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Agribusiness in Brazil: an overview

Sharing agribusiness knowledge to create value

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Agribusiness Drivers

The food and agricultural sectors are facing significant changes. Some of the most important ***agribusiness drivers*** are the very same drivers impacting other sectors, industries and economies worldwide and are creating new opportunities in developed and emerging markets, with enormous growth potential for the entire industry:

Population growth and urbanization

In 2011, the world's population reached 7 billion people, and if we consider that the World Health Organization recommends 3 meals a day, we need 21 billion meals each and every day.

In 2050, with a population of 9.3 billion, the world will need almost 50% more food.

From 2010 to 2050, the farmers will need to produce an amount similar to everything that has been produced since agriculture started in 10,000 B.C.

Besides that, by 2030, 60% of the world population will be living in urban areas.

Growth and improvements in income distribution

On average, 35% of world income is concentrated in the hands of only 10% of the population.

Over the past 14 years, countries have been improving income distribution. During this period, Brazil, Russia and China have had a gain, on average, of 4% in income distribution.

Sustainability

The world demand for renewable energy has been growing, which means that the production of sugarcane, corn, soybean, canola, beef tallow and others will be increasingly important not only for human and feed consumption.

Energy security

The lack of oil can paralyze the main economies of the world, which makes it important to strengthen the role of biofuels in the context of not only environmental benefits, but also in their contribution to the global energy mix. Exploration of other energy sources such as shale gas in the USA and Canada and pre-salt in Brazil could also change the energy mix and the geopolitical framework.

The search for energy security combined with the attempt to reduce emissions of greenhouse gases, have stimulated agricultural production used for biofuels such as sugarcane, corn, soybean, canola, among others.

Food security

The population growth, the development of emerging countries, crop shortfalls in some countries, increase in the allocation of food to biofuel production, dollar fluctuations, high oil prices and market speculation, led the world to the Global Food Crisis in 2008.

One of the main strategies adopted by some countries to fight hunger, shortages and high food prices is to increase agricultural production worldwide.

Changes in consumption patterns

The increase in per capita income and diversification of the economy of developing countries have led to changes in consumption patterns, increasing sophistication and diversification of the food consumed. People are looking for convenience, health, nutrition and quality.

International trade

As the WTO negotiations proceed and food prices rise, there will be a gradual decrease in trade barriers and increase in demand and, therefore, pressure on global agricultural production.

Governments worldwide are looking for alternatives to supply an even hungrier, wealthier, and more ecologically and health conscious population. A few countries seem to emerge as potential players in supplying this ever increasing demand.

Overall in the agriculture and food processing industry, as income rises and drives higher protein consumption, a multiplier effect supporting agricultural commodity prices and production can be observed. Increased convenience and the larger urban population will also put pressure on food processing and retail, and boost the need for agricultural commodities and their inputs. The biofuel trend will also drive demand for agricultural commodities and inputs. All in all, these factors combined are creating significant growth opportunities for players in several agribusiness sectors, including animal protein, food processing, energy sources such as ethanol and grains, and input sectors from seeds and fertilizers to agricultural machinery.

Brazil: supplying 4 Fs to the world: food, feed, fuel and fiber

Brazil's important contribution to global agribusiness is unquestionable. It is the world's largest producer and exporter of coffee, sugar, and orange juice, and is highly ranked in the production and export of soybean, corn, ethanol, pork, beef, and poultry chicken, as indicated by the table below. The results harvested today have their roots in colonial times. Today, agribusiness represents 22% of Brazil's GDP, 1/3 of all employment and almost 40% of exports. However, agriculture and livestock have always made up an important share of the country's wealth.

Table 1: Main agribusiness value chains

2012/13 Harverst	Participation in world/ production (%)		Participation in world/ market (%)	
Soybean	31	1	38	1
Corn	9	3	22	1
Coffee	34	1	26	1
Sugar	22	1	45	1
Ethanol	21	2	-	
Orange Juice	57	1	81	1
2012 Year	**Participation in world/ production (%)**		**Participation in world/ market (%)**	
Beef	16	2	19	2
Pork	3	4	9	4
Poultry	15	3	35	1

1 2 3 4 Brazil's postion in world ranking

Source: USDA (2013). Adapted by PwC Agribusiness Research & Knowledge Center.

