Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development

17-Oct-2011

English text only

TRADE AND AGRICULTURE DIRECTORATE
COMMITTEE FOR AGRICULTURE

TAD/CA/APM/WP(2011)30
Unclassified

Working Party on Agricultural Policies and Markets

STRUCTURAL CHANGE IN COMMODITY MARKETS
PRIVATE FINANCIAL SECTOR INVESTMENT IN AGRICULTURE

CASE STUDIES

14-16 November 2011

This document is presented to the 55th Session of the Working Party on Agricultural Policies and Markets FOR DISCUSSION, under item 10d)i) of the draft agenda.

Contact person: Wayne Jones (e-mail: wayne.jones@oecd.org)

JT03309232

English text only

(Note by the Secretariat)

This consultant's report, prepared by the US firm HighQuest Partners, is a follow-up to an earlier report on private financial sector investment in agriculture [TAD/CA/APM/WP(2010)11/FINAL]. Responding to Delegates' requests for more specific examples, the consultant undertook to provide a few case studies, via questionnaires to selected fund managers, which would provide some additional information on the structure of these investments and on the impacts for local communities. This document is submitted as an unclassified consultant's report for discussion. Subject to a favourable response by delegates, it is the intention of the Secretariat to make this report available to the general public through the TAD working paper series with the usual disclaimers.

Under the same agenda item, the Secretariat has invited the FAO and World Bank to update the Committee on their activities in this area. The OECD Directorate of Fiscal Affairs also has ongoing work streams on this topic and will inform delegates about their current status.

TABLE OF CONTENTS

Figures

EXECUTIVE SUMMARY

1. The six case studies compiled in this report illustrate the wide range of approaches and focus that private funds are adopting (legal structure, geography, agricultural production and operating strategies) to invest in farmland in different parts of the world. They provide examples of different approaches in terms of:

- legal structure
  - land banks (funds)
  - publicly-listed farmland trusts
  - partnerships
  - joint-stock companies
  - private limited liability corporations
- geographic focus
  - South America
  - Sub-Saharan Africa
  - Eastern Europe
- agricultural production
  - row crops(oilseeds, corn, wheat, feed grains and rice)
  - animal production(dairy, swine and beef cattle)
  - fruits and vegetables, and
- operating Strategy
  - integrated farmland ownership and management
  - management of farmland leases and crop production
    - management capabilities delivered in-house
    - operational capabilities out-sourced to third parties

2. The six case studies include:

- **Agrica Limited** – a limited liability corporation developing rice production and milling in Tanzania;

- **Calyx Agro** – a farmland fund operating owned and leased farmland to product major row crops(soybeans, corn and wheat) in Argentina and Brazil;

- **Cazanave y Associados** – a manager of 220 000 ha of land in Argentina leased from more than 250 land owners with two divisions: farmland leasing and grain origination;

- **Jantzen Development -** a privately-held company focused on consolidating and developing farmland in countries located in the eastern region of the EU, with 17 000 ha under management (owned and leased) with operations currently located in the Czech Republic, Slovakia and Romania producing rapeseed, wheat and maize.

- **NFD Agro Ltda. -** a farmland fund manager which aspires to become a leading player in agribusiness applying a unique sustainable model that "unlocks value" in under-developed regions of South America beginning in Paraguay; and

- **Quifel Natural Resources -** a privately-held fund that has been investing and operating in the natural resources and renewable energy sectors since 2007 in Brazil, Mozambique, Zambia and Sierra Leone.

3. While representative, these six case studies do not cover the complete range of approaches which fund managers are deploying with varying degrees of success to allocate institutional and private capital to work in order to develop farmland into a productive investment asset. The adage that "one size fits all" does not apply in this context.

4. The fund managers attracted to this sector include sophisticated executives who have worked for multinational trading companies, food conglomerates, international financial institutions and management consultancies with substantial experience managing large organizations and developing new businesses around the world along with entrepreneurs who have direct operational experience either in their home market or as an expatriate manager. These funds are attracting managers with expertise in key functions such as finance, risk management and fund raising as well as local managers who are responsible for managing the investment projects that these funds have established.

5. These case studies also illustrate diversity in terms of the sources of capital which fund this type of investment activity, ranging from sovereign wealth funds (Norway) to pension funds, university endowments and private family offices and individual wealthy investors. While all sources of capital are seeking market rate returns on their investment, their motivations and the risk profile and investment time horizon they are willing to accept varies by category of investor.

6. The potential returns offered by each of the funds highlighted in these cases studies also differ according to real operational risk (based on geography and types of agricultural production) and market's perception of those risks. In many case, the funds have either recently raised capital and are deploying it in the field or are in the mid-term of their investment cycle and are just beginning to generate cash returns on their activities. On a generalized basis one can assume that a majority of these funds seek to provide their investors with annualized cash-on-cash returns ranging from 10-15%. Depending on the geographic location and type of activity being financed, that range can be higher or lower.

7. Each of the funds highlighted is emblematic of a larger trend which is occurring in agriculture on a global basis; the deployment of institutional capital in the agricultural sector which had attracted investment capital. This development is resulting in the transfer of best practices between regions (Brazil to sub-Saharan Africa) which should ensure the adoption of efficient and sustainable farming practices, increase the volume and improve the quality of crops available for both domestic and export markets (to

generate hard currency) and enhance the skill set and employment opportunities for many in the local populations. Each of the funds is also actively promoting the participation of local small stakeholders within the value chain to provide them with access to destination markets for their production which previously had been unattainable and providing opportunities for local entrepreneurs to offer products and services to a developing agricultural sector.

8. Finally, it should be noted that these case studies were developed using company and public information. HighQuest Partners cannot vouch for much of the information contained in these case studies as it was not part of the contract to undertake on site due diligence.

Company: Agrica Limited

Assets under Management: USD 31.5 million (all equity to date)*

Land under Management: 5,818 ha

Operating in: Tanzania

Primary Investors: Norfund, Capricorn Investment Group and African Agricultural Capital

** Agrica is a not a fund but an operating company. The $31.5 million of equity has been applied to Agrica's first project. The company is currently raising an additional $10.0 million of equity in order to complete the first project and underpin $25 million of debt required to construct irrigation.*

Background

9. Agrica Limited ("Agrica") was founded in 2005 to develop sustainable commercial agribusinesses in Africa, beginning in East Africa. Agrica's management believes that given rising global demand for food, growing internal markets in Africa and increasing food security concerns, the near absence of large scale commercial agriculture in this region offers compelling investment opportunities.

10. In December 2007, Agrica began operations on its first project, a 5 818 ha rice farm in the Kilombero Valley in Tanzania. Importing modern zero-tillage farming methods, Agrica aims to be both the lowest-cost domestic producer and environmentally sustainable. This farm will initially produce up to 20,000 MT of rain fed paddy rice per year, rising to 50 000 mt per year with irrigation. Agrica is pursuing additional opportunities with a view to developing a portfolio of projects diversified by crop and country.

11. In 2010, Agrica was awarded National Strategic Investor Status by the Tanzania Government and in 2011 the company became a showcase project in the World Economic Forum's Southern Agricultural Growth Corridor of Tanzania (SAGCOT). The company is now a leading rice producer in East Africa. When fully irrigated, the farm will increase Tanzania rice production by 2.6%.

Legal structure

12. Agrica is a limited liability company which is the holding company for local subsidiaries responsible for operations in the field.

Management team

13. The management team is comprised of a number of individuals based in Europe with experience working with non-governmental organizations in the timber sector in Africa, pioneering local water and forestry management with local villages, fund raising, journalism, strategy consulting and investment banking and managers based in the field in Africa who have substantial experience managing agriculturally-related activities in the regions. These individuals include expatriates from the US, Europe

and Australia as well as native-born managers with significant experience farming in Africa as well as managing different functions within the operation including seed production, rice milling, human resources and financial control.

Non-executive directors

14. Non-executive directors represent a range of investment groups which have committed capital to Agrica as well as several private investors.

Primary investors

- **Norfund** - the Norwegian Investment Fund for Developing Countries - is owned by the Norwegian Government and serves as an instrument in Norwegian development policy. Norfund invests in the establishment and development of profitable and sustainable enterprises in developing countries. The aim is to contribute to economic growth and poverty reduction. Norfund always invest with partners, Norwegian or foreign, focusing on renewable energy, financial institutions and agribusiness.

- **Capricorn Investment Group** was co-founded in 2001 together with Jeff Skoll, the first President of eBay, to be the exclusive and independent investment manager of the assets of the SkollFoundation and Jeff Skoll. Its objective is to grow its asset base with a long-term, global, and "principled" philosophy, which it sees as a sustainable competitive advantage to accomplish both consistent capital growth and have a positive effect on the world. That foundational capability was selectively expanded to other like-minded private and institutional clients in 2008.

- **African Agricultural Capital** is an agribusiness-focused investment fund that delivers positive financial returns to its investors, supports its investees through the provision of affordable and flexible capital, and has a high social and development impact on smallholder farmers and rural economies, thereby encouraging greater investment in the agriculture sector.

15. Agrica's shareholders also include individual high net-worth investors.

Differentiation from other groups investing in farmland

16. Agrica operates as a holding company with subsidiaries managing individual projects in the field. Its objective is to develop Greenfield agricultural projects in East Africa, employing state of the art minimum, impact farming methods with post-harvest processing integrated into the operations on core commercial farms. Agrica is establishing a network of concentric smallholder projects using transformative technologies with low environmental impact to develop the supply of commodities from smallholders in order to complement its own internal production and to address food security concerns in Africa through import substitution.

17. Agrica seeks to develop large-scale agricultural production in a region which historically has maintained higher than world prices for staple crops. Agrica views the opportunity to develop marketing channels to address growing demand for soft commodities within Africa as a key business objective.

18. Agrica believes that its focus on the "triple bottom line" - profit, people and planet -as well as the attention it pays to assuring maximum development impact and offering rational return expectations to its investors sets it apart from other pools of capital operating in the agricultural sector.

Financial objectives

19. Agrica seeks to provide investors in the company with a 15% return on equity. Net cash flow for its first project described in more detail below (the KPL project) is not yet positive.

Background of project

20. Kilombero Plantations Limited (KPL), Agrica's Tanzania subsidiary, is developing the 5 818 ha (of which 5 000 ha is in production) Mngeta farm located 450 km from Dar-es-Salaam, the largest market in Tanzania by road and rail. The Mngeta farm is situated in the fertile Kilombero Valley, one of best agro-eco zones for rice farming in East Africa.

21. KPL is a public-private partnership established between Agrica (91.7%) and RUBADA (8.3%), the government agency which owned the derelict Mngeta Farm which had been partially developed by the North Korean army in the late 1980s and then abandoned in 1992. This farm had an existing title deed when Agrica began its negotiations with RUBADA to acquire control of the property.

22. Agrica is currently in the process of completing the acquisition of a 5 200 ha area located 25 kms from the first site (in order to leverage management, equipment and processing capacities, where the company has, according to Tanzanian procedure:

- held open meetings with villages;
- submitted its proposal to open voting by the villages;
- commissioned and obtained participatory Village Land Use Plans executed by National Land Use Planning Commission

23. The remaining steps include:

- surveying area for government property deed;
- undertaking a Census of Project Affected People;
- completing an Environmental & Social Impact Assessment of the property and
- completing extensive soil surveys and an internal feasibility study.

24. Agrica is committed to investing in health and education facilities in villages which allocate land to its projects, rather than obtaining land against the promise of a project and creation of jobs as is typical.

25. In October 2008, when KPL took possession of the abandoned farm as owner, less than 6% of the 5 818 ha, the light area on the top left of the photo below, was being mechanically farmed. Following acquisition of the property, 94% of the surface area required re-clearing, harrowing and levelling.

26. Local villages disputed the title deed, claiming about half the farm, outside the white border (see Figure 1. To resolve the dispute, KPL ceded 389 ha which were heavily populated - the area within the red border (see photo below) - to a local village. KPL is also building a school within the red area and drilling wells, leaving a gross farm area of 5 429 ha to be developed.

Figure 1. Image of Kilombero Plantation

27. Twenty families within the yellow border will move to the red area, where KPL will construct housing. Eighty families within the grey border have moved to KPL-built houses (see Figure 2) within the green border outside the farm.

Figure 2. KPL-Built Housing

28. An additional 150 non-resident farmers have been provided with 1.25 ha each (the equivalent of what they were farming) outside the farm, purchased, cleared and prepared for planting by KPL (and identified by GPS point and photograph). The total cost of the Resettlement Action is estimated at

USD 543 000. Resettlement will be an issue in regards to any new farm project undertaken within the SAGCOT area.

29. The Resettlement Action adhered to World Bank/IFC guidance, leaving Project Affect Persons (PAPs) in a more secure position than before, irrespective of the illegality of their land tenure claim.

Development of owned farmland

30. To date, Agrica has invested over USD 30.5 million in the KPL project on:

- reclearing and harrowing of 4 229 ha;
- leveling of 3 000 ha;
- acquiring a fleet of John Deere and Claas tractors, planters and combine harvesters;
- constructing
  - a 6 200 m^2 warehouse and 6 mt/hour rice mill;
  - a 2 000 ton automated cleaning and drying facility;
  - housing, offices and workshops and
- installing irrigation on over 215 hectares.

31. Commercial sustainability of the project is based on:

- implementing zero tillage conservation planting technology;
- dependence on the farm's own mini-hydro plant powers operations and
- installation of rice husk furnaces that produce heat for drying.

32. When fully irrigated, the Mngeta Farm will produce annually:

- 33 000 mt of milled rice;
- 5 000 mt of rotation crops(beans and pulses) and
- 1.5 mw of biomass power for rural electrification, including surplus for rural electrification.

33. KPL completed planting its 3rd rain-fed rice crop on 4 229 ha in February 2011, following 2 896 ha in 2010 and 2 795 ha in 2009.

Introduction of system for rice intensification for small growers

34. KPL has introduced the *System for Rice Intensification* (SRI) to farmer families in impoverished villages near the farm that rely on rice for their annual income.

35. This system was developed by a Jesuit priest in Madagascar and India, where it has raised smallholder's yields from 2 to 8 mt per ha. SRI is an unconventional system that uses less seed and wider spacing than traditional planting, which results in bigger root systems and heavier grain weight. Weeding is accomplished without herbicides by the use of a hand-pushed weeder through rice lines planted on a grid. This reduces the use of chemical inputs, thereby increasing local incomes.

36. In 2010, Dr. Venod Vemula, visiting from the International Crop Research Institute for the Semi-Arid Tropics (ICRISAT), India, established SRI demonstration plots on Mngeta Farm and with 15 neighbouring farmer families. Dr. Vemula instructed the smallholders to:

- identify and eliminate bad seed;
- plant rain-fed seeds on a 25 by 25 cm grid, reducing seed inputs from 20 kg to 6 kg per acre; under irrigation, plantlets are transplanted to the grid from a seed bed and
- use mechanical weeders between the rows substituting manure for mineral fertilizer.

37. This trial enabled the families participating in the trial to plant 1 ha with SRI tools and seed provided by KPL. They achieved yields ranging from 4.7 to 7mt per ha (thereby doubling their yield and annual income) compared to those using traditional methods on neighbouring fields with local varieties who averaged only 2.9 mt per ha.

38. In 2011, the SRI project was extended to 250 farmer families who were provided with access to:

- demonstration farms/schools in 8 villages within 25 km of Mngeta farm;
- SRI tools for every 5 farmer families;
- improved Saro 5 rice variety for each farmer;
- dedicated SRI extension officers and
- a dedicated pick-up truck and 2 dedicated quad bikes.

39. In May 2011, KPL won an African Enterprise Challenge Fund grant of USD 750 000 to scale the SRI program up from the original 265 farmer families to 1 300 farmer families in 2012 and 4 300 by 2016. When smallholders are producing substantial quantities of rice of the same variety and consistent high quality, KPL will begin to mill and market the smallholder crop while continuing to support the SRI smallholders with improved seed, SRI tools, demonstration workshops and extension advice.

Employment

40. Agrica's employee breakdown is as follows:

- 2 in corporate management
- 5 operations management
- 152 fulltime employees
- 650 seasonal employees

41. Agrica has created 152 full time jobs at wage rates above the national minimum in an area with no previous jobs. These employees are provided with health and pension benefits and education for their children. The seasonal employees are provided above national minimum wages.

