulp and paper mills, the sector has sought to develop products made of chemical components from forest biomass, such as byproducts from lignin, hemicellulose, cellulose itself, wood extractives and forest residues. The bioeconomy is a new path that companies in the pulp and paper sector are beginning to pursue.

Aspects pertaining to the pursuit of sustainability will certainly encounter new challenges, in new technological routes. People in the sector know that the new choices to come may be selected on the right side, but also in the wrong side. For this reason, the sector develops its people in the sense of maintaining the sustainability flag flying high, something that seems to be definitively consolidated, but cannot be neglected.

To end this article, nothing better than to reflect on the recent statement made by forestry engineer Luciana Maria Papp, Chair of the Steering Committee of FSC Brazil, in a recent virtual event on September 9, 2020 titled *Live FSC – Forest Stewardship Council: Socioenvironmental Responsibility in Forestry Production – An example to follow*: "No sector has the experience and long-standing tradition of working in favor of sustainability as the planted forest sector in Brazil". ■