Brazil's geographic dimensions are continental; it ranks as the 5th largest country in population and total area, with 200 million people and 851 million hectares, respectively. The country enjoys a number of climatic conditions in favor of livestock and agricultural production. Among natural factors are hours and intensity of sunlight, the availability of agricultural land and water resources (rivers, lakes, aquifers, rainfall), as well as a diversity of climates, soils, and biomes that are conducive to the production of different crops and livestock. An international comparison shows Brazil emerging as a leading player in terms of land available with over 100 million hectares available for growth without a single tree put down (Figure 1). China and the USA have also large tracts of land available, but must face water issues and freezing temperature issues, respectively. The USA also has land and good technology available to increase agricultural production worldwide.

Among social and technological factors are the availability of human labour, the technical knowledge accumulated over many years of agricultural and livestock production, and the ongoing quest for innovation by public and private research and development institutions.

Figure 1: Land use in Brazil

Territory distribution (million hectares)	
Amazon rain forest	345
Breeding pasture	170
Protect areas	55
Annual cropping	47
Permanet cropping	15
Cultivated forest	5
Land used for other purposes (cities, housing, roads, etc.)	108
Unexploited areas (available for conversion to agriculture)	106
Total	**851**

Source: IBGE and CONAB. Adapted by PwC Agribusiness Research & Knowledge Center

Brazil’s social, economic, and political environments reflect the robustness of its national institutions which operate at arm’s length and oversee the political, legal, and market rules. Today, the country enjoys solid legislation, commitment to democracy, human rights and development, all essential to farmers and agribusinesses as they ensure the ownership of private property and clarity of rules. Therefore, when weather conditions and markets are favourable, the return on the investment is guaranteed.

In terms of international relations, Brazil borders ten countries in South America, and good relationships with all of them have blossomed as a result of strong diplomatic efforts. The same can be seen in the global scenario: Brazil has good relations with the leading countries of every continent, and it has a proactive approach on the main issues of the international agenda, such as sustainable development, international security, cooperation, economy, and trade. As an example, Brazil is strongly represented at the World Economic Forum, and the many agreements on agricultural cooperation signed with African countries are widely recognized by international agencies as exemplary.

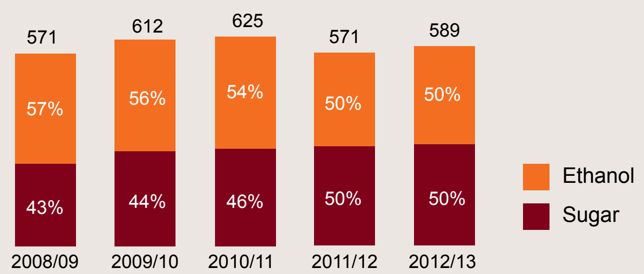
On the economic front, Brazil is currently the seventh largest economy in the world based on GDP. The country experiences the benefits of income growth and better income distribution among its population; also, the middle class is growing, along with the demand for more industrialized products and quality services.

Key Agribusiness segments

Brazil is a leading player, exporter and producer, of key Agribusiness value chains:

Sugar & ethanol

Brazil sugarcane production - by production mix
milion tons
CAGR = 6%



2nd

Sugarcane is the second largest source of energy in the country, accounting for 16% of all energy consumed in Brazil

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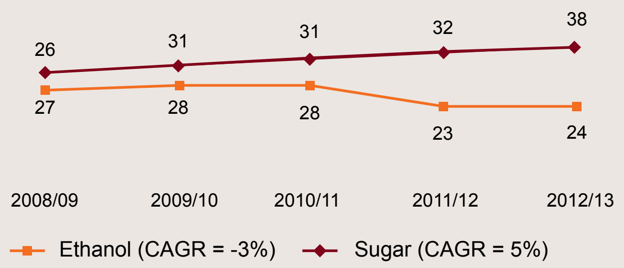
The ethanol market, favorable in the last harvest, has led the mills to supply less sugarcane for sugar production.