42. All employees are provided training in health and safety workshops and awareness programs and mid-tier managers are offered management and technical development during their careers.

Effects of business model on financial objectives and on regional communities

43. Agrica's management has adopted and follows the International Financial Reporting Standards (IFRS), the Equator Principles and the Norwegian Government Social and Environmental Governance Criteria in it operating procedures.

44. The company has invested in storage facilities in order to provide more control over the timing of the sale of its internal production into the market following the harvest. Rice farmers in its operating area are already receiving higher prices for their production than U.S. growers.

45. Agrica's presence in the local economy has enhanced access to inputs (improved seed and government subsidized fertilizer) for local operators and has resulted in increased demand for local services (banking, credit, legal, accounting distribution, transportation, etc.) which is expected to improve the quality of life in the region. The monthly injection of payroll in the local economy has already resulted in the opening of many shops, hotels, small tractor contractors, etc., just within the 2.5 years since the KPL project commenced.

46. Agrica's management believes that the company's relations with local, regional/provincial and national governments are excellent. Its first project has become the benchmark for Kilimo Kwanza, "Farming First", the priority government policy, and a showcase farm for the World Economic Forum's Southern Agricultural Grown Corridor of Tanzania (SAGCOT). It maintains ongoing dialogue and working relationships with global and local NGOs and trade organizations, supports a local forest conservation group and is an active participant in the Tanzania Rice Partnership.

47. KPL provides an annual Community Development Fund for the three villages surrounding the farm.

48. While representing less than 1% of the development cost of the farm annually, the fund increases the village budgets, provided by central government and village taxes, by over 10%.

49. Projects such as school rooms and wells are selected by villages. For example, 25-meter-deep pump wells providing clean water have replaced shallow open wells which provided unsanitary and dirty water. Donations are made in materials and labour costs, monitored by the farm's building department.

50. KPL has also provided direct food donations to families whose homes and farms were destroyed by wild fires.

51. KPL also acts a catalyst and conduit for donor-funded community development projects. In 2011, KPL expects to:

- build a clinic for a neighbouring village with a population of 11 500 which has no health facilities and

- introduce a rice-husk powered 40 kVA generator to provide electricity to 400 families. (The Indian husk gasifier/generator may be the suitable solution for establishing rural power in the

isolated, off-grid rice growing regions of Tanzania, converting husk, a worthless by-product into electricity.

Fund: Calyx Agro
Manager: Calyx Agro
Assets under Management: USD 180 million
Land under Management: 103 000 ha
Operating in: Brazil, Argentina, Paraguay and Uruguay
Primary Investors: Louis Dreyfus, AIG Brazilia and private investors and family offices

Background

52. Calyx Agro is a land development and agricultural production company focused on developing and converting land into productive cropland. With over 103 000 ha under management, Calyx Agro has a multi-crop, multi-national strategy operating crop land (owned and leased) across Brazil, Argentina, Uruguay and Paraguay.

Legal structure

53. Privately-held limited liability corporation.

Management team

54. Calyx Agro's management team includes individuals with extensive management experience working across the value-added soft commodity value chain in South America with major multinational trading firms, biotech seed company and global financial institutions. Their professional experience and expertise includes trading, new business development, risk management and renewable energy development.

Primary investors

55. Backed by Louis Dreyfus Commodities (LDC), one of the world's largest and most respected players in the grain processing and merchandising industry, Calyx Agro is LDC's exclusive investment vehicle in South America and benefits from LDC's extensive and historical operations in the region.

56. Financial investors such as AIG Brasilia and Special Situations Fund II, each injecting USD 60-70 million of equity into the initial raise, are equity sponsors of Calyx Agro.

57. Calyx Agro is currently seeking to raise another USD 150-250 million to consolidate its position and fully benefit from scale effects in the regions in which it currently operates.

Differentiation from others investing in farmland

58. With 159 years of experience, LDC is responsible for 20% of the world wheat-export trade, 12% share of world soy-complex flows and 10% of world corn-export trade. As one of the major grain traders and processors in the world, Louis Dreyfus is able to offer Calyx Agro unique access to its full range of support functions, including its risk management tools, recommendations, proprietary research and market insights (e.g. output pricing), and legal teams.

59. In addition, Louis Dreyfus Commodities has been active in Argentina since 1925 and in Brazil since 1942. With ~330 000 ha of sugar cane and 27 000 ha of orange groves under management, LDC is one of the largest operators of agricultural land in Brazil. LDC sitting on Calyx Agro's Investment Committee helps Calyx Agro to capitalize on LDC's strong local presence in all the countries where Calyx Agro operates. Louis Dreyfus appears amongst the top four global traders of wheat, soybeans and coffee and soybean processors.

Funds raised/land under management (owned and/or leased)

60. Calyx Agro has raised USD 177.5 million to date and is currently seeking to raise an additional USD 150-250 million in a second round.

61. As previously mentioned, as of June 2010 Calyx Agro operates 79 000 ha. It plans to expand its operations to over 120 000 ha (owned and leased land) in the next production season (see Figures 3-5) producing a variety of crops (see Figures 6 and 7).

Figure 3. Projected expansion of land in operation

in hectares	Owned	Owned Land in Operation	Rented/Leased From 3rd parties	Total Land In Operation	Total Land under Mgmt.
June 2010	43 000	25 000	59 000	79 000	103 000
2011/12	60 000	36 000	84 000	120 000	140 000

Figure 4. Development of owned farmland

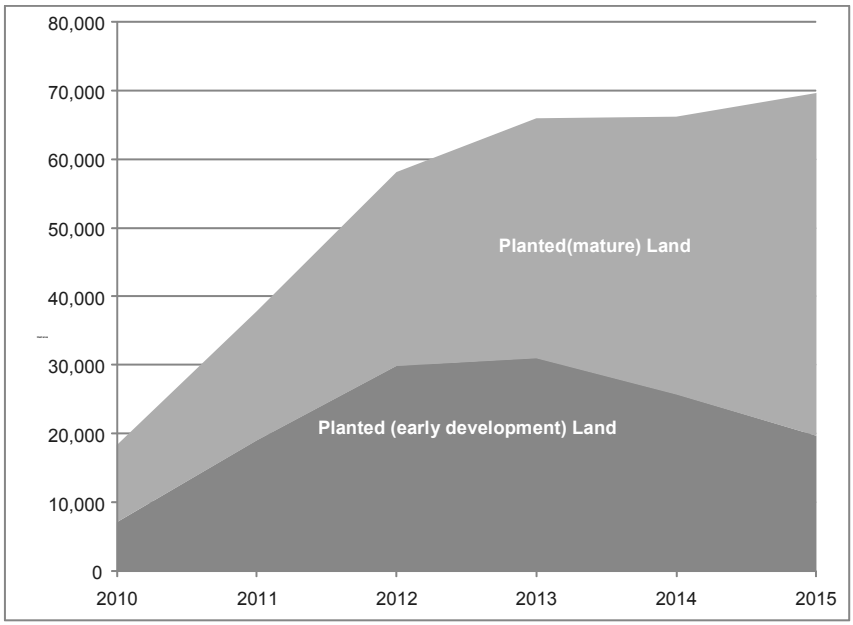


Figure 5. Development of total land under management

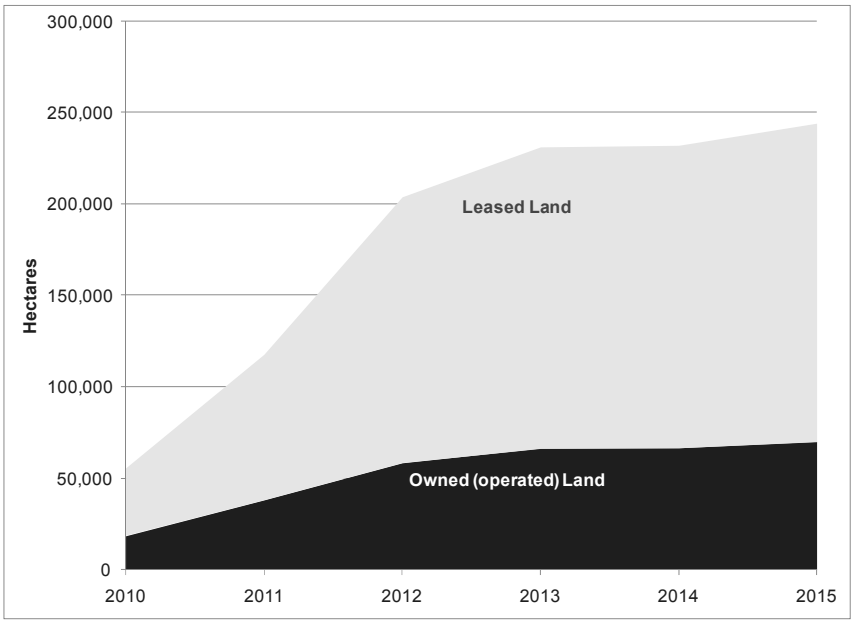


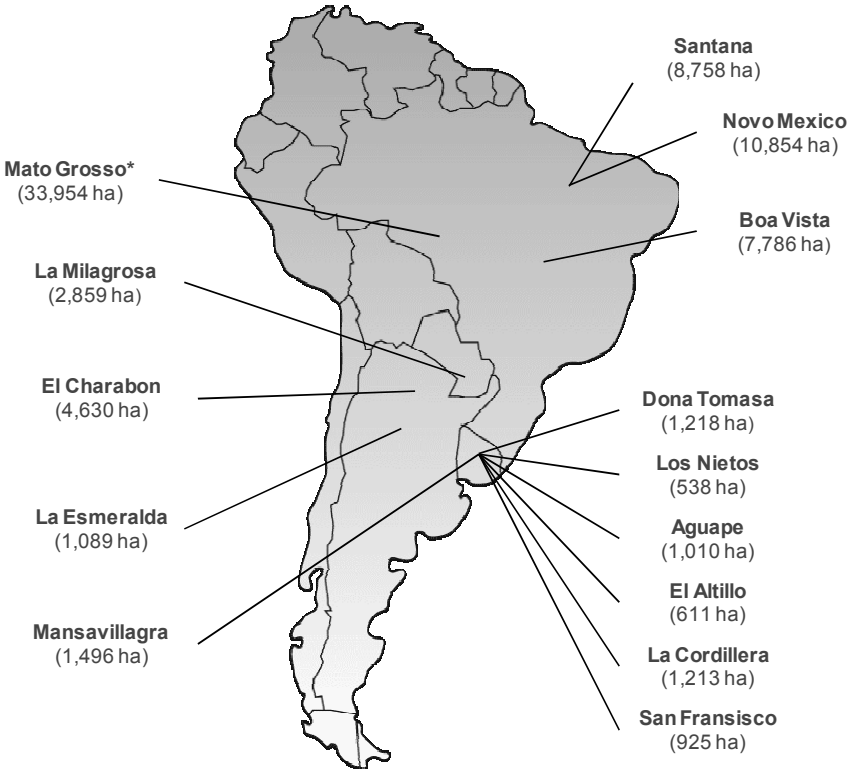
Figure 6. Production from land in operation

Country	Owned Ha	Rented Ha	Production (MT)
Argentina	1 646	28 062	57k Soybeans, 42k Corn
Brazil	16 766	0	6k Soybeans
Paraguay	1 818	980	4k Soybeans, 3k Corn
Uruguay	5 023	7 832	22K Soybeans, 11k Wheat

Figure 7. Current forecast of crop mix by country

Has	Current FCST					
	AR	BR	UY	PY	CYN	TOTAL
Soy	*26,325*	*11,821*	*17,359*	*2,760*	-	*58,265*
Corn	*11,267*	-	*163*	*1,729*	-	*13,159*
Cotton	*1,166*	*1,798*	-	-	-	*2,964*
Wheat	*3,368*	-	*3,313*	-	-	*6,681*
Other	*4,829*	-	-	*151*	-	*4,980*
Operative Ha	***46,955***	***13,619***	***20,835***	***4,640***	**-**	***86,050***

Figure 8. Map of farm operation locations



Business model

62. Calyx Agro's business model is based on undertaking two activities requiring different management skills and generating different risk/return profiles:

- Land investment
- Farming operations

63. The land investment part of the company owns 43 000 ha currently valued at ca. USD 180 million, which as of April 2010 represented a 46% increase in value over original acquisition costs. Only 59% of the land owned (or 25 000 ha) is currently in operation, with the balance being developed according to Calyx's model of value creation.

64. The objective of the farming operations is to:

- manage a land portfolio of over 100 000 owned hectares;
- operate over 250 000 hectares (including leased land) and
- produce over 1 million mt of grains and oilseeds.

Investment process

65. Calyx Agro's strategy is to acquire attractive farms (cattle land or completely undeveloped), to transform them by investing in the land, logistics and infrastructure, and to then sell a portion of the land portfolio in each year to lock-in value and generate cash to invest in new land.

66. Operational teams (with deep in-country experience) constantly identify and assess potential targets.

67. Farm targets are rigorously analysed by the country team with onsite visits to assess the quality of the asset supported by a desk based investment analysis. A business plan is then completed to set out how to transform and develop the asset. The Investment Committee makes the final decision prior to extensive due diligence and eventual acquisition.

Operations

- Operates its own farms alongside leased agricultural land.
- Focuses on operational efficiency, using the latest technology to improve yields, with no-till farming, crop rotation, and efficient fertilisation.
- Scalable process: leverages management, equipment and logistics for each owned farm by renting adjacent land.
- Maintains a low asset base with farming operations outsourced to minimise capital utilisation.
- Process and performance driven with efficient management tools, and has also rolled out systematic processes and protocols to improve farming operations, sharing and improving best practices.

Risk management

- Exercises focused and disciplined risk mitigation through output price and foreign exchange hedging, and diversification by different geographies and crops.
- Avoids over-exposure to farming operations by balancing owned and leased land.
- Maintains a strong balance sheet with cash holdings and minimal debt.
- Invests large capital prior to each campaign (growing season) investing in seeds, planting, farming, and farming inputs. Cash and working capital is utilised (approx. 70% working capital financing) as the campaign progresses and then recouped with profit after the harvest.

Value creation

68. Calyx Agro's strategy is premised on creating value through:

- Land appreciation
- Land transformation

- Land rotation
- Farming operations

69. Calyx Agro's thesis for ***land appreciation*** is supported by three premises:

- Based on historical performance/macro trends, its land portfolio should appreciate in value without further investment in improved productivity of the land due to scarcity of high-quality productive farmland.
- Active land management and operational enhancements will deliver significant increase in farming margins, thus also resulting in an appreciation of the value of its farmland portfolio.
- Calyx also benefits from Louis Dreyfus' investment in contiguous logistics and processing assets which add value to the land's productive capacity.

70. Calyx Agro's pursues its ***land transformation*** strategy by:

- Identifying and sourcing where there is potential for high returns based on transformation, typically from undeveloped, distressed, or cattle land into arable land.
- Acquiring land at a discount to market price before engaging in 1 to 4 year investment programme to upgrade land to realize its full potential and maximize production (yield) and revenues.
- Using a specialized legal team to restructure, clean-up, and formalize situations in which discounts in the price of land may be justified by unclear documentation.

71. Calyx Agro's ***Land Rotation*** is achieved through:

- Monetizing acquired and transformed land (ca. 15% of developed land investments per year) in order to lock-in increase in prices and secure value creation.
- Deploying proceeds from land rotation proceeds into new farmland investments.

