

AgriSustainability Matters

As we are all at grips with Covid-19, and many worry about food security worldwide, Brazil has been working around the clock to keep supply chains operational. As importantly, our industry and regulators are fully committed to both environmental and social sustainability, while observing the highest safety standards. In these testing times, Brazil remains a reliable and sustainable agricultural supplier.

Now, as we prepare to make the AgriSustainability Talks a yearly gathering, we have decided it would be appropriate to establish a permanent channel with you on the subject of sustainable agriculture. Hence AgriSustainability Matters.

Drawing on the AgriSustainability Talks, we intend to regularly provide you with insightful material on experiences and challenges relevant to our field of interest. Each issue will feature one piece by an expert, not too long that it's burdensome to read, not too short that the arguments can't be made.

Our first expert is Mr. Roberto Rodrigues, who is no stranger to anyone in the business. I was honoured that he agreed to write a piece for this inaugural issue. An agronomic engineer by training, he is the FAO Special Ambassador for Cooperatives, an academic and an agricultural producer in his own right. Mr. Rodrigues was the Brazilian Minister of Agriculture from 2003 to 2006. We are grateful that he has given us the thoughtful and informative article "Brazil: sustainable agriculture for all".



This huge and unanticipated COVID-19 tragedy, which has suddenly struck the whole planet, scythes through lives and ravages economies in different quarters, plunging humanity into an unprecedented crisis. It also underscores something we have known since the beginning of this century: the great challenge of our time is to reconcile the supply of sustainably-produced quality

food with a growing global population, whilst preserving natural resources; food security, for short.

Just under twenty years ago, the UN had already honed in on this subject, speculating that there would be over 9.6 billion of us by 2050 and that, in order to feed everyone, it would be necessary to increase world food production by approximately 60%. This UN forecast is relevant to the organisation's primary role, that of guaranteeing international peace, in the understanding that there will be no peace as long as hunger prevails. Therefore, food security would be the fundamental condition to bring belligerence among peoples to an end.

Yet a forecast of such broad reach, looking fifty years ahead, does carry risks. Considering the number of profound and all-encompassing technological innovations that science brings forth, continuously and at high speed, it is hard to trust prognoses for periods longer than ten years in the future: technological changes may prove so radical that the estimated data in hand need to be adjusted.

The OECD has been concerned with this. A decade ago, it launched a study on food security that has been systematically updated ever since. Today, the organisation assumes that, over the next ten years, the world food supply has to increase by 20% so that nobody suffers from hunger. For this to happen, according to the OECD, Brazil's production would need to grow twice as much over the period, that is, it would need to grow by 40%. The USDA has carried out a study which yielded similar results to that of the OECD, recognising that no other place in the world is as well positioned as Brazil to concur to the eradication of hunger. There are various reasons for this assertion, among which three are key: Brazil has sustainable tropical technologies, land availability and qualified human resources at every link of the agricultural production chain.

***“THERE WILL BE NO PEACE
AS LONG AS THERE IS HUNGER”***

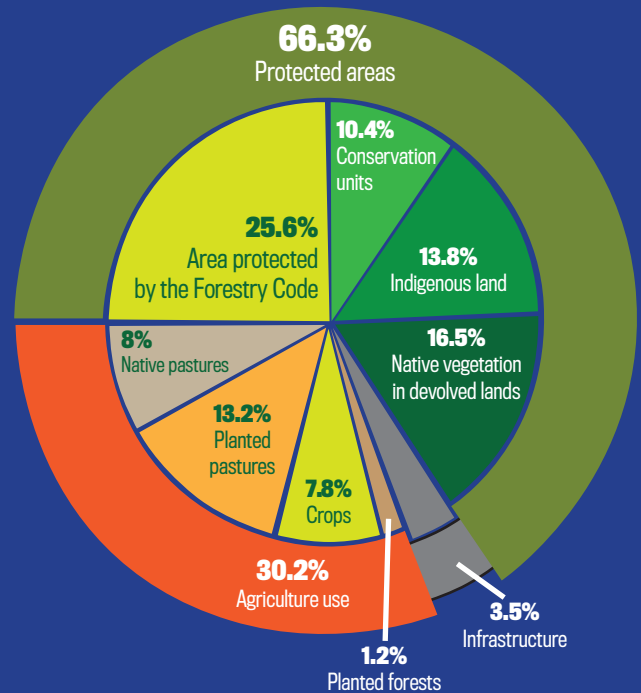
This assessment is underpinned by figures. Since 1990, the area allocated to grain crops in Brazil has grown by 72%, whilst the production of grains grew almost fivefold, by 335%, as a direct result of the technology developed in our research institutions and adopted by our agricultural producers. If these numbers are impressive in themselves, they allow for a counter-factual projection that is even more impressive: were the 1990 productivity levels still in place today, the delivery of our 2020 grain harvest (a record one, incidentally) would depend on the use of over 100 million hectares in addition to the 65 million hectares currently in use. In other words, a gigantic area has been saved from deforestation. These facts point to the sustainability of our rural production, a feature that is neither a promise nor a dream: it is a reality, and a consolidated one.

This is not only true for grains. Over the same period – from 1990 until present – pork production has increased by 296%, and chicken by 491%. Even beef production, with a much longer production cycle, increased by 111%.