Brazil ethanol and sugar production



Evolution of sugarcane productivity and planted area

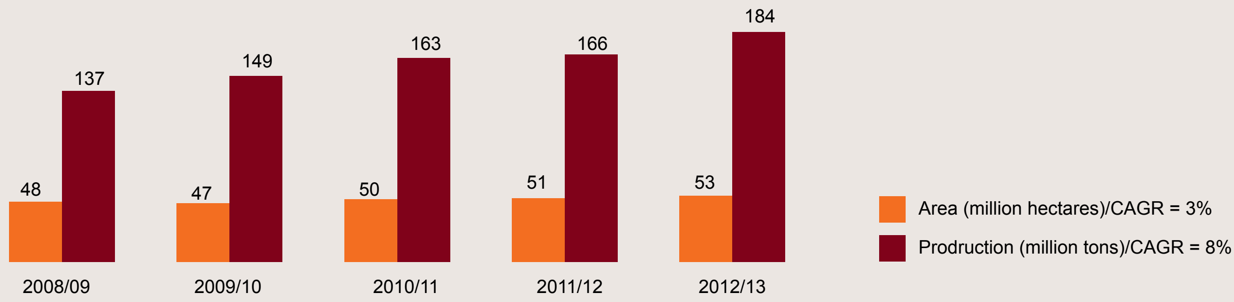
Safra	Planted area (million ha)	Productivity (tons/ha)
2008/09	7.1	81
2009/10	7.5	81
2010/11	8	77
2011/2012	8.3	67
2012/2013	8	69

CAGR = 5%
CAGR = -4%

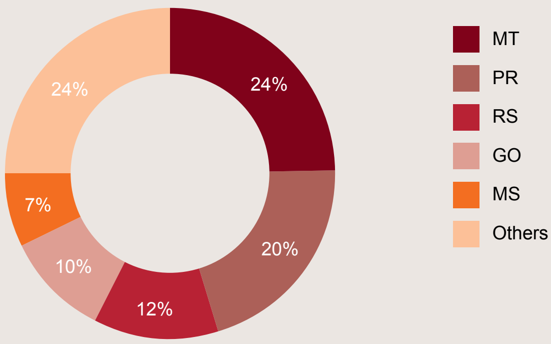
Source: CONAB (2013). Adapted by PwC Agribusiness Research & Knowledge Center.

Oilseed & Grains complex

Grain production and planted area



Grain production by state
Haverst 2012/13*



*projection

Key grains by production and total area

Item	% of grain total production	% of total planted area
Soybean	45%	52%
Corn	42%	29%
Rice	7%	5%
Wheat	2%	4%
Beans	2%	6%
Cottonseed	1%	2%
Others	1%	2%

Source: CONAB (2013). Adapted by PwC Agribusiness Research & Knowledge Center.

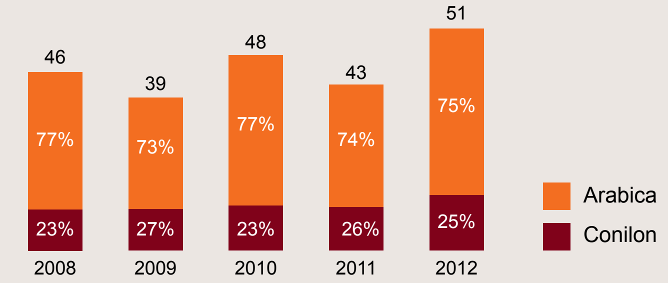
The total production for the oilseed & grain complex for the 2012/13 harvest is estimated at approximately 183 million tons, with 52.3 million hectares cultivated and productivity of 3,530 kg/ha - an all-time high and an increase of 11.3% compared to last year. Soy is the main ag commodity in the grain complex and had an increase of 25.7% in volume harvested – Brazil will be for this season the largest producer (84 million tons) and exporter (41 million tons) of soybeans. The corn harvest also delivered great results, and Brazil became the largest corn exporter with 25 million tons (compared to 23 million tons from the USA) largely due to the severe drought in the USA.

84 & 41 million tons

Brazil will be for this season the largest producer (84 million tons) and exporter (41 million tons) of soybeans.