Operating challenges by country

72. Challenges these operations face in:

Argentina

- Few opportunities to purchase land (safe haven for funds/ families)
- Country risk due to local politics and policymaking in regards to taxes and regulation of exports

Brazil

- Vast distances between origins and consumption markets and limited infrastructure, outside of population centres

- Higher operating costs and lower yields compared to operations in Argentina
- Environmental regulations and licensing

Paraguay

- Legal issues over land titles
- Environmental regulations and licensing
- Low transaction volume

Uruguay

- Land prices increasing at a faster pace relative to other countries in South America

Effects of business model on financial objectives and on regional communities

73. In all of its investments, Calyx Agro has:

- Increased access for small stakeholders through building roads to improve transport links.
- Created employment opportunities in the local economy through:
  - investing in a complete enhancement of the operating team and infrastructure;
  - operating 120 separate farm units(Argentina – 96, Uruguay – 20, Paraguay – 4 and Brazil – 3 (which are owned)
- Employing 95 fulltime employees(55 in field operations and 40 in general management and administration) broken down as follows(see Figure 9):

Figure 9. Breakdown of employees by location and function

Country	Operations	Management	Total
Argentina	43	18	
Brazil	31	18	
Uruguay	-/-	15	
Paraguay	-/-	6	
Total Company	55	40	95

- outsourcing planting, application of fertilizer and crop chemicals and harvesting of crops with 100-150 contractors each of which employees on average 3-4 employees. (Calyx Agro estimates that its activities provide seasonal employment for up to 1 000 technical workers across its operations.)
- spending approximately USD 20 million for labour and other professional services it outsourced in 2010, representing 30% of the company's total costs.
- providing regular technical development training courses in the field for its outside contractors and their employees which focus on the application of new technologies, safety practices and best management practices.

- purchasing at least 50% of its crop inputs (seed, fertilizer and crop chemicals) from local distributors in order to support local businesses and develop good relationships with the local business communities.

74. Improved local infrastructure by:

- erecting or mending new and existing fences;
- building housing for employees in Brazil where national legislation requires temporary housing and feeding of seasonal workers and
- investing over USD 6 million in infrastructure projects and equipment.

75. Increased productivity and crop output in the regions in which the fund operates by:

- leveraging precision ag practices (no-till farming, crop rotation and efficient fertilization) to:
  - increase the efficient use of resources and reduce operating costs;
  - reduce soil erosion;
  - enhance micro-biological activity of the soil and
  - reduce the application of inputs post-harvest.
- using the net increase in cash return that can be sustainably generated on each hectare of land in operation from the point at which Calyx Agro assumes management of the land as the primary metric to track its performance in meeting its environmental and efficiency goals;
- setting a goal of producing 1 million MT of grains and oilseeds in the next 5 years, increasing from 400 000 tons currently;
- switching land use from grazing to intensive crop production and/or mixed use through application of its land transformation strategy and
- introducing the production of new (higher ROCE) crops. Including sugar cane, cotton, rice and possibly fruits in the near future.

76. Set standards of performance for other farm operations in its countries of operation in terms of:

- ensuring transparency on land transfers (freeholds acquired and leases - short-term and long-term) through its specialized legal team from LDC that is equipped to handle these issues within South America;
- complying with all national and local environmental legislation and ensuring protection of land reserves;
- raising the bar on all local operators by ensuring strict tax compliance;
- making adherence to local laws and good business ethics an integral part of the company's code of conduct and

- developing long-terms relations with local, regional/provincial and national governments as well as relevant multilateral funding organizations such as the IFC, NGOs and industry trade organizations.

77. To quote Calyx Agro's management, "We introduce professionalism and formality in situations where informality has been the norm."

78. An example of Calyx's success in its value creation strategy is a farm it acquired in Uruguay in May 007. Within a four-month period, by application of Calyx Agro's land transformation strategy, the productive agricultural area on the farm increased from 40 ha to 1 280 ha while the EBITDA (earnings before income tax and depreciation, or free cash flow) per hectare increased by a factor of 3.4x.

79. Calyx Agro sold the farm in October 2008 realizing a 2.0x return on the initial investment within a 16-month period.

80. Another farm acquired in Uruguay in June 2007 was sold in January 2009, generating a 2.2x return on the initial equity investment in the property.

81. The buyers who acquire land parcels from Calyx Agro include a mix of growers (30%) who purchase the land to operate it directly, investors (50%) interested in ownership of the land so that they can benefit from future appreciation of the land (and in a majority of cases leasing the land back to Calyx Agro) and institutional investors (20%) who operate the land under their own business model.

Calyx Agro among other agricultural investment vehicles

82. Calyx Agro believes that its structure as a privately held company provides it with greater flexibility in the management/disposition of its portfolio of land assets compared to funds which are compelled to seek liquidity to match their typical life cycle of 8-10 years.

Company: Cazenave y Asociados S.A.

Business model:
Large-scale agricultural production services

Assets under Management:
USD 120 million

Land under Management:
220,000 hectares (farmland leasing and grain origination)

Operating in:
Argentina as well as consulting in Angola, Brazil and Colombia

Primary Investors:
large institutional investors, Glencore, Dow AgroSciences, Sojitz Corporation, hedge funds, FAID 2015* and wealthy private investors

Background

83. Founded in 1969, Cazenave y Asociados, S.A, ("Cazenave") is one of the leading large-scale managers of agricultural land in South America. Cazenave's principal business entails managing 220 000 ha of land in Argentina leased from more than 250 land owners. Cazanave's business is organized into two divisions: farmland leasing and grain origination.

84. Cazenave sources capital to finance its leases and working capital needs from:

- Listed Trusts (Buenos Aires Stock Exchange): Cazenave issues securities in listed trusts in Argentina. Such securities are typically subscribed by institutional investors and high net worth individuals. Currently, there is one outstanding trust, FAID 2015, with a total of 20 000 ha under management.

- Managed accounts for clients including hedge funds, Sojitz Corporation and Glencore (the multinational commodities trading firm). The Company currently manages 74 500 ha in this business model.

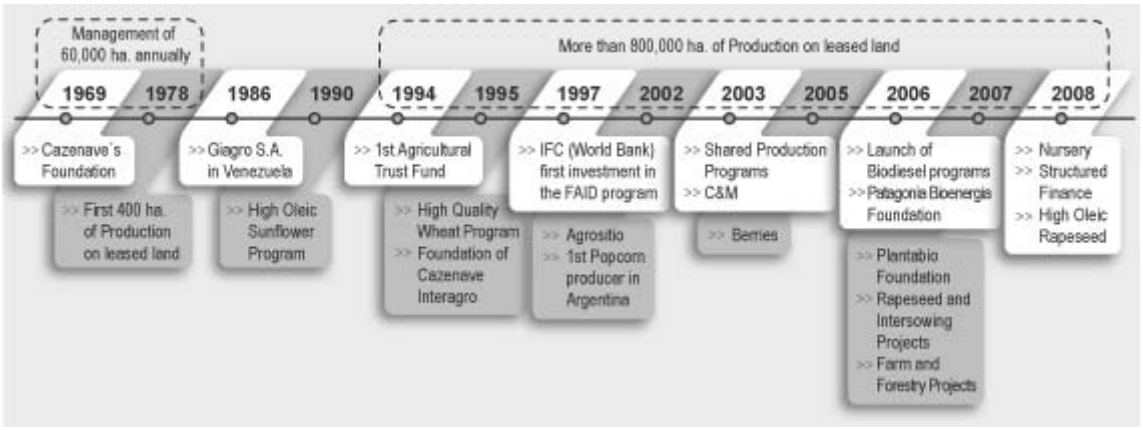
- Direct clients, such as Dow AgroSciences and Molinos Rio de la Plata (formerly part of the Bunge group) for whom Cazenave manages direct investments where the clients purchase the resulting agricultural production. Over 125 000 hectares are managed for such clients.

85. Cazenave's revenue model involves a management fee and a participation in profits through different structures of performance fees.

Evolution of Cazenave's business

86. The following timeline (see Figure 10) illustrates Cazenave's evolution since it was established in 1969.

Figure 10. Cazanave timeline



87. Starting with production of 400 hectares of sunflower on leased farmland in the province of Buenos Aires Province in 1969, the number of hectares Cazenave manages has grown to a cumulative total of more than 800,000 hectares over the last 15 years and has produced about 2.15 million MT of different commodities and specialty crops.

88. Cazenave was the first company in Argentina to create listed trusts in the Buenos Aires Stock Exchange in 1994. It has listed 10 trusts for a cumulative amount raised of USD 239 million and 835 830 cumulative hectares under management. In the past, the IFC was an investor in these trusts. For all the funds, audited annual average net returns of 14.5% were realized for the period encompassing crop years 2000/2001 to 2007/2008.

- 1994 – After launching the First Agricultural Public Fund following the issuance of the law that approved Trust Issuance in Argentina, Cazenave has raised USD 202 million from large institutional investors and other investors. It is currently beginning the second campaign of the tenth Pluriannual Public Fund.

- 1986 - Cazenave was hired by Continental Grain to produce and harvest sunflower seeds in Venezuela where is founded Giagro S.A., a sunflower production company. Over the years, Cazenave has also generated several other start-up companies in the agro-Industrial sector.

- 1990s - Cazenave founded Cazenave-Interagro, a leading Argentine producer of olives and olive oil in the Province of San Juan. Through this entity, Cazenave established the main nursery in olive production in San Juan which provides innovative genetic for olive production in Argentina.

- 2002 - During the internet boom, Cazenave developed in partnership with other entities, Agrositio, the leading Argentine online-site serving the agribusiness sector.

- 2003 - Cazenave created C&M, a company that provides services in the collection of extended royalties for licensed varieties of soybean and wheat in Argentina.

- 2005 - Cazenave led projects in the production of berries using high technology on 80 hectares of land located in the province of Tucuman held in private trust for which Cazenave is the administrator and trustee. The berry production is processed and exported to the EU certified under the rules of GLOBALGAP (formerly known as EurepGAP (Good Agricultural Practices).

- 2006 - In partnership with another company, Cazenave developed and raised capital for Patagonia Bioenergia S.A., a biodiesel producer that seeks to be a leader in the Argentine market.

Legal structure

89. Cazenave is managed as a partnership of the primary principals of the firm.

Management team

90. Cazenave is owned by eleven senior partners, each with 12 to 40 years of experience in managing agricultural businesses, including serving as president of one of the major oilseed producer trade associations in Argentina, stints working in the Argentine Ministry of Agriculture, renewable energy project and capital raising activities with international investment banks. The Company is managed by a 5-person executive committee.

Employees

91. Cazanave has 81 employees, 38 in the technical area and 43 in the administration area. Cazenave's middle management team is comprised of 30 agronomic engineers among its staff, each with an average of 15 years of experience in the business. Many of its activities in Argentina are outsourced to third parties. Cazanave manages an extensive network comprising:

- more than 250 land owners;

- more than 50 labour, crop maintenance and harvest contractors;

- a comprehensive logistic network handling more than 300,000 ton and 12,000 trucks per year;

- handling a complete package of inputs(seed, chemicals and fertilizers) for crop production and

- scale commercialization, handling and processing of crops with leading exporters and oilseed crushers including Bunge, Cargill, Louis Dreyfus and Glencore.

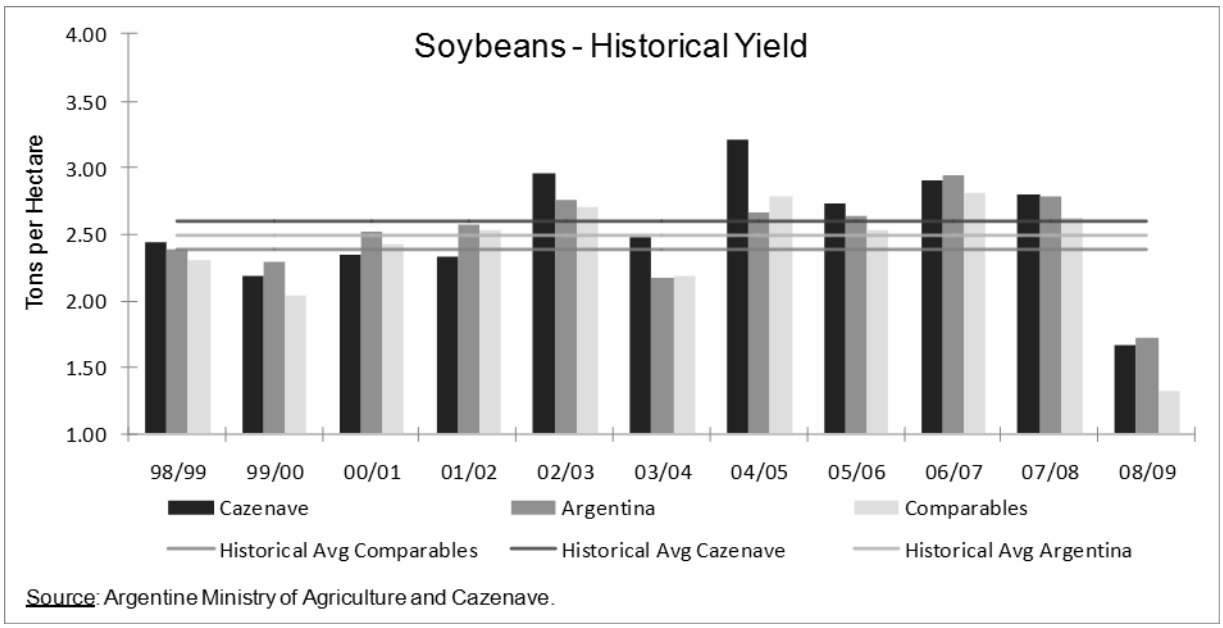
Listed trusts (Buenos Aires stock exchange)

92. Cazenave has been managing publicly listed trust since 1994 under the two brand names, FAID and Fideiagro. On May 2011, Cazanave successfully launched the newly FAID 2015 encompassing 20,000 hectares. Audited revenues and production have grown consistently grown since 1994, reaching in 2008/2009 a total estimated production of 233 000 tons and revenues for US$ 61 million in 2008/2009. From 1994 to 2008 the increase in production was 8.3% (CAGR), 12.3% (CAGR) for revenues and 5.8%

(CAGR) for planted acreage. This illustrates that production growth was due not only to growth in planted area but more importantly to the application of new technologies, efficient management and leveraging of best practices through research and development and associations with leading companies in the agribusiness sector.

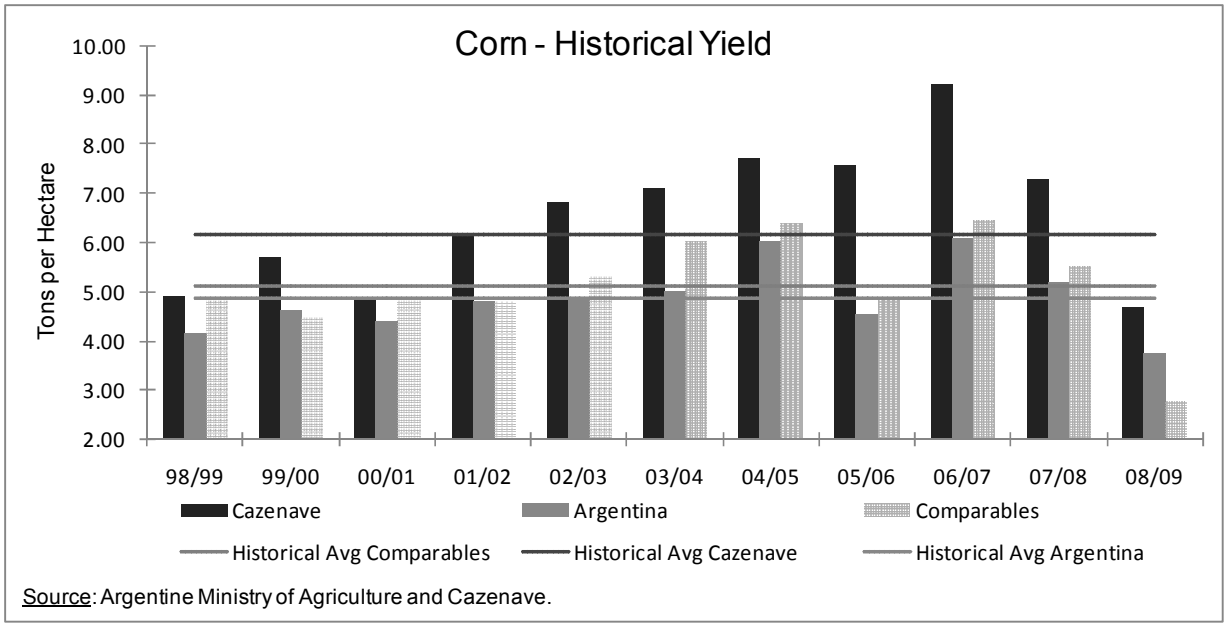
93. Soybeans have been the predominant crop produced on land managed in the listed trusts since crop year 2000/2001 when Cazenave adopted the use of transgenic seeds. Since then and through 2008/2009, the trusts recorded a 14.2% net return in USD per annum. This return is net of fees and taxes, except for any income tax ultimately due by the investor. During the Argentine Debt default of 2001-2002, the trusts registered a net return of 22.2% in USD. Cazanave's management is proud of its performance in terms of crop yields, consistently outperforming its peers in Argentina during the last 10 years, with soybean yields 9.0% above peers(see Figure 11) , and corn yields 20.2%(see Figure 12) above peers.