The same applies to all other important crops such as sugar cane, coffee, oranges and other fruits, milk, horticultural crops, nuts and so on; sustainable production continues to employ new techniques as they become constantly available. The Low Carbon Agriculture Plan, known as the ABC Plan, illustrates this well. It comprises six different programmes: Recovery of Degraded Pastures; Biological Nitrogen Fixation; Planted Forest; Manure Management and Treatment (Biomass Electrical Power Generation – Bioenergy); No-Till System; and Integrated Agricultural Systems (Crop-Livestock-Forest), the flagship programme. A Columbus' egg of sorts, this latter programme makes a winter crop possible in areas with no rainfall, by planting typically summer grain crops (soya, maize, cotton, peanut, sorghum or any other grain crops) and sowing pastures towards the end of the harvest cycle, so that, once the harvest is done, the same area can host a number of beef cattle for fattening. Producers in drier regions thus level up with those in areas with greater rainfall, where two or more annual crops are harvested.

Likewise, bioenergy, born out of the Pro-Ethanol Plan – the 'Proálcool' –, established in the 1970s as a response to peaks in oil prices, is a model of sustainability: sugarcane-ethanol CO₂ emissions are only 11% of those from petrol. As all petrol consumed in Brazil is mixed with 27% ethanol, and as we have hybrid cars running on pure ethanol, pollution levels in large cities and ensuing respiratory diseases have been decreasing. Biodiesel follows the same pathway. Moreover, the electrical power generated by the burning of sugarcane bagasse in furnaces – to power sugarcane mills and ethanol plants – reaches the grid at very low costs. Furthermore, still under the ABC Plan, we have been planting forests for the production of cellulose, paper, furniture and coal: over 7.5 million hectares have already been planted with eucalyptus and pine trees. In tandem with all this, research continues to generate innovation, enabling our producers to keep producing in a sustainable fashion.

Land availability is another feature the OECD and USDA have highlighted to justify the potential for Brazil to increase its food production by 40% in ten years. Out of Brazil's 850 million hectares, just 9% are used for agricultural crops, from eucalyptus trees and lettuce to grains, fruit, coffee, sugarcane, cotton and so on. Another 21% of the land is comprised of pastures. Thus, all the Brazilian farms put together occupy less than a third of our total territory, which opens up further possibilities for new agricultural areas. Brazil has huge areas assigned to indigenous populations (almost 14% of the territory), vast forest conservation units as well as a number of national parks and areas allocated to *quilombola* communities; the country also has the strictest legislation in the world to protect its forests, the Forestry Code; even still, it would be possible to add another 15 million hectares over the next ten years to those portions of the territory already dedicated to agricultural crops: two thirds of this additional space would come from the conversion of pastures to agricultural use, and one third from legal deforestation in areas of the Cerrado – in full compliance with the Forestry Code.



Source: EMBRAPA

Adding new spaces to ever-growing productivity, Brazil could increase its food supply by 40% in ten years, thus positively contributing to reducing hunger in the world.

What Brazil has already been doing shows that this is an achievable goal. In 2000, Brazilian agribusiness exports amounted to US\$ 20.6 billion. Last year, they totalled US\$ 96.8 billion. Agribusiness has been the main contributor to Brazil's trade balance surpluses, which have been growing systematically year on year. In 2019, the total trade balance surplus for Brazil was US\$ 46.7 billion, whereas the country's trade surplus in the agribusiness sector was much higher, US\$ 83 billion. Interesting developments play out behind these figures. In 2000, 18.3% of Brazil's exports were directed to the United States and the European Union, a figure that last year dropped to 7.4%. Obviously, this is a drop in relative terms, as the exports to those partners grew in absolute numbers. What is noteworthy here, though, is the greater increase of exports to emerging countries, particularly to Asian countries. China, for instance, a market that in 2000 had bought 2.7% of Brazilian agricultural exports, increased its participation to 32% in 2019.

Brazil ranks as the top global exporter of soya, poultry and beef, coffee beans, sugar and orange juice. It ranks second for maize exports and has been increasing its share in pork, cotton, flowers and organic exports. It can still expand significantly in fish, dairy products, fruit and more, partly because new eating habits that had already been gaining ground may experience an even faster growth when the COVID-19 epidemic is behind us.

However, Brazil needs to keep tackling some recurrent issues if it is to achieve the objective of increasing food exports by 40% over the next ten years. These issues include:

- Investment in logistics and infrastructure. From the 1970s, agriculture in Brazil has moved from the coast towards the Centre-Western part of the country, but railways, roads, warehouses and ports have not adequately matched the pace of the change. It is now necessary to make large investments in this segment/these sectors? through public-private partnerships, including foreign investors.

- Trade policy. Brazil's pursuit of the European Union-Mercosur trade agreement has been its main international effort to support the growth of Brazilian agribusiness exports. But China is currently our largest importer, and this should be duly considered, given the potential represented by the Chinese consumer market; the same goes for other Asian countries, the Middle East, North and Latin Americas. Trade agreements with countries from across the world ought to be encouraged because, as a large agricultural producer, Brazil should not overly focus on any specific region.

- Income policy. The scope of the Brazilian agricultural insurance programme should be enlarged, and it should be attached to a modern rural credit system and a minimum-price guarantee, hand in hand with public policies for the stability of rural activities; this is the only way to sustain food security for urban populations.

- Health and sanitary protection. The concerns unleashed by the new coronavirus are but the latest evidence that, as far as human health, sanitary and phytosanitary standards are concerned, the bar will be raised, both nationally and internationally.

- Legislation updating. As has been happening already, albeit rather slowly, obsolete legislation needs to be modernised with a view to cutting red tape and streamlining the government apparatus. Beyond modernising the law, it is fundamental that the state be capable of enforcing it, fully eliminating illegal deforestation in the Amazon and other biomes, curtailing criminal fires, and punishing land invaders – be they miners, loggers or anyone else carrying out illegal activities. These are real problems that must be resolved.

With a strategy based on these points and designed jointly with the private sector, and with a stronger support for cooperatives and associative solutions, Brazil will be fully equipped to be the world champion for food security. As world champion for food security, Brazil will be the world champion of peace, as there will be no peace as long as there is hunger.