Coffee

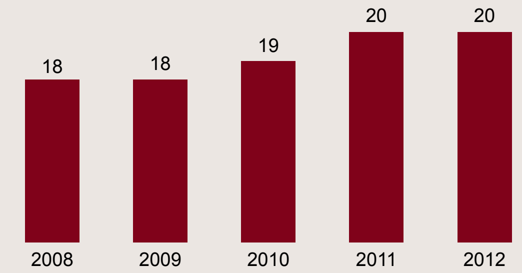
Brazilian coffee production
Million processed bags (60kg)
CAGR: 3%



Despite the nature of the coffee plant, which alternates years of high and low production , the brazilian coffee production has reached record highs due to improvements in the treatment of fields and the use of technologies such as crowding.

The growth of coffee and specialty coffee markets is boosting domestic consumption and foreign trade.

Brazilian coffee consumption
Million bags (60kg)
CAGR: 4%



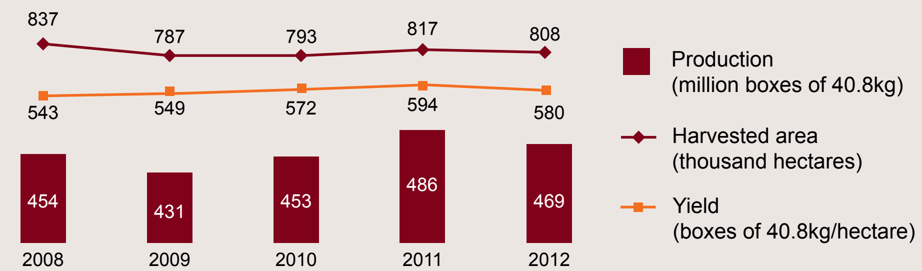
Main producer states
Haverst 2012

State	Participation in national production (%)	Area in formation (thousand ha)	Area in production (thousand ha)	Yield (bags/ha)
MG	53	185	1,028	26
ES	24	41	450	28
SP	10	17	175	30
BA	4	8	138	15
PR	3	17	67	23

Source: CONAB (2013) and MAPA (2013). Adapted by PwC Agribusiness Research & Knowledge Center.

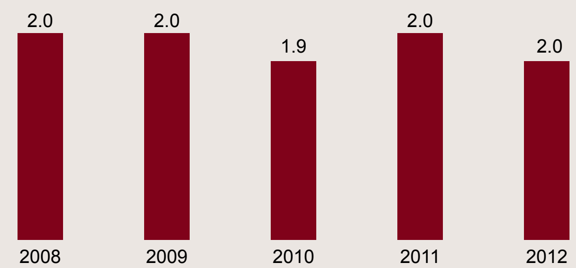
Orange juice

Brazilian orange production, harvested area and yield



The sector is highly concentrated and organized. The large-scale juice processors have global operations and highly devoloped infrastucture.

Brazilian orange juice export
Million tons
CAGR: -1%



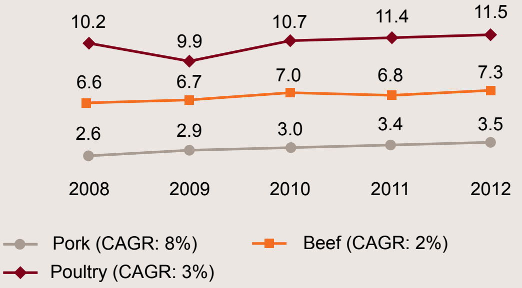
Main orange-producing states

State	Harvested area (thousand ha)	Production (million boxes of 40.8Kg)	Yield (boxes/ha)
SP	550	355	645
BA	65	25	385
MG	37	21	568
SE	56	20	357

Source: IBGE (2013) and MAPA (2013). Adapted by PwC Agribusiness Research & Knowledge Center.

Animal protein

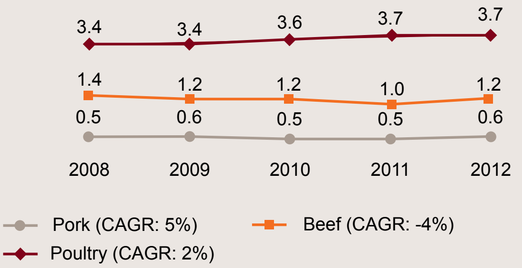
Evolution of beef, pork and poultry production
Million tons



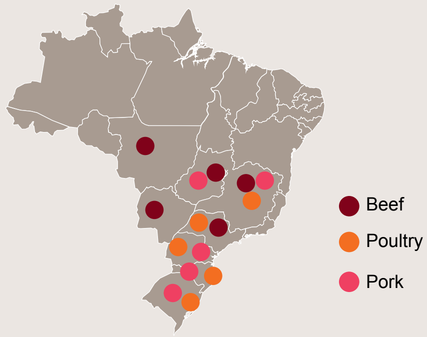
The total meat production in Brazil increased 25% between 2008 and 2012, at an annual rate of 3%.