Figure 11. Comparison of soybean yields



Source: Argentine Ministry of Agriculture and Cazenave.

Figure 12. Comparison of corn yields

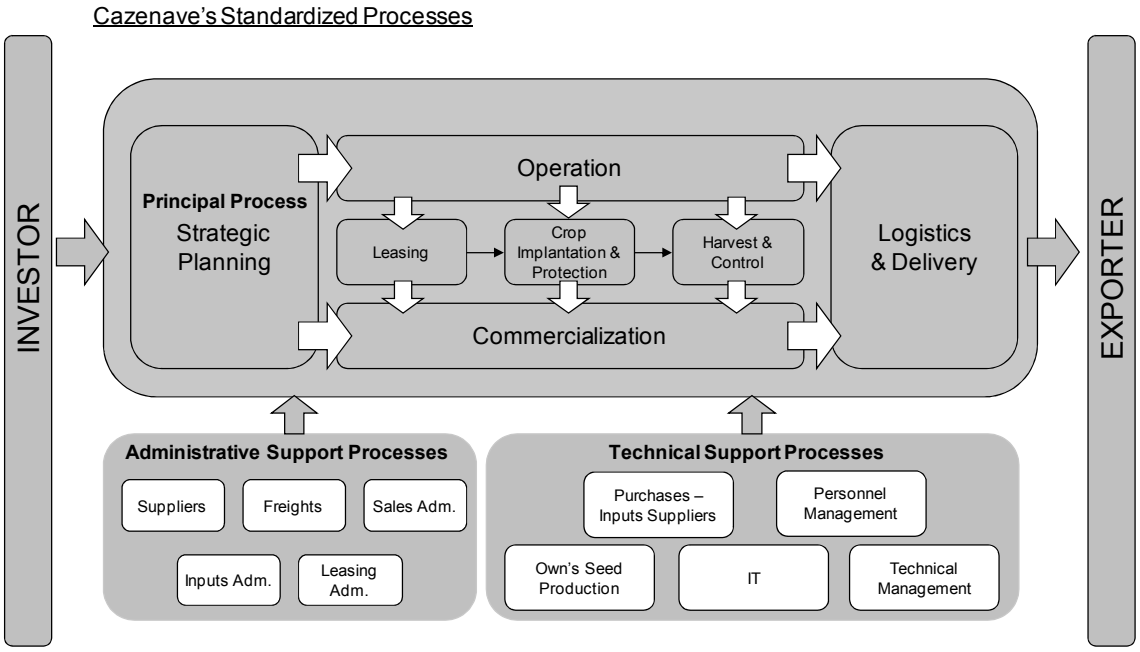


Source: Argentine Ministry of Agriculture and Cazenave.

94. Cazenave has a track-record of being an early adopter of new technology, including: first company to adopt no-till farming in Argentina in 1976, which reduced production costs and increased soil preservation; early adopter of transgenic soybeans, which gave it an advantage in crop yields; and one of the first operators to introduce storage silo bags to South-America in 2001, which enabled producers to control the timing of their crop sales. Cazenave has also maintained long-standing relationships with technology companies such as Monsanto and Syngenta in order to keep up-to-date in technology and specialized knowledge.

95. Cazanave's management processes are standardized and audited internally. Detailed operation manuals define the latest best-practices of the industry and ensure that staff is trained to work in a standardized manner with a culture of real-time communication and transparency that makes efficient management of their large-scale operation possible. An in-house ERP software solution tracks all of the activities of each property under management (see Figure 13). Cazanave has ISO-9001 certification for its operation processes with regards to the properties it manages for its listed trusts.

Figure 13. Cazanave's standardized internal process



Other activities

96. Since 2007, Cazenave has been actively advising financial institutions, investment funds, government contractors and companies in the acquisition and transformation of land for the production of soybeans and other crops in different countries in South America, providing the following functions: screening and analysis of over 700,000 hectares and identification of priority properties; definition of the organizational structure required for the operation and assistance in hiring necessary staff; providing a project director, a technical advisor and full time engineers to be based in the field; and continued assistance on the development and operation of the properties.

97. Cazenave has also been active in Angola since 2004, advising a variety of clients regarding crop development and food security.

Focus as an agribusiness service company

98. Given the importance of global food production in coming years and the growing trend to separate specialized farmland management from ownership of farmland, Cazanave has defined six core issues on which it intends to focus resources over the next five years in order to capture the growth in agriculture asset class. This involves leveraging Cazenave´s platform and knowledge to expand operations to other countries and continents by:

- becoming more geographically diversified by entering new countries;
- continuing the growth path in the local market in the different segments;
- expanding its client base;.
- continuing to develop technological and business alliances;

- constantly adapting its business model to respond to emerging market trends and
- developing and providing new services not limited to agricultural production.

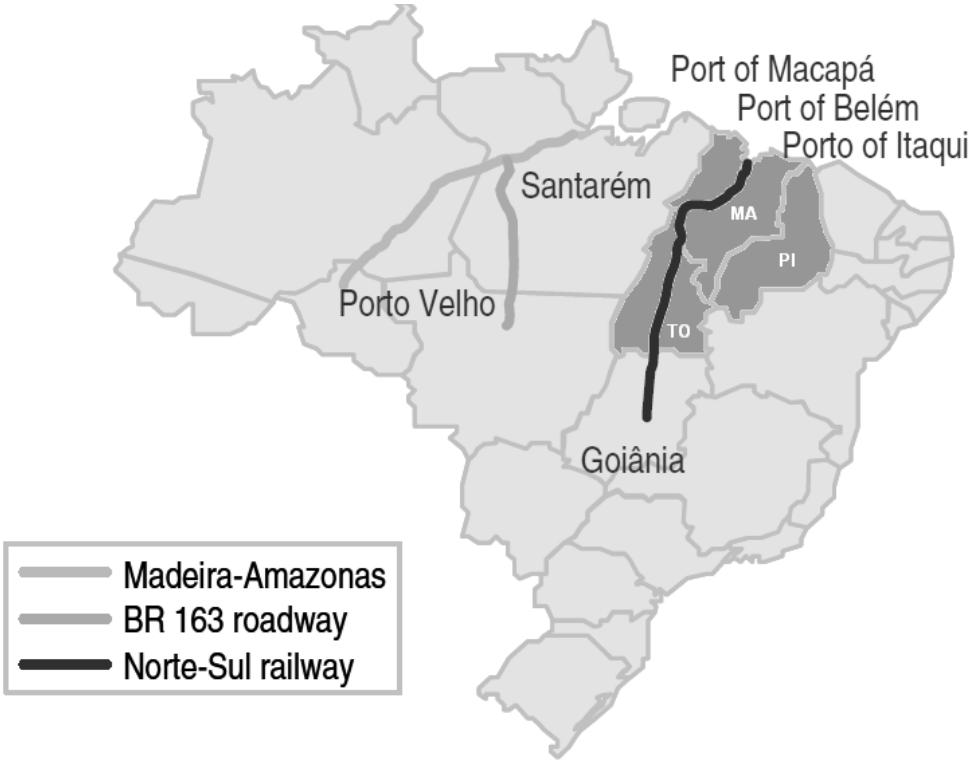
Geographic focus for growth

99. An essential part of Cazenave´s business plan is to diversify and expand its operation activities to emerging agricultural production areas in Brazil and Africa. Brazil especially is recognized as being the largest new frontier for new farmland development in the world.

100. Following a broad review of possible areas for expansion of its production services in Brazil, including areas in the states of Sao Paulo, Mato Grosso, and the Mapito area, Cazenave has decided to focus its efforts on Mapito (the denomination given three states in the North of Brazil: Maranhao, Piaui, and Tocantins). More specifically and as a first step, it plans to center its operation in the city of Palmas in Tocantins and analyze investment opportunities that are located within a 200 kms radius (see Figure 14).

101. Cazenave is currently raising capital to accelerate the execution of its business plan which includes: establishing a production team in Brazil, financing production in Tocantins, acquiring machinery and expanding the footprint of its systems infrastructure.

Figure 14. Cazanave's proposed expansion into the Mapito region

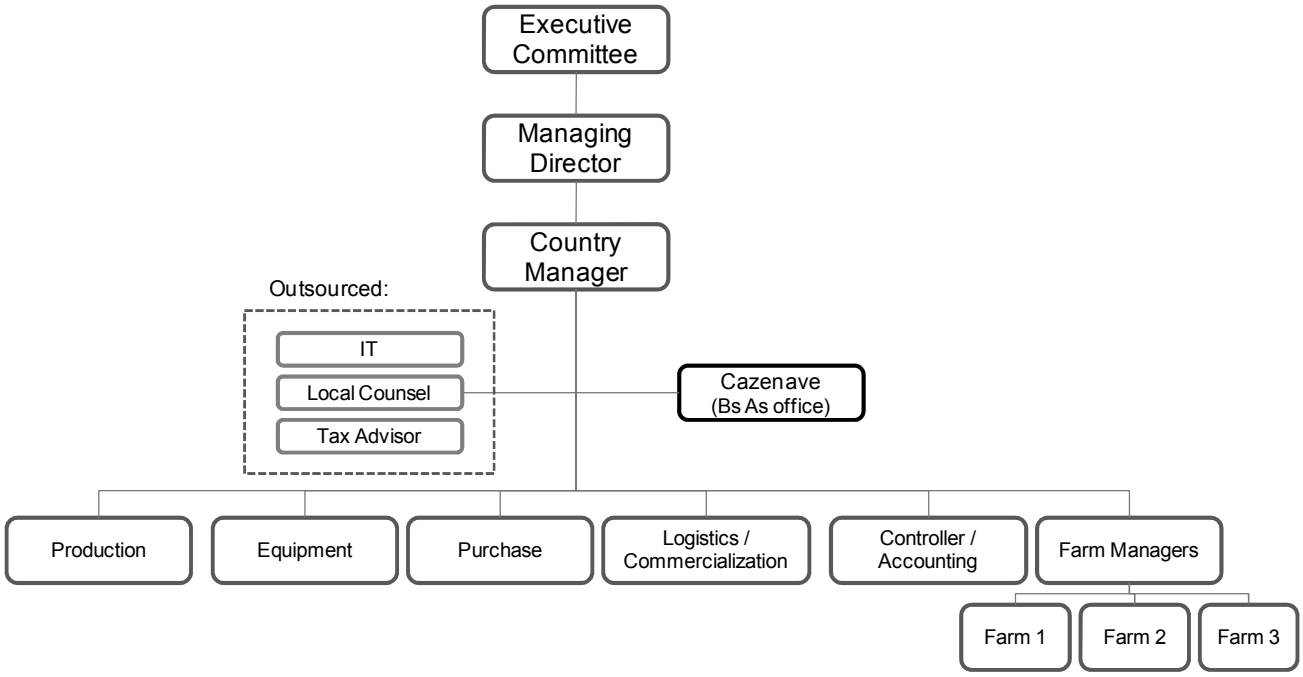


Approach to serving institutional investors

102. A managing director from Cazenave will be put in charge of Brazil, reporting to Cazenave's executive committee, which will have a hands-on, active role in the operation. A country manager will be permanently based in Palmas. The following management positions will report to the country manager: production, equipment, purchase, logistics and commercialization, and controller/accountant. Each

property will be managed by an agricultural engineer. Certain shared functions including IT, local counsel and fiscal matters will be outsourced. Cazenave will provide support for a variety of corporate functions from Buenos Aires in order to ensure that its corporate culture and process guidelines are integrated into the operation. In addition, Cazenave's senior management will have hands-on involvement in all major operational and strategic decisions (see Figure 15).

Figure 15. Proposed organization for expansion of operations into the Mapito region



103. Cazenave has chosen to focus on the area around Palmas due to a number of key factors (see Figure 16 for summary of key criteria):

104. **Low entry price:** The expected entry price is lower than other areas such as Mato Grosso. As Mapito is a new frontier area for agricultural development, farmland prices in the region have not caught up with other states such as Mato Grosso, which are slightly ahead on the development curve. Price is determined according to the expected pro-forma EBITDA yield per hectare.

105. **Relatively favorable logistics**: Distance to ports is approximately half (on average) of that from Mato Grosso. Further improvement in logistics is expected to continue developing.

106. **Potential for similar profitability to that of properties in Mato Grosso:** Projected crop yields are expected to be in line with those achieved in Mato Grosso.

107. **Proximity to an urban center:** It is easier to attract qualified human resources to locations with easy access and close to urban centers. Palmas, founded 20 years ago, has a population of 200 000 and according to State government projections is expected to have a population of 2 million by 2030.

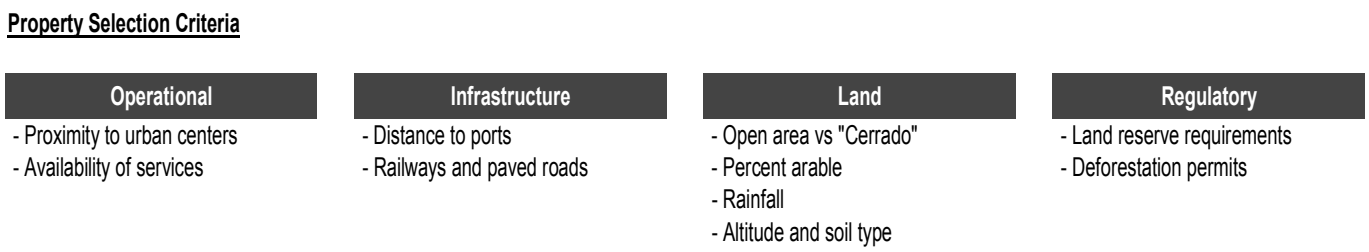
108. Tocantins vs. Maranhao and Piauí: While farms located in Maranhao and Piauí have high agriculture potential in different development stages at attractive prices, they are located in areas which present difficult access for both inputs and shipping out to consumption markets and are located far from urban centers.

109. **Operational synergies and minimum scale:** Cazenave plans to generate positive synergies and economies of scale by creating operational hubs with minimum farm areas of 5 000 ha extending over a 200 km radius.

110. **Diversification of climatic risk:** Cazenave plans to purchase farms located in South and Northwest of Palmas which have uncorrelated rainfall patterns.

111. **Abundance of fresh water:** Tocantins receives abundant rainfall of 1 300 to 2 100 mm per annum with a pronounced rainy season from May to October (ideal for agriculture). In addition, the state is blessed with easily accessible fresh water for irrigation as the state is covered with a dense network of rivers, making it one of the richest in Brazil in terms of water resources.

Figure 16. Summary of property selection criteria



112. Since 2008, Cazenave has evaluated dozens of properties in Mapito comprising 236 500 ha. Based on the selection criteria described above, it has selected six properties as the principal initial acquisition targets for a prospect investor for a total equity investment of approximately USD 90 million with an expected IRR exceeding 30%. This level of investment represents the capital required to take the land to a stage of full development.

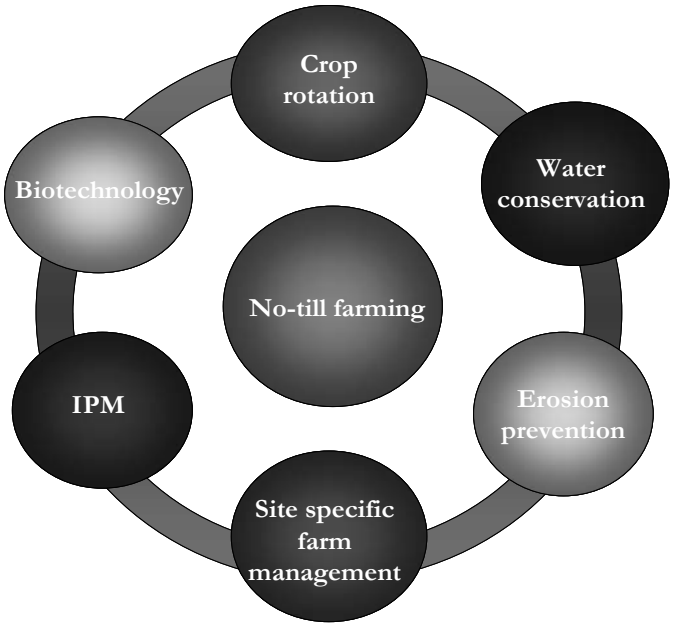
Environmental responsibility

113. Since its founding, Cazenave has always sought to develop its businesses while at the same time supporting and respecting the environment. To that end, Cazanave has developed and adapted state-of the-art technology which has enabled it to be constantly up-to-date with a competitive advantage in the marketplace.

114. Cazenave's operating approach is to not to exploit the land, but rather work with it. It is dedicated to protecting the ecosystems it operates in through the implementation of a sustainable production model. Management is continually investigating new methods aimed at both maintaining and improving the fertility of the soil. Currently its operations are ISO 9001 certified.

115. In the farms its operates, Cazanave employs agricultural techniques such as no-till farming, crop rotations, IPM (integrated plague management), intercropping and site specific technologies, which have proven both environmentally friendly as well as very profitable(see Figure 17).

Figure 17. Cazanave's production technology based on no-till farming



- **No-till farming:** Besides being environmentally friendly, no-till offers the advantages of better soil water conservation and erosion prevention by continually keeping a cover of crop residues. There is also reduced fuel consumption due to the requirement for fewer land preparation operations. The practical benefits of no-till over time come through improved and more stable yields, particularly when accompanied by a suitable rotation of crops. An agricultural production system combining no-till and rotations, including graminaceous crops like corn or wheat, can help achieve a positive carbon balance, effectively contributing to carbon sequestration from the atmosphere.

- **IPM (**integrated plague management): This involves undertaking adequate and rational plague and disease control, applying agrochemicals efficiently by means of threshold management and the use of diverse preventive techniques that make it possible to reduce the minimum requirements for use of these products, favouring the propagation of beneficial fauna and handling the environment in a non-intrusive manner.

- **Double-cropping**. This is the practice of growing two crops on the same parcel of land in one agricultural year. In most areas where Cazanave operates, double-cropping is possible because of the length of the growing season which is determined primarily by the latitude of the farm. This factor determines the amount and variability of sunshine during different periods of the year and the length of the frost-free period.

- **Crop rotation.** This is the practice of growing different crops in sequence on the same land. Crop rotation is intended to prevent the build-up of pests and diseases that can occur when one type of crop is repeatedly grown in sequence and to balance the demands placed on the soil by farming to avoid excessive depletion of soil nutrients. Soybeans, for example, fix nitrogen in the soil, while corn depletes the soil of nitrates. By planting soybeans and corn crops sequentially, the nitrogen balance is easier to maintain, reducing the need for fertilizer and improving fertility. Crop rotation is particularly important in no-till agriculture given the emphasis on natural

processes rather than repeated artificial remediation to increase soil productivity. Cazanave utilizes a variety of crop cycles, based on local climactic and soil conditions to achieve maximum yields.

- **Site specific farm management:** As soil and climatic conditions vary from farm to farm as well as within the confines of each farm, each farm is divided into sectors, each of which shall be analyzed separately for soil characteristics and other factors affecting productivity. Among operational procedures, sites are differentiated by agricultural potential within each farm with technology applied and the crop rotation employed adjusted according to this factor. The practical benefits of this procedure include reduced unit production costs through less "waste" of resources and reduced risk through proper selection of crops most adapted to each site. Precision agriculture is leveraged to treat each lot as a particular environment by using precision agriculture.

116. The accumulation of agrochemical containers (PVC) which has always been a challenge for farm operations as agrochemical residues left in the bottom of containers typically contaminate the soil. Starting in 2001, Cazenave initiated a triple-wash procedure for all containers used on the farms it operated. However, this activity was not sufficient to solve the risk of contamination. At that point Cazenave contacted a company located in Santa Fe Province that had designed and built a recycling truck for plastic containers. This truck recycles every type of plastic container (high and low density polyethylene, PET and PVC) using an extrusion process in which raw plastic material is melted and formed into a continuous profile. The end product is used to produce items such as plastic posts, boards, rods, pipe/tubing, weather stripping, window frames, plastic sheeting, adhesive tape and wire insulation. The posts can be used for fences and have a resistance lightly inferior to those derived from red "quebracho" tree (currently under extinction) but superior than other woods. Additionally, plastic posts do not rot if dampen. Rods for fences and boards for benches or tables are manufactured through this process. For every 30 containers of 20 liters, a plastic post of 2.2 m can be manufactured.

117. Given the benefits of this process, Cazenave began collecting empty agrochemical containers at no charge and persuaded rural communities to collect PET bottles (water and beverage bottles) in an effort to pool sourcing from dense population centres and rural areas including farms for the recycling project. Cazenave organized several group meetings in different cities which were attended by local community organizers and students. The objective was to make communities and farm operators aware of the environmental and economic benefits of recycling through the transformation of new plastic containers into new useful objects and simultaneously promote the prevention and reduction of pollution and a decrease in the accumulation of plastic garbage.

118. As a result of the meetings, a group of women created RECIDUCA, a non-profit organization whose objective is to create awareness amongst low income students of the importance of recycling, preventing pollution, receiving an education and creating employment opportunities. Cazenave supports RECIDUCA's activities and sponsors students who participate in the program.

119. Another example of Cazenave´s commitment to developing sustainable businesses that positively influence the communities in which it operates is the berry production in located in Tucumán Province in the north of Argentina. Cazenave manages a private trust, Berries Del NOA, which produces and exports 420,000 kg of berries to the U.S. and UK annually under the following certifications: GlobalGap (former Eurep-Gap), Fair Trade and Tesco Nature´s Choice.

Fund: Jantzen Development

Manager: Jantzen Development

Assets under Management: EUR 140 million

Land under Management: 17 000 ha

Operating in: Czech Republic, Slovakia and Romania and Slovakia

Primary Investors: High net worth individuals and family offices

Background

120. Jantzen Development is focused on consolidating and developing farmland in countries located in the eastern region of the EU. The company currently has 17,000 ha under management (owned and leased) with operations currently located in the Czech Republic, Slovakia and Romania producing rapeseed, wheat and maize. The company acquires farmland, pursuing a strategy of farmland consolidation; sells farmland to passive investors and enters into a lease agreement to manage the farmland sold or leases the farmland to third-party operators; and finally assists passive investors in farmland to execute exit strategies for their holdings.

Legal structure

121. Jantzen Development is a privately-held limited liability company. It manages both active and passive investments in farmland which are incorporated into a fund structure or into a separate limited liability company structure.

Management team

122. Jantzen Development's management team is comprised of its CEO and founder who has a background in Danish agriculture, having served as CEO of several Danish agribusinesses before establishing Jantzen Development in 1997 after working for more than 10 years on the development, establishment and operation of farmland investment projects in the Czech Republic, Slovakia and Romania. Previously he was the CEO of several companies in the agricultural industry, including a major listed company within the pig industry. He has owned and operated a major pig and crop production in Denmark for more than 20 years. He has overall responsibility for the activities of Jantzen Development and focuses on investor relations, development of new projects and the Group's activities in general. His is complemented by professionals with substantial experience working as senior executives of major companies in the Scandinavian agricultural sector, public accounting as well investment banking activities with regional banks. In addition, professionals based in Slovakia and Romania with experience in

government and the privatized agricultural sectors in these markets are responsible for managing local investment projects.

123. Jantzen Development's Supervisory Board is comprised of individuals associated with regional law firms, real estate development companies, regional banks, investment funds and European agricultural and food trade associations.

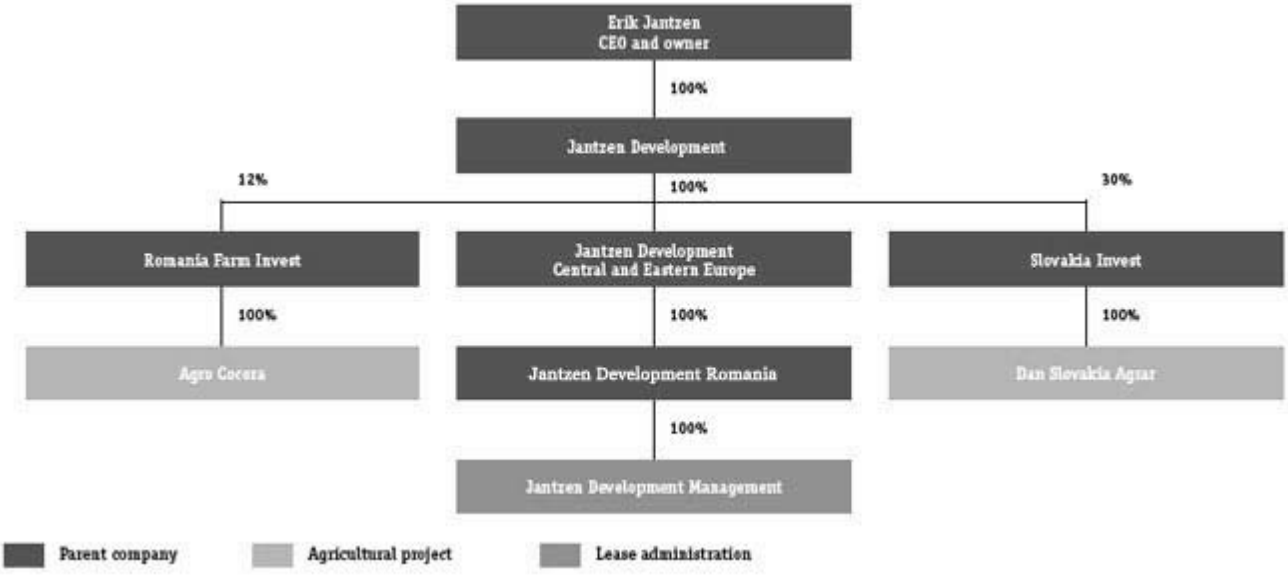
Primary investors

124. Initially, fundraising activities have focused on pension funds, endowments and foundations based in Europe and high net worth Individuals and family offices based primarily in Scandinavia. However, the company is currently in the process of closing its first institutional fund with a target of EUR 100 million.

Corporate organizational structure

125. Jantzen's Development's corporate organization is illustrated in Figure 18.

Figure 18. Jantzen Development's corporate organization



Business model

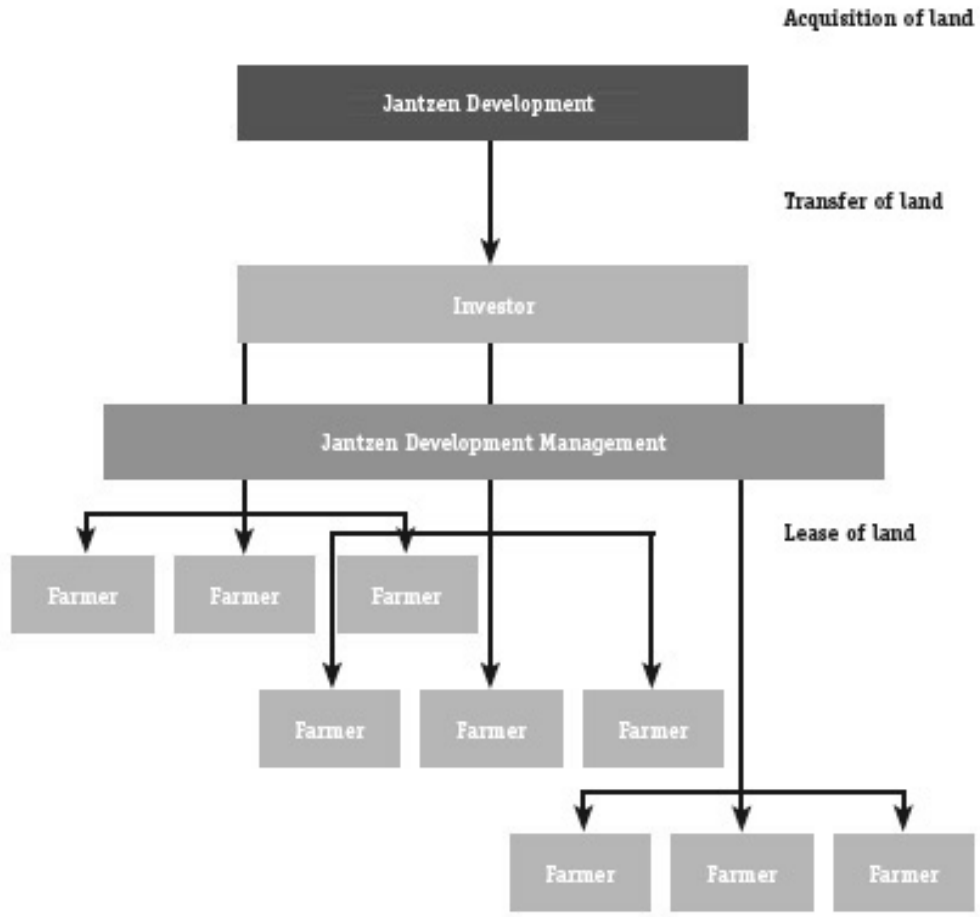
126. Jantzen Development is focused on two separate business models:

1. Acquiring land and investing in farming operations using its own financial and management resources. The company employs a total of 270 people to manage and operate its assets.

2. Consolidating and developing farmland with a focus on expanding crop production. The land acquired and managed is predominantly held as a passive investment by investors together with institutional investors. The company employees 25 individuals who are engaged in this activity.

127. A schematic overview of Jantzen Develoment's investment activities (see Figure 19).

Figure 19. Farmland investment process



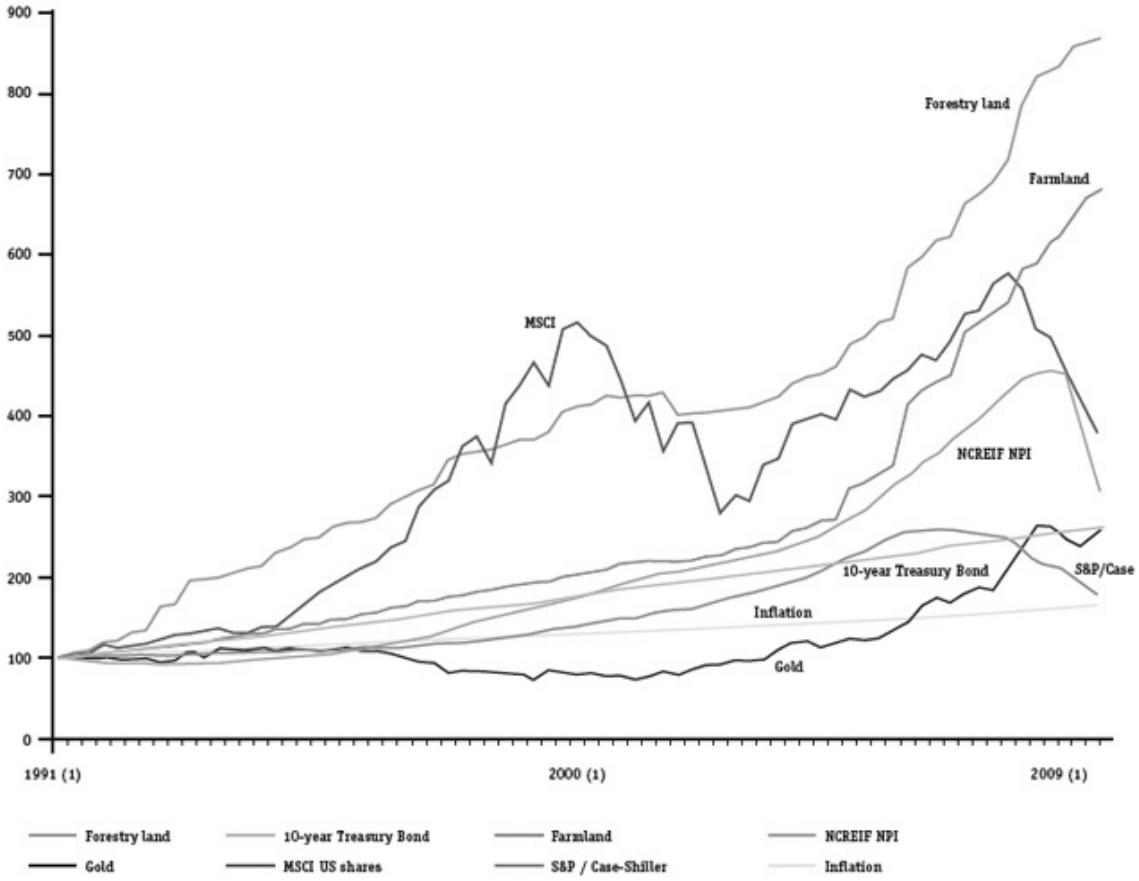
Expected returns

128. In the EU, producers receive direct support for each hectare cultivated. Support under EU's Common Agricultural Policy is paid to the producer cultivating the land and not to the landowner, even in situations where the landowner leases the land to the producer. In general, producers in Romania and Slovakia are willing to lease the land at an amount equivalent to the direct payments received under EU support schemes. The long-term increase in farmland value therefore goes to the landowner, who bears the financial risk.