The sector experiences great contrasts between the different chains. While the production of poultry and swine is highly organized, the cattle industry still suffers from informality and lack of coordination of the chain.

Evolution of Brazilian meat exports
Million tons



Main meat producing states



Source: IBGE (2013). Adapted by PwC Agribusiness Research & Knowledge Center.

Agribusiness' main challenges

Despite the growing global demand for food, feed, fuel and fiber, Agribusiness faces major challenges, and not only in Brazil.

In many countries, agribusiness is not a priority for the government and public policies, which results in lack of strategy and structured investments. Brazil, for example, faces serious issues in infrastructure, from roads to ports, from milk collection to grain storage, from animal health to traceability systems. Federal, state and city policies should be aligned and strategically planned to prepare the foundation for a prosperous and great future for this industry. Brazil could supply about 40% of the increased food demand expected by 2050, but to achieve this fantastic growth, the sector needs structured investment.

Brazil has arable land available for growth, but still is very dependent on imported fertilizers. And this situation is not expected to change, particularly for potash, where the imports reach 90% of total volume used in agriculture. This reliance on the international markets exposes the country to product shortage, volatile exchange rates and increased input costs, with impacts throughout all agribusiness value chains and therefore on the overall economy. The international market also impacts the Brazilian economy, given that it is a country with a vocation for exporting agribusiness products, which are very restricted by international trade policies and barriers. Technical barriers surface as the strongest possible method to limit trade based on food safety. This is a reality and tends only to get stronger. Governments and companies must be prepared to embrace tougher import requirements for food trade, from working conditions of the workforce to deforestation.

Farmers in emerging countries have limited access to financing and insurance options, and interest rates are not attractive enough to sustain growth. This will certainly pose a threat to sustainable productivity gains the world needs. In addition to this scenario, scarce human resources also appear to be a major challenge for economies worldwide and even more for emerging markets. This trend also impacts agricultural producers, processors, service providers and governments alike. Analysts have called this shortage in skilled labor “the talent blackout”. Public and private sector must join efforts and invest in general and specific education urgently.

Also, problems relating to technology applied in the field, informality, complex taxation , bureaucracy, environmental legislation, property rights and foreign land ownership also permeate the agribusiness sector in Brazil.

PwC Value proposition

In 2005, PwC decided to invest specialised time and resources in the Agribusiness sector, acknowledging its continuous growth and share in the Brazilian economy. It adopted the worldwide accepted agribusiness concept of a complex value chain of elements driving production. PwC Brazil invested in knowledge gathering and sharing, and structured the Agribusiness Industry as follows:

PwC Agribusiness
Organizational environment

Agricultural inputs
"Before the gate"

- Biotechnology & biosciences
- Agrichemicals
- Agricultural machinery & implements
- Animal feed
- Animal health

Agriculture and livestock
"Inside the gate"

- Agriculture
- Livestock
- Forestry
- Fishery

Industry
"After the gate"

- Animal protein (meat, dairy)
- Oilseeds & grains
- Sugar & Biofuels
- Tobacco
- Wineries
- Tradings

CIPS - Retail & Consumer

Wholesale

Retail

Final consumer

For over 40 years, PwC had been geographically positioned in the northwest region of the São Paulo state – where wealth basically comes from the agribusiness sector. The regional office in Ribeirão Preto had always been known for its expertise in agribusiness, providing quality services for key players in the region, particularly the largest sugarcane mills in the country. So it was a strategic decision to consolidate the activities in the industry, and launch the PwC Brazil Agribusiness Center of Excellence in 2007. PwC clients throughout Brazil have since been served by our CoE and a professional team skilled and savvy on major issues and tendencies of the sector. PwC has differentiated itself in the market by adding value through technical, market and industry expert knowledge.