129. The investor leases the land to a producer. As the producer does not have to achieve a return on the land investment, he is willing to pay a significant portion of the profit from operating activities to the landowner as lease rental. By entering into 5 to 10-year lease agreements, the producer is assured access to the same economies of scale as ownership of the land would provide.

130. A comparison of the annual returns for a number of asset classes (see Figure 20) shows that the accumulated increase in the value of farmland is higher than for the remaining asset classes except forestry land. Furthermore, the characteristic features of farmland as an inflation-proof asset make it attractive for investors who wish to reduce the inflationary risk of their portfolios.

Figure 20. Comparison of returns for various asset classes



131. The company targets a real return on its investments of 10 - 12% IRR.

Arbitrage opportunity in the eastern EU

132. Jantzen Development believes that investment opportunities in the agricultural sector in the eastern EU are particularly attractive for the following reasons:

- The region is undergoing considerable and positive developments, following accession of these countries to the EU and the opening up of markets.
- Adaption of legislation in the region to EU standards facilitates the entry and exit of foreign capital.
- Opportunities are being created to benefit from modernization and restructuring of the local infrastructure.
- Opportunities exist to invest in the agricultural production sector at an early stage and benefit from implementation of best practices in operations.
- Comparatively high soil quality coupled with lower land prices compared to farmland in Western Europe.

- Strong tradition of livestock production and mixed farming supported by developed distribution channels and transportation logistics.

- Well-educated and capable work force which can be hired at a significantly lower cost than their counterparts in Western Europe.

- Expectation that land values in the region will converge over the long-term with those in Western Europe which will result in appreciation in land values.

133. In addition, the EU is set to subsidize up to 50% of new investments in the agricultural sector over the next 5-8 years in the countries where Jantzen Development operates. These subsidies are available to foreign investors.

Investment process

134. Jantzen Development's due diligence process is focused on analyzing soil quality, weather conditions and access to infrastructure. All agro-related due diligence is undertaken initially at the local level with the company's internal specialists. Once an area has been identified as being attractive for investment, the company will engage third-party advisors to prepare a final due diligence report.

135. Jantzen Development's management characterizes its competitive edge in the market place as being based on knowledge, relationships and action which they refer to as "Know-how", "Know-who" and "Know-now".

Figure 21. Operating philosophy

Operational challenges

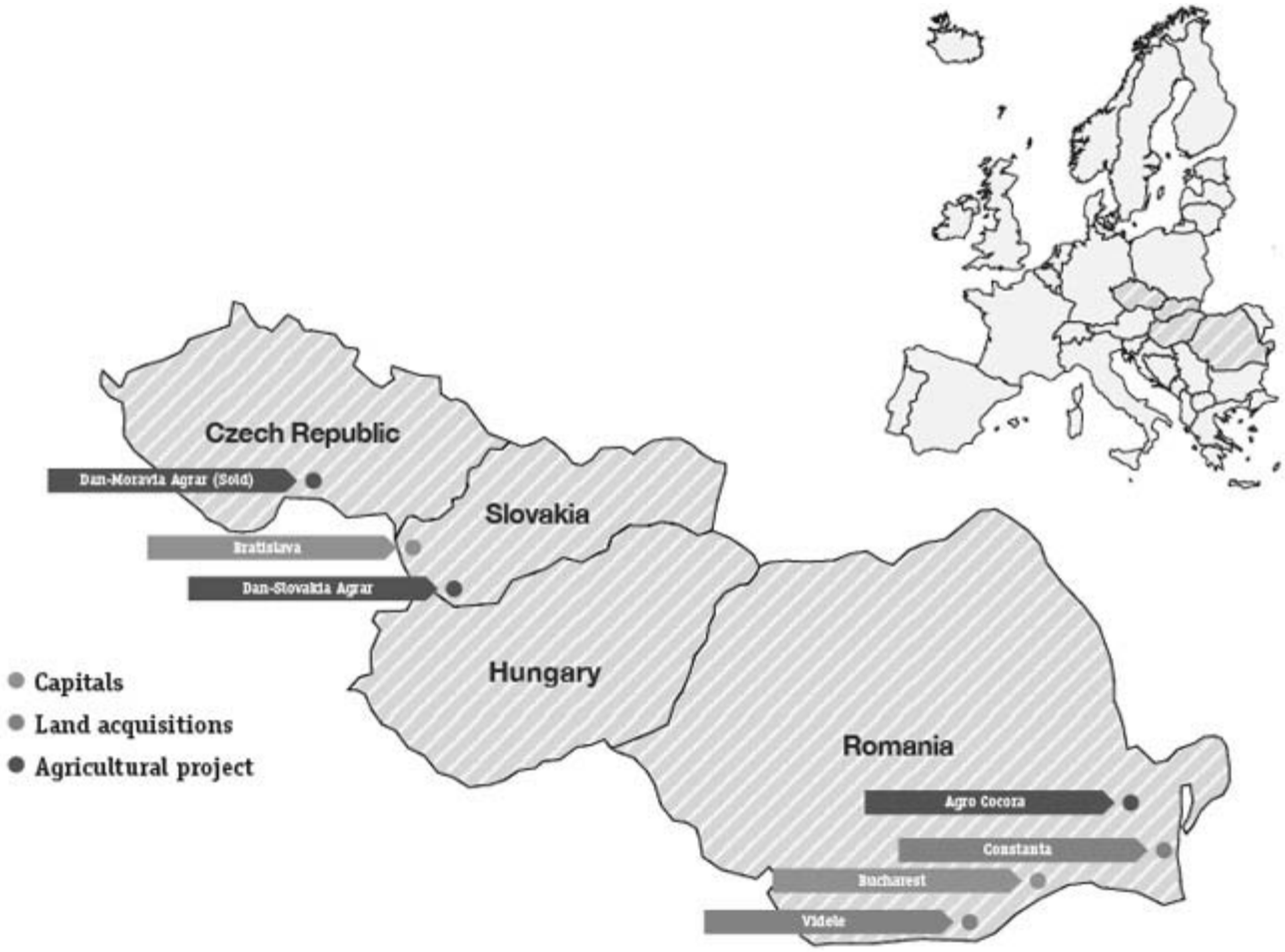
136. Across the eastern region of the EU where Jantzen Development focuses its operations, the most challenging issues it confronts include legal issues over land titles and a highly fragmented ownership structure. Jantzen Development's management is focused on achieving scalability on both the land company it operates itself as well as land where operations are outsourced in order to secure economies of scale.

137. The company is committed to employing the latest technology available throughout its operations. Best practices are being implemented in all operations and are benchmarked to local operations as well as best-in-class operators in Western Europe.

Operations

138. Jantzen Development's land management and farm management operations are located in the Czech Republic, Slovakia and Romania (see Figure 22).

Figure 22. Map of Jantzen Developments farm operations



Effect on local communities

139. Jantzen Development creates local job opportunities for local communities where it invests in its operations as well as through its investment in improvements in the local infrastructure.

140. The company operates a web-based training program for different employees and offers the opportunity on a rotational basis to certain employees to attend agricultural education in Denmark.

Czech Republic

141. Dan-Moravia Agrar was established by Erik Jantzen and three other partners as a Greenfield farm project in the Czech Republic in 1998. Erik Jantzen developed the farming operations and was responsible for overall management of the project. The company operated more than 1 200 ha of land as part of an integrated poultry operation which produced 2 million broilers a year. When Erik Jantzen sold his 40% share of the operation in 2005, a total of EUR 12 million had been invested in the project, part of which was financed by Citibank, Nordea and the Investment Fund for Central and Eastern Europe (a Danish venture fund).

Slovakia

142. In 2001, Erik Jantzen and a partner assumed control of Dan-Slovakia Agrar, a former communist state farm originally established in 1949. They undertook a thorough renovation of the farm in order to bring it up to Western European standards. Dan-Slovakia Agrar specializes in hog (75 000 head slaughtered per year), dairy (15 million litres of milk per year) and crop production (4 200 ha of land) employing a local staff of 170.

143. Dan-Slovakia Agrar a.s. is located in Velky Meder in the south of Slovakia only 10 km from the Hungarian border. The town of Veľký Meder (10 000 inhabitants) is located in the Dunajská Streda District, Trnava Region. Because the town is situated not far from the Hungarian border, Hungarians are the dominant ethnic group in the region (84.6 %), outnumbering ethnic Slovaks (13.5 %), and the common language in the region is Hungarian.

144. The history of the farm dates back to 1949 when the state established Statny Majetok sp. Calovo. During the communist era, the farm was one of the largest agricultural companies in Czechoslovakia, with 7 450 ha of land under cultivation, 2 350 milking cows and 3 100 sows for the production of pork meat. Ten main farms, together with a range of smaller units, were included in Statny Majetok sp. Calovo and 1 200 people were employed by the company.

145. In 1996, the old state company was privatized with one of the creditors and the employees becoming shareholders. The company changed its name to VM Agromed a.s. In order to be able to exploit some of the assets held by the original company, a second company was established under the name

146. Farma VM a.s. to which assets were transferred including 2 500 ha of rented land and 1 000 dairy cows. On September 11, 2001 Slovakia Invest A/S bought Farma VM a.s. and changed its name to Dan-Slovakia Agrar a.s. The main farm is Novy Dvor where milk production, the equipment Park and administration are located. In 2001, Dan-Slovakia Agrar bought three empty pigs farms (Nagy Dur, Vrbina and Dolny Stal) from VM Agromed a.s. These pig farms were rebuilt in 2002 and today are the operation's primary centers for pig production.

147. Today, Dan-Slovakia Agrar a.s. is the largest producer of pigs in Slovakia. The genetic stock of the 3 000 sows is mainly of Danish origin and production is based on the multi-site operating principal where sows, weaned piglets and fatteners are located on separate farms. The farms were totally rebuilt in 2002 to incorporate modern production technology. The staff working in pig production now totals 30 people, all of them Slovak or Hungarian nationals. A majority of the pigs, which are recognized for their consistently excellent meat quality, are sold into the Slovak market and periodically are exported to other markets in the EU. Compound feed for the pigs is produced at the farm's own feed-mill situated at Babolna in Velky Meder where five employees oversee feed production and storage of feed grains and other feed ingredients.

148. Dan-Slovakia Agrar a.s. is the highest yielding dairy production unit in Slovakia. The herd contains today over 1 300 milking cows of the breed Slovak Holstein. In 2006 the average production was 10 937 kg of milk per year cow. The farm also has the highest yielding cow in Slovak history (17 334 kg/year) with an average content of the milk at 3.7% fat and 3.3% protein.

149. Since 2003, Dan-Slovakia Agrar has made substantial yearly investments in the upgrade of the production facilities. Today the entire production plant employs the latest technology with a new milking parlor (Boumatic Express Way 2 x 24), newly reconstructed stables with individual cow beds with rubber mattresses, self-cleaning floors and a self-propelled feeding wagon (RMH) The dairy operations is managed by a local staff of 30 Slovaks/Hungarians with the milk production sold to a Slovak dairy.

150. The farm operation includes 3 700 ha which surround the livestock production units. Crop rotation is based on cash crops which include maize, wheat, barley and rapeseed and silage for the dairy herd (maize, grass and lucerne). The land is managed on the basis of rotation and use of minimal tillage (limited to tillage every second or third year) which facilitates control of pests and diseases. In addition to crop production, the farm's plant division is also responsible for handling waste from the animal production under rigorous environmental regulations. Slurry and manure is applied on the fields using EU-recognized Best Available Techniques. The staff working in the plant division (including workshop and transport) totals 35 and is comprised of local inhabitants.

151. Since the operation was established, EUR 47 million, financed by Nordea, UniCredit and the Slovakian Government - the first agricultural project in Slovakia financed by the government - has been invested in the project. Erik Jantzen was responsible for developing the project and served as the company's CEO for its first four years of operation and continues to serve as a member of the senior management team.

152. Today, Dan-Slovakia Agrar is one of if not the largest and most profitable farms in Slovakia. Jantzen Development continues to own 30% of the farm with the remaining 70% is held by three investors.

Romania

153. Jantzen Development has been involved in three projects in Romania.

154. In 2007-08 Jantzen Develoment acquired and resold 3 500 hectares of farmland in Videle in the southern part of Romania to a group of Danish investors. Currently the investors operate the land on their own.

155. Beginning in 2007, Jantzen Development began to assemble four parcels of farmland comprising 2,300 hectares of farmland located in the region around Constanta in the south-eastern region of Romania. The farmland was acquired by Jantzen Development and then resold to four investors who seeking to benefit from current lease income and eventually appreciation in the land's value. Jantzen Development has subsequently handled the administration of leases for these investors.

156. Agro Cocora is the most recent farm project Jantzen Development has completed in Romania (2008-10). The project, which is located in southeastern Romania, is comprised of 6 000 ha and is focused on the production of wheat, rapeseed, sunflower seed and corn. This Greenfield project, which was completed at the end of 2010, is an ultramodern facility. The total investment was EUR 52 million. The project was sold to a group of 75 investors and the long term financing was provided by UniCredit. Jantzen Development is operating the farm under a 5-year administration and management agreement.

Company: NFD Agro Ltd.
Assets under Management:
USD 90 million (75 million in equity and 15 mm in debt)
Land under Management: 34 300 ha
Operating in: Paraguay
Primary Investors: world-class institutional investors(including the IFC) and wealthy private investors(including "friends and family")

Background

157. NFD Agro ("NFD Agro") aspires to become a leading player in agribusiness applying a unique sustainable model that "unlocks value" in under-developed regions of South America.

158. The business was launched first in 2005 in Paraguay, and since then NFD (through its local Subsidiary DAP – Desarrollo Agrícola del Paraguay) has successfully developed and positioned a unique model for sustainable development in rural areas, applying a triple-bottom-line approach: economic-social-environmental.

159. The principals of NFD Agro believe that they have developed a business model with proven capacity to "unlock value" by solving social problems in poor and under-developed regions of South America; social development eliminates potential risks in socially conflictive rural areas and acts as a "value enabler". The operations have also incorporated international benchmarks in the environmental approach and practices, leveraging world-class management and capital with a unique local approach.

160. In addition, the sponsors believe that they have a unique opportunity to generate above average returns by acquiring, developing and operating highly productive and under-developed land previously used for extensive cattle grazing activities (*land conversion*). Their initial focus is on Paraguay which offers the opportunity to acquire productive farmland at below market values due to the country's lagging risk perception amongst institutional investors (with the opportunity to generate higher than average returns on land appreciation values once the market discounts the unjustified risk premium associated with Paraguay: *country arbitrage*).

History

161. NF Developers (the management company and sponsor of the project based outside Paraguay that launched NFD Agro) was established in 2005 to raise capital to be used to develop large-scale agricultural operations in Paraguay in collaboration with local partners using a triple bottom-line approach (social, environmental and economic).

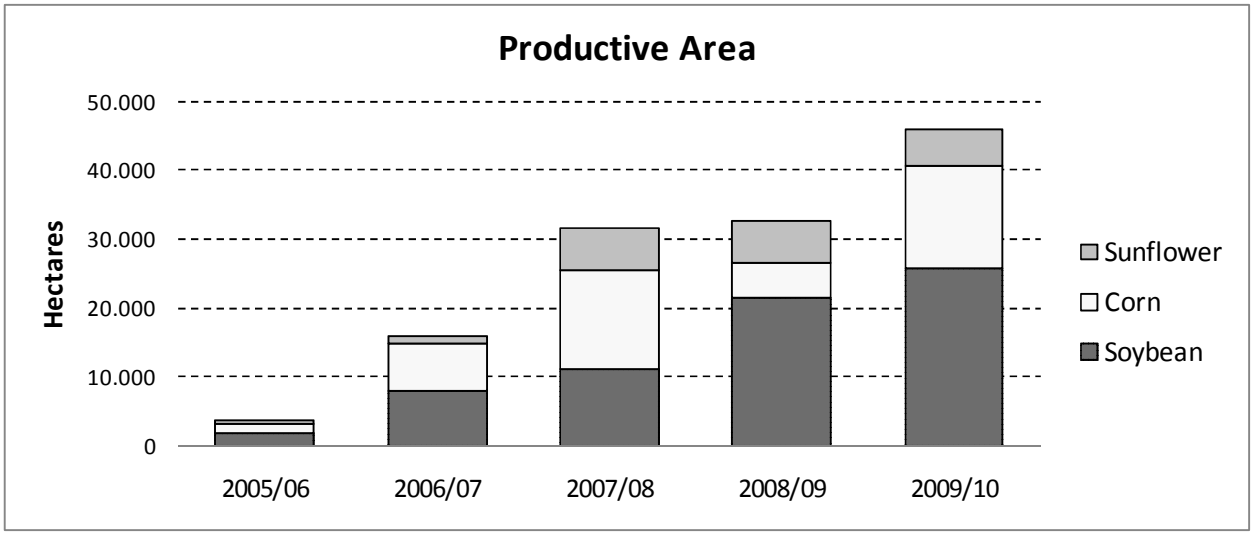
162. To launch the project, NF Developers joined forces with a local sponsor - Consorcio Inversor Paraguayo ("CIP") which had been established by a group of Paraguayan businessmen who had noticed that while the country had not produced any noticeable growth over the previous two decades, there were important development opportunities in the agro-industrial sector. This realization led them to participate in the development and implementation of a business plan which would integrate the best in Paraguayan entrepreneurship with the international experience and know-how of foreign professionals from the industry and investors who understand the business opportunities available in Paraguay today.

163. During phase I starting in 2005, USD 25 MM in equity was invested through the local subsidiaries. In phase II, USD 50 MM in additional equity was raised to expand farmland under management. Phase III will focus on raising an additional USD 100 MM in equity to take advantage of attractive investment opportunities in Paraguay and other underdeveloped regions in South America.

164. When DAP opened its administrative offices in Asunción in November 2005, it proceeded to acquire farmland. It now owns seven different properties (26 200 ha) managed in four production modules and leases 8,100 hectares located on 15 separate farms for a total of 34 300 ha under management. (Location of farms shown in the map on Figure 23 below). Currently, 21 000 thousand ha are under production, and more than 40,000 hectares are sowed per year using a double-crop system (i.e. two crops per year). (See production area in Figure 23).

Figure 23. Location of DAPs' farm operations

Figure 24. Productive area



Business model highlights

165. NFD Agro has created a unique business platform for sustainable development. The key elements of the model include:

- acquisition, development and operation of highly productive and under-developed land in South America;
- triple-bottom-line approach: economical - social - environmental.
  - proven capacity to "unlock value" in underdeveloped regions by solving social problems; social development is also "value enabler".
  - international benchmark in environmental approach and practices and
- world-class management and processes to engage international capital and a local approach to ensure successful implementation (i.e. a unique investment vehicle in agribusiness).

166. NFD Agro's primary activities (through its local subsidiary DAP) include land transformation and development as well as the production and commercialization of soybeans, corn, and sunflower using a double-crop system.

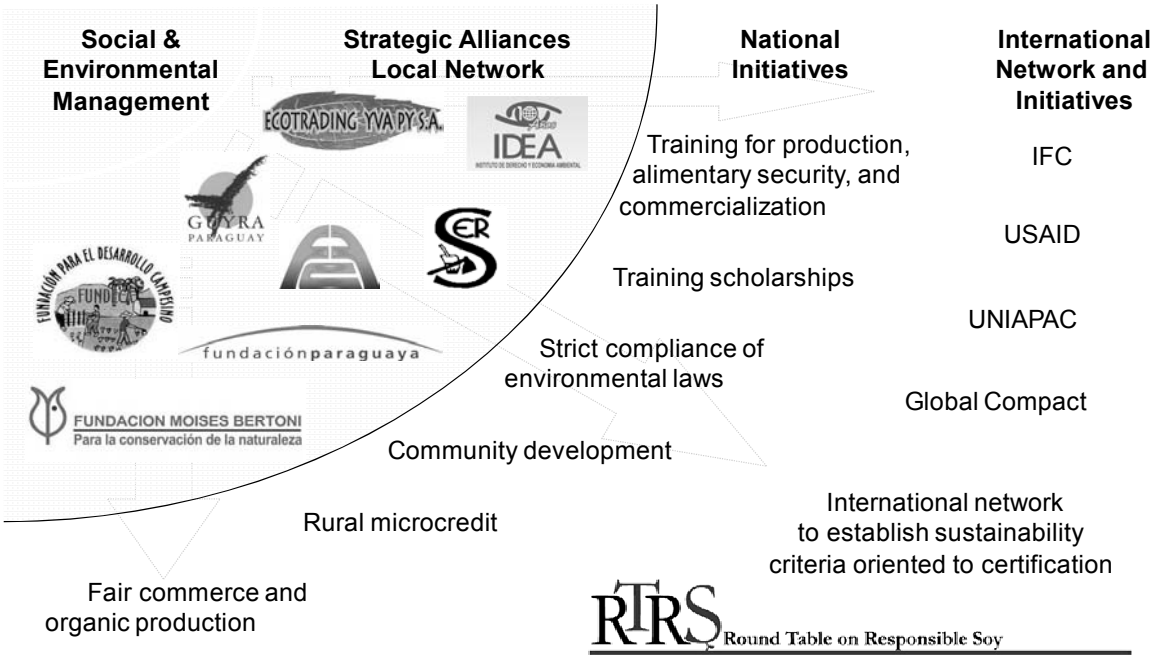
167. It has also been very careful to ensure total compliance with Paraguayan environmental laws and international standards, without cut-down of trees and including the creation of private reserves and forest conservation areas, protection of water courses within forests, reforestation and protection of neighboring communities.

168. Since beginning operations, the consortium has implemented a model based on developing long-standing strategic associations with local non-government organizations with the intention of effectively incorporating local communities as interested parties in the business model. (See Figure 25).

169. DAP has focused its social and environmental management approach to develop strategic associations with non-profit organizations, educational institutions, farmers associations, and local

government in an effort to generate social capital – skills capacity building. While the objective is to promote integrated economic and social development in the regions surrounding the farms it operates, the intention is not to supplant the government actions, but rather to cooperate with both national and regional governments.

Figure 25. NFD's sustainability and environmental management model – Alliances



170. When conducting due diligence on land for acquisition or leasing, DAP:

- conducts an internal valuation (expected yields, expected direct costs, investment in land preparation, percentage of productive land, infrastructure)
- calculates indirect costs and intangible elements (scale factors, internal logistics, surrounding public infrastructure, availability of human resources, location and roads);
- assesses the level of social conflict in the region;
- determines if there is presence of social movements around the farm and whether or not intruders or illegal occupants are present;
- assures compliance with local regulations requiring forest and landscape preservation as well as with local regulations regarding agrochemicals and water usage, and
- reviews all land titles to confirm correctness of ownership titles, that no mortgages or other claims exist on the farm, that there are no judicial processes concerning the farm and that they are in compliance with all local regulations.

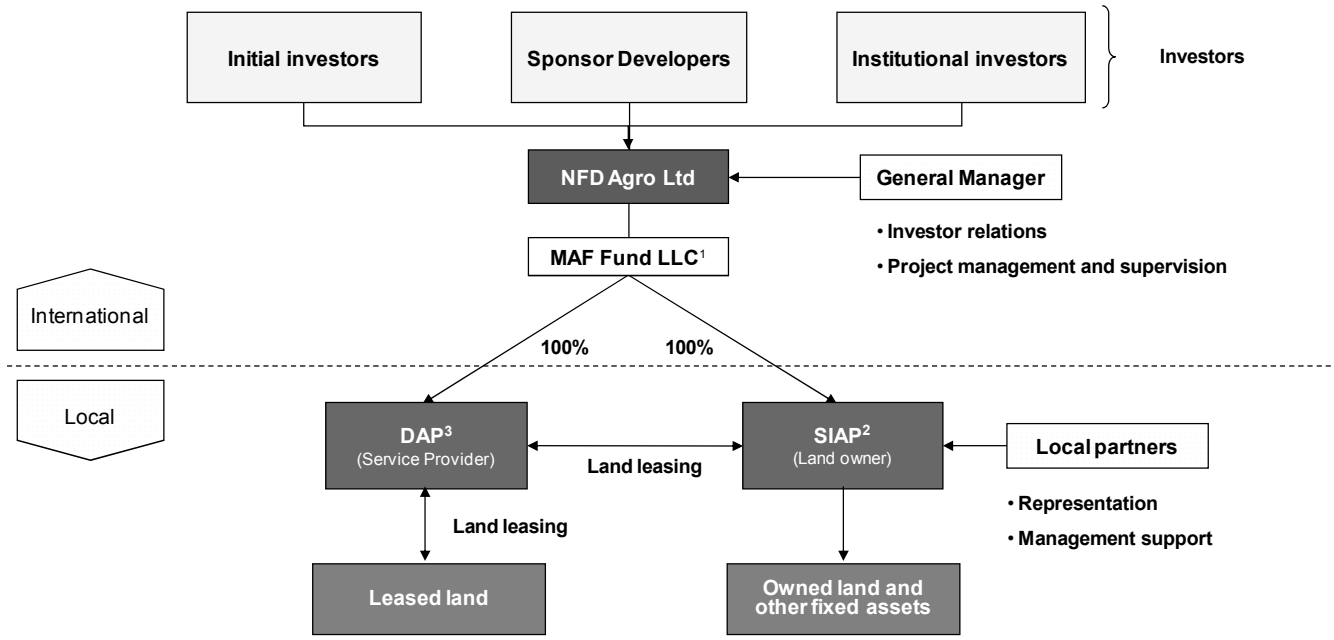
Legal and organizational structure

171. NFD Agro is a limited liability company registered in Bermuda, and two wholly-owned subsidiaries were created to invest in the Paraguayan agriculture industry:

- Paraguayan Agricultural Development (DAP S.A.): Local management and operations;
- Paraguayan Agro-Investment Society (SIAP S.A.): Land ownership.

172. The organizational structure of the investment consortium is outlined below (see Figure 26):

Figure 26. NFD Agro/DAP organizational structure



(1) Limited Liability Company; (2) Sociedad de Inversión Agropecuaria del Paraguay; (3) Desarrollo Agrícola del Paraguay

Management team

173. The management team was formed by the principals of NFD Agro who have experience in agricultural business development, strategic consultancy and investment portfolio management, and the principals of CIP who are highly qualified businessmen in Paraguay who actively participate in local NGOs and bring political, environmental, social credibility and integrity to the project. These individuals have been associated with the founding of AdecoAgro, the South American agribusiness which went public in February 2011, the global consulting firm McKinsey and Cazanave y Associados, the Argentinian agricultural fund manager.

Primary investors

174. NFD Agro's primary investors include "friends and family"[private wealthy investors primarily from Latin America, the U.S. and Europe] (39%), a global bank (11%), the International Finance Corporation[IFC] (9%), a U.S. hedge fund (15%) and a U.S. insurance company (26%).

Employment

175. Currently, over 80 people work in the administrative offices and in the various properties owned and operated by DAP. In addition, 850 indirect employees work for more than 40 contractors, and more than 600 rural families participate in DAP's social development programs. Moreover, the company has developed a unique productive JV with an activist colony of peasants ("campesinos").

176. DAP outsources its operational needs to six agricultural machinery services companies (created through DAP's initiative). This has resulted in more than USD 8.5 MM invested by third-parties in agricultural machinery, the employment of more than 60 individuals by outside contractors, and long-term contracts (5 years) between DAP and these outside contractors. DAP has commercial relationships with more than

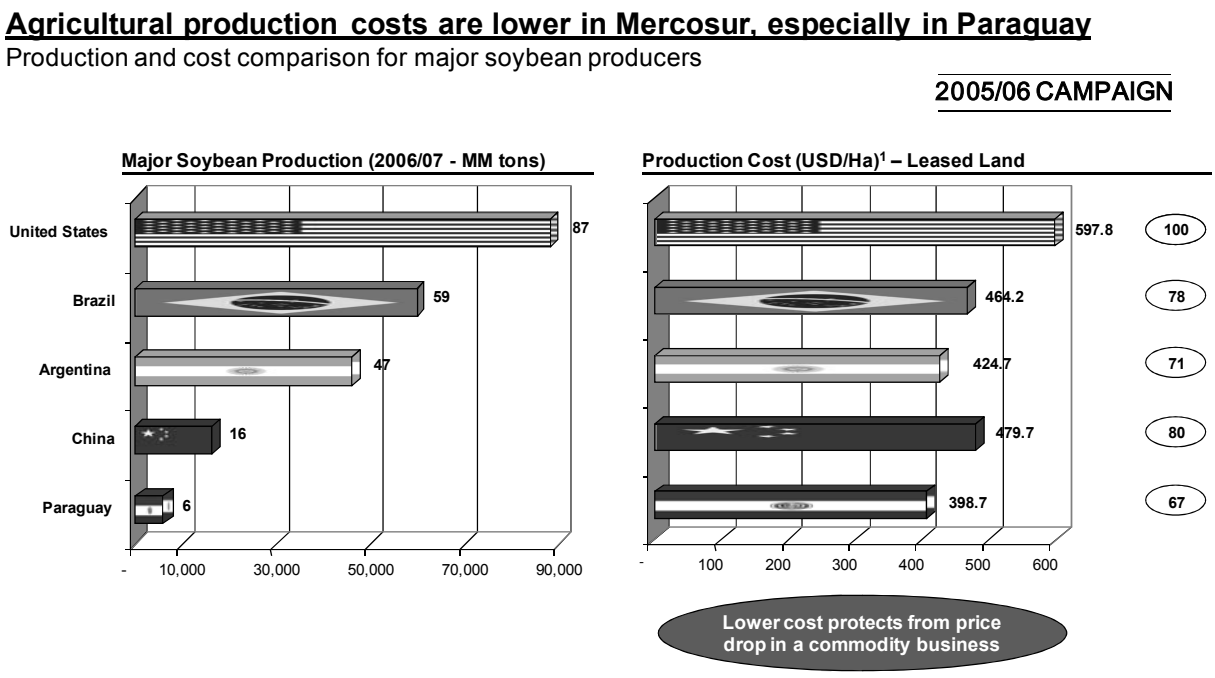
177. 20 suppliers of critical inputs (seeds, fertilizers and agro-chemicals) and has outsourced logistic services (e.g. processing services) there alleviating the need to allocate capital to the investment in storage facilities and transportation assets.

Differentiation from other groups investing in farmland

178. NFD Agro believes that its unique business model which focuses on building long-term alliances with interested local participants to assure a triple bottom line (social, environmental and economic) and its ability to collaborate with local partners in Paraguay where foreign investors have been reluctant to commit capital to acquiring and leasing farmland, provide it with a competitive edge over other groups investing in South American farmland.

179. In addition, NFD Agro leverages several sources of value creation on the operational side (highly productive land and double crop system) and in land appreciation (social development, land conversion and country arbitrage, see Figure 27), as well as proving a strategic platform for future agribusiness development in poor and underdeveloped regions in South America.