Our operating model has always adopted the concept of One Firm to serve our clients and the Center of Excellence is a living proof of the success of this model. Multi-functional and cross-solution teams work together in prospecting, targeting, sales and delivery to agribusiness clients everywhere. The operating model also brings out the key role played by the industry experts in supporting the delivery teams:

Experience
Expertise
Know-how

+

Credentials
Solutions
X-Los
Industry experts

+

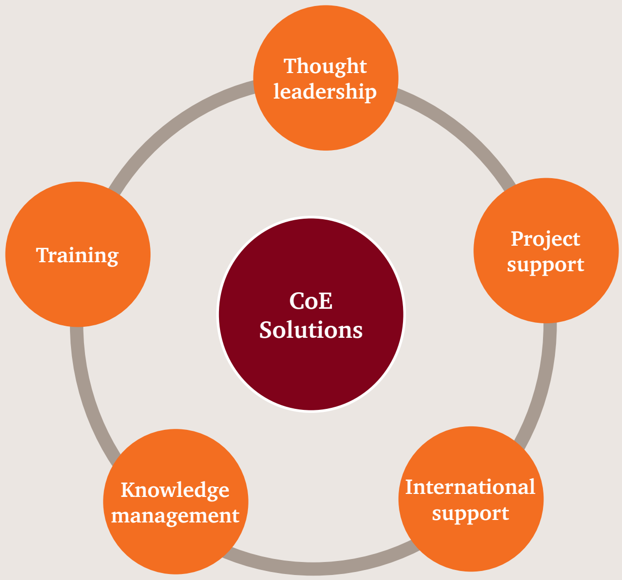
Thought Leadership
L&E

=

Practioners
Go to market
Delivery
growth

- Diferentiation and growth supported by expert knowledge in the industry.
- CoE responsible for dissiminating agri experience with other offices, countries and clusters.
- Professionals and Champions tagged with “Agribusiness”, distributed by regions, LoS and competencies, doing prospection, targeting, sales and delivery with the CoE support.
- Ongoing investiment in L&E: Agribusiness MBA in 2013.
- TL is our focus: agribusiness value chains, sector events, publications.

Mission of the Center of Excellence:
"Identify and generate knowledge in Agribusiness to interact with the PwC network and our stakeholders in the pursuit of value creation."



Thought leadership and Learning & Education have played a key role in developing this industry within PwC Brazil. Today, we are over 350 professionals tagged as "agribusiness", working in clients and projects in various segments, from seed and agrichemicals to meat processors. A fundamental part of the PwC Brazil Agribusiness Center of Excellence is the Research & Knowledge Center, responsible for tracking and analysing data and trends, and for offering support to our team of consultants and auditors to perform their work with greater quality and efficiency. Since 2007, there have been almost 300 instances where the R&KC supported our professionals with prospection and proposal and 280 instances where it supported our project teams during delivery. It has produced over 340 pieces of thought leadership, in national, state and local media, from TV interviews in agribusiness channels, to articles in renowned newspapers and presentations at key agribusiness events. The industry has invested heavily in human capital and has offered over 30 specialized courses, internal and external, to educate and develop our professionals.

The PwC Brazil Agribusiness Center of Excellence is a key differential, as it clearly marks the approach PwC Brazil has towards the sector.

The PwC Brazil Agribusiness Center of Excellence is responsible for generating substantial thought leadership pieces:

Publications

- **Booklet "Doing Agribusiness in Brazil":** an overview of Brazilian agribusiness, the critical sucess factors as well as competitive edges. Also provides the PwC services in agribusiness, our credentials and CV's of key industry leaders.
- **Sectors Analysis:** development of competitive analysis of key value chains of Brazilian agribusiness.
- **Market Research PwC/ Milkpoint:** market research conducted by PwC via Milkpoint site with the participation of 400 farmers to address the sucess factors in milk production and their concerns about the dairy chain.

Conferences and events:

- **Sector Associations:** Participation in board meetings of agribusiness sector associations.
- **Specialized conferences:** participation in technical conferences of the agribusiness segments (milk, sugarcane, meat grain) as speaker and sponsor.

Magazines:

- **Technical articles in specialized magazines and newspapers:** monthly publications in spacialized magazines of the main agribusiness segments. The objective is to discuss the main issues some PwC Solutions.
- **Special PwC "Sustainability":** the challenge of balancing social, environmental and economic' in the Agroanalysis Magazine.

Interviews:

- **Interviews:** interviews with the Agribusiness Leaders in the main media vehicles as newspapers and TV programs about Agribusiness issues and our expertise.

How PwC can help

Agribusiness Center of Excellence

- Management of agricultural, processing, environmental and HR indicators.
- Process mapping and diagnosis: risk identification and HSSE.
- Strategic sourcing and stock optimization.
- Agricultural and manufacturing interface with ERP.
- Internal audit of sugarcane and soybean delivery.
- Biological assets.
- Supply chain risk management.
- Market entry analysis.
- ERP selection and QA for implementation.
- M&A and debt negotiation.
- IPO support
- Distribution channels: performance indicators.
- Forensic services.
- Sustainability services.

As discussed earlier, major trends shaping the agricultural and food industries represent growth opportunities for players around the world but even more so in the emerging economies.

With a history of continuous growth and ongoing investments, the PwC Agribusiness Center of Excellence has gained competitive advantage in the market and developed expert knowledge to tackle these issues. We have a team of professionals focused on delivering quality services, for all segments of the agribusiness sector, focused on Solution Offerings. Some of these innovative and customized solutions are presented in the side box, reflecting the continuity and inter-relationship between Tax, Assurance and Advisory and the strong support from the Center of Excellence.

The PwC Agribusiness industry in Brazil is well positioned for growth along with players able to capitalize on the agribusiness boom worldwide.

Final remarks

Brazilian Agribusiness Highlights: how we contribute to global agriculture

- The Agribusiness sector has been responsible for the continuous growth of the Brazilian economy over the years and today represents 22% of the GDP, almost 40% of exports and generates 1/3 of the employment.
- One in every four grains consumed in the world is produced in Brazil.
- Brazil is the third largest global agribusiness exporter, with relevant participation in all major agribusiness value chains: animal protein (bovine, poultry and pork), oilseeds & grain (soybean, corn, cotton, coffee) orange juice and the sugar & ethanol complex.
- It has over 100 million hectares available for agricultural expansion and still has over 69% of its native vegetation preserved.
- Brazil could, with all this potential, respond for 40% of the global additional food demand expected for 2050!

Global Agribusiness: a necessary industry to support population growth

- Companies with an interest in the upstream segments of the value chain such as agricultural inputs and food, feed, fuel and fiber production will be able to benefit from the positive agriculture outlook in coming years.
- In the future, the combination of rising income, population growth, freer trade, sustainability, food safety and resource scarcity will drive higher demand and prices for agricultural commodities.
- Companies will increasingly look to guarantee access to production resources and will enjoy capital gains from investment in land and production factors.
- Consolidation opportunities will be sought proactively by key players looking to establish and grow their worldwide footprint.
- Agriculture will increasingly be perceived as an investment opportunity, and land as an asset.

PwC Agribusiness Center of Excellence: a case study in the making

- PwC Brazil has, since 2005, positioned itself to take advantage of the continuous growth in the agribusiness sector. This experience in creating the Brazilian Center of Excellence and in supporting the West Cluster Agribusiness practice through internal marketing, thought leadership and learning & education certainly offers a competitive edge/differential in the market.

- We have made and continue to make the strategic decision to increase PwC's presence at key agribusiness summits, conferences and seminars and to increase PwC's exposure to the main decision makers in the Agribusiness industry worldwide (i.e. leading universities, trade associations and governmental agencies), leveraging Brazil's experience.

- The credentials and qualifications gained throughout the past few years in many agribusiness segments have contributed to the development of a team of highly qualified and experienced professionals, capable of speaking our clients' language and sympathetic to the global agribusiness drivers.

- Our very own Agribusiness Research and Knowledge Center is recognized today as a powerhouse for training, knowledge sharing and networking. Strategic hires into the practice will continue to raise the level of Ag technical capabilities in all the key priority segments of the agribusiness sector.

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