Figure 27. Comparative advantage of Paraguay based on production costs



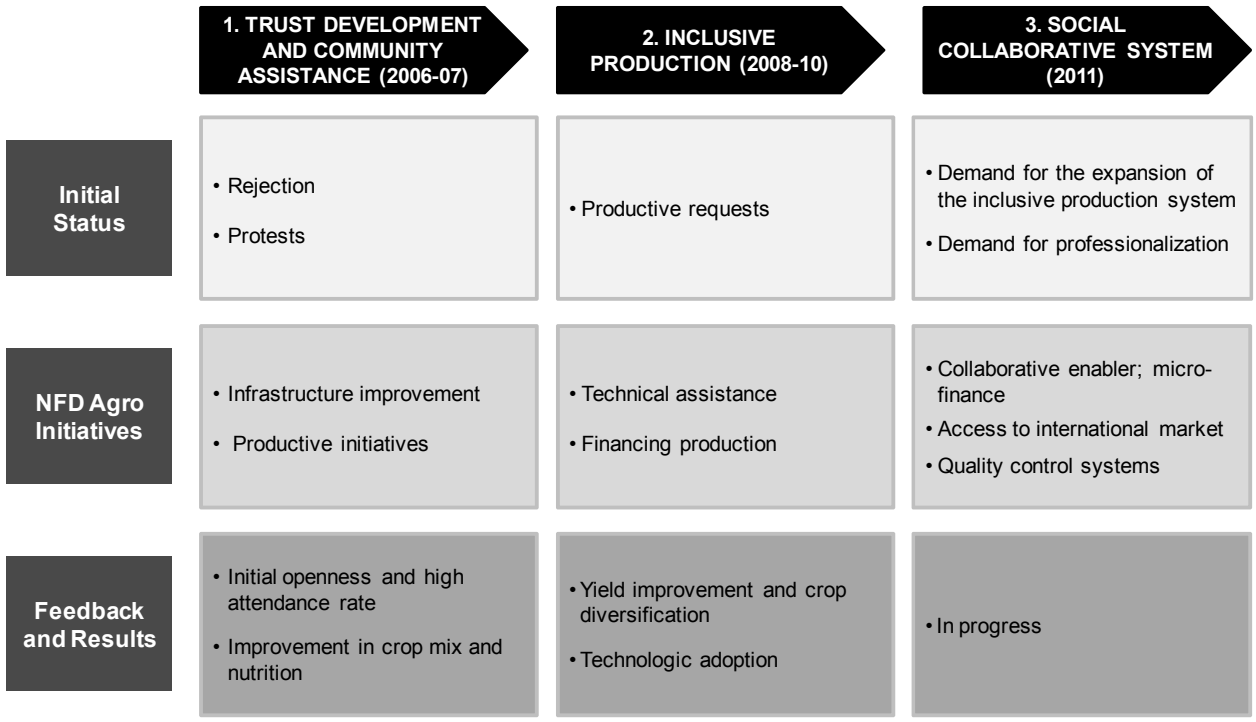
[1] Land leasing cost prorated by the double crop factor (Paraguay = 1.71; Argentina = 1.38; Brazil = 1.71; USA = 1.00; China = 1.00)
Source: USDA, AACREA, Team Analysis

180. The World Bank's comprehensive report "Rising Global Interest in Farmland: Can It Yield Sustainable and Equitable Benefits" (September 2010) underscores the fact that 75% of the world's poor are rural and engaged in farming and yet over 1 billion people go to bed hungry every day. Additionally,

large areas will need to be incorporated every year into production to meet world's food demand with much of the additional new farmland being developed in South America and Middle Africa where human development is relatively low. Recent experience would suggest that "traditional" large-scale farming does not represent a solution for enhancing and promoting human development and therefore risks creating significant social tensions in those regions.

181. In this context, NFD Agro has created a unique business platform for sustainable development. In collaboration with its majority shareholders and local partners, it has embarked on a long-term strategy to build its credibility as a trusted partner and with institutional capacity. This integrated approach has begun to generate tangible benefits for investors and local populations (see Figure 28) and offers the opportunity to accelerate expansion and adoption of its business model in new geographic regions.

Figure 28. Stages of NFD's social integrated approach



Financial objectives

182. NFD Agro's development strategy exploits three "value levers":

- operational return (5-10% ROI average, annually in steady state)
- significant land value appreciation (10-15% annually) and
- growth platform development (option value).

183. NFD Agro has generated value to its shareholders since the start of operations in 2005. Land value of the first farms acquired has increased more than 150% since their acquisition, and EBITDA (excluding land appreciation) will be more than USD 10 MM in 2011.

184. The market value for land as a multiple of cash flow is much lower in Paraguay compared to Argentina taking into consideration the lower yield generated in Paraguay (see Figure 29). This discrepancy in land value between the two regions can be explained by the risk premium investors have placed on Paraguay, where land values are expected to continue appreciating by 10-15% annually over the next couple of years.

Figure 29. Land value as a multiple of cash flow

Benchmark (Feb-11):	**Land Value**	**Soybean Yield**	**Crops**	**Gross Margin**	**Multiple**
	($/Ha)	(Tn/Ha)	(Included in GM)	($/Ha)	
Argentina (Zona Nucleo / Core Are	$ 15.000	3,6	S+C+W (1.33)	729	**21**
Argentina (Oeste / West BsAs)	$ 7.500	3,4	S+C+W (1.33)	639	**12**
Paraguay - DAP*	$ 4.200	2,5	S+C+SF (1.85)	770	**5**

Source: CAT; Márgenes Agropecuarios (Argentine Magazine)

* Using the lower yield / gross margin for one of DAP's owned farms.

Farmland development and management

185. DAP converts owned and leased land that has been used for grazing cattle, into highly productive agricultural land. This development is accomplished ensuring environmental stewardship and does not include forest cut-down.

186. Once land is developed, DAP's primary activities include sowing, maintaining the properties, harvesting and distributing soybeans, corn, sunflowers and other crops in such a way as to maximize returns and ensure the long-term sustainability of the production system. The possibility also exists to produce wheat, sorghum, canola and oats, among others, depending on the level of optimization achieved in the crop rotation which is largely determined by the quantity and distribution of rainfall, the duration of the winter freeze and finally on soil fertility.

187. In addition to crop rotation and double annual cultivation, DAP employs a range of technologies to ensure that its production practices are sustainable. These include:

- no-till sowing and management of leaf residues (left in the field following harvest) and organic matter (crucial for prevention of soil erosion and storing humidity in the topsoil);
- contour ploughing (crucial for prevention of soil hydric-erosion);
- use of fertilizers and vegetable nutrition;
- prevention and integrated management of pests and diseases (e.g. blight) and weeds to minimize environmental impact and the total costs of crop health;
- use of modern equipment and machinery designed to leverage efficiencies in large-scale operations;

- use of crop varieties with high yield potential, genetic purity and resistance to plagues and illness, and

- use of chemical and biological products for the protection and nutrition of crops according to international norms of safe handling, personal health, recycling of containers and environmental protection.

Effects of business model on financial objectives and on regional communities

188. DAP's management believes that the company's relationship with its rural neighbours transcends mere philanthropy and isolated actions and represents a fundamental foundation of its development strategy. Therefore, responding to the expectations of the social sectors with which DAP works is an integral part of the process of development and the company's long-term sustainability.

189. As a result, neighbouring communities have evolved into strategic allies. DAP is one of the few large farm operators that has not experienced incursions by land squatters intending to occupy farms. The social programs DAP has implemented are growing and multiplying with the support of international organizations such as the IFC, USAID and Solidaridad (Netherlands).

190. Examples of the activities that DAP have developed in the social sector include:

- providing technical assistance to over 600 rural families in order to train them on how to produce rent-earning goods and goods for personal and family consumption;

- generating new jobs opportunities for residents of local communities and

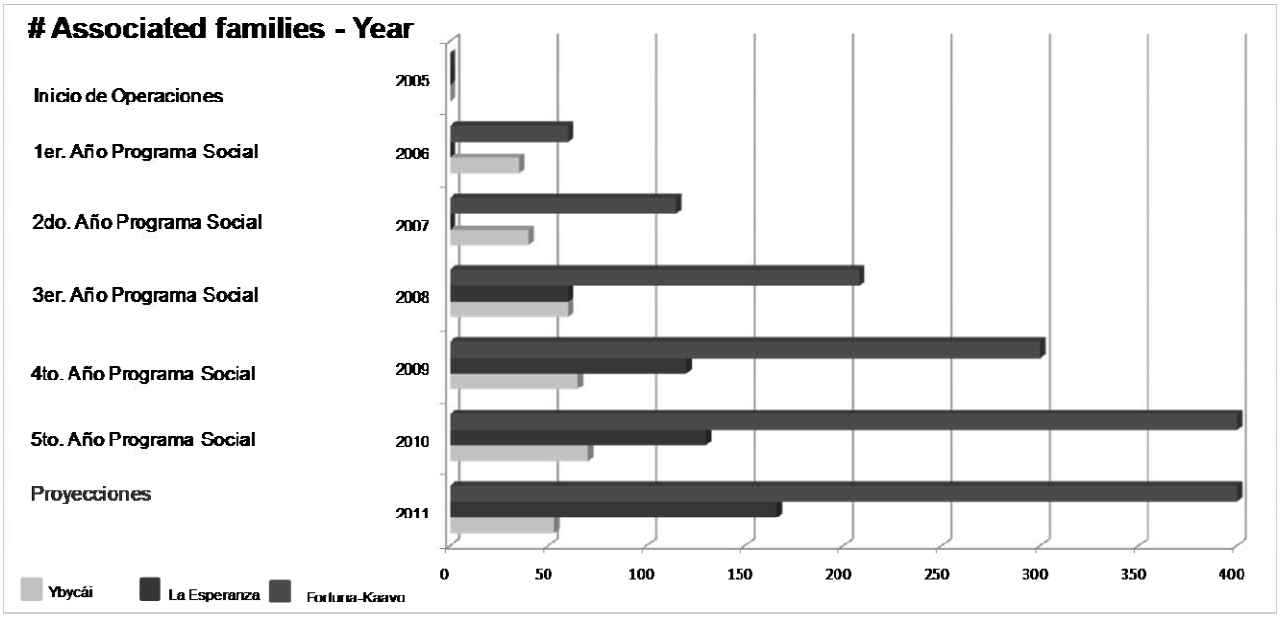
- developing demand for local suppliers and contractors;

- improving access to medical care providers to neighbouring communities.

191. Today, agricultural businessmen in Paraguay consider that "DAP's model works" and that it has been effective in solving and averting social conflicts. NFD Agro and DAP are continuously invited by organizations that promote sustainable development to present its model. DAP is also very involved in the network of producers, NGOs and traders including the Roundtable for Responsible Soy. In addition, IFC (one of NFD Agro's shareholders) presents NFD Agro and DAP as an example of how best practices in sustainable agribusiness development are being implemented effectively.

192. The following table (see Figure 30) illustrates the expansion of DAP's social program that provides social assistance and training promoting food security and production to more than 600 families. These programs are being funded by grants from USAID (USD 200 000 over three years) being allocated to DAP and one of its local strategic partners, the Fundación Moises Bertoni, a not-for-profit organization based in Paraguay which promotes sustainable development in rural areas.

Figure 30. Social programs provided to local families



193. Within the realm of production, the company implements the best international practices in the management and handling of natural and agro-chemical defenses for an integrated approach to fight plagues and illnesses, as well as crop rotation, no-till cultivation and use of organic residues to prevent soil erosion processes and the construction of road systems also to control erosion.

194. Through the capital investments it makes in the region, NFD Agro promotes a continuous and dynamic learning process which serves as a development model which is applied locally but seeks over time to project itself on a regional scale.

195. As a result, NFD Agro's management believes that the operation is uniquely positioned to capitalize on the global strength of the agribusiness sector by "unlocking value" in underdeveloped regions and agricultural new frontiers, while at the same contributing to the solution of a pressing worldwide issue by bringing development opportunities to poor rural communities.

Fund: Quifel Natural Resources
Manager: Quifel Natural Resources
Assets under Management: USD 30 000,000*
Land under Management: 50 000 ha
Operating in: Brazil, Mozambique, Zambia and Sierra Leone
Primary Investors: Private investors, including managers of the fund
**Total amount of equity required to finance existing agricultural projects in Sub-Saharan Africa (2009-2017).*

Background

196. Based in Lisbon, Portugal, Quifel has been investing and operating in the natural resources and renewable energy sectors since 2007. Quifel has opted to specialize in the study, design and operation of projects within subsectors of natural resources and renewable energies which offer the most potential in the medium-long term (with a specific focus on agribusiness).

197. Quifel began its agricultural operations in Brazil with an investment in a palm project located in the state of Bahia, which includes a palm oil plantation owned in collaboration with out-growers and other stakeholders. Quifel expects to involve "the equivalent" (assuming yields similar to the ones it realizes on its own plantation) of 3 500 ha by 2015. This program will involve more than 1 000 small producers (most whom are already formally registered and working with Biobrax). Biobrax is coordinating this out-grower scheme which also involves the collaboration of several institutions including the Bank of Nordeste, the Brazilian Secretary of Agriculture, CEPLAC (the Brazilian Ministry of Agriculture's Executive Commission of Temporary Labor) and EBDA (Empresa Baiana de Desenvolvimento Agrícola S/A).

198. In 2007, based on the trend of higher land prices in Brazil, Quifel began to investigate land development opportunities in sub-Saharan Africa. After a 12 to 18 month "discovery period", Quifel's management became comfortable with the prospect of being able to obtain concessions and its ability to deploy large scale projects in Sub-Saharan Africa. The decision to enter this emerging market was taken well before the new law regulating large-scale land investment by foreigners in Brazil in late 2010.

199. Quifel's management believed that trends in global agribusiness required focusing its activities in order to become a relevant player in oilseeds and specialty crops, and necessitated addressing the following issues:

- "Which crops to specialize in?": Quifel opted to focus on the production of oilseeds as they represent a sizable and tradable agricultural commodity class (where the production cost and access to markets are the most relevant factors determining sustainable returns) and fruits which

are high value-added products due to increased demand for fresh fruits, pulp and ready to eat salads in the European market.

- "Where should to invest?": Quifel's management decided to focus on coastal East African countries for oilseeds (in order to avoid transhipment costs within the continent and to be located closer to growing destination markets in Asia) and West African countries for fruits and vegetables (given the strong local demand and the "five hour plane radius" proximity to developed markets in Europe which facilitated "just-in-time" delivery).

Legal structure

200. Quifel is organized as a privately-held limited liability corporation.

Management team

201. The management team is comprised of Portuguese nationals with substantial operating and investment experience in Brazil and southern Africa, including the Lusophone countries. They have experience working in European private equity, McKinsey & Company the Boston Consulting Group and a large Portuguese-based oilseed value-added processor.

Primary investors

202. Quifel Natural Resources is controlled by a European entrepreneur, who has interests in natural resources, publishing, IT, financial services and vineyards, etc. In addition, two of the fund's executives are also shareholders of the company.

Differentiation from other groups investing in farmland

203. Quifel strongly believes in the combination of three differentiating pillars:

- Greenfield operations, conducted on a world best practices approach (farming techniques, machinery, inputs intensity and quality)with no legacy operations;

- Focusing primarily on "proven lands" in order to advantage of historical data and agricultural characteristics (soil, weather, some infrastructures) of large plantations active during the second half of the 20th century and

- Diversification: allocating risk across operation in three different countries and, additionally, more than one type of crop in each country.

204. Currently, Quifel has approximately 50 000 net hectares under management in sub-Saharan Africa, distributed as follows: Mozambique(see Figure 31) – 1 000 ha is double cropped(soybean and sesame in rotation with sunflower seed and fallow land with the objective over seven years of increasing land in production from the current 1 000 ha to 28 000 ha); Sierra Leone(see Figure 32) – three lease concessions totalling 100 000 ha of which 20 000 ha will be put into production of fruits and vegetables; and Angola – where Quifel is negotiating a 10 000 ha lease which will be dedicated to oilseed production.

Figure 31. Location of concessions in Mozambique

Confidential 2

This map is for illustrative purposes and is without prejudice to the status of or sovereignty over any territory covered by this map.

Figure 32. Land concessions in Mozambique

Confidential 3

205. All the land is leased in accordance to the local laws of each country. Typical lease terms have an average duration of 50 years, with an option to renew. Depending on the country and its land laws, Quifel has negotiated with the central and local authorities to secure leases for the maximum number of years permitted and options to renew leases for an additional number of years.

206. While Quifel's has a long-term expansion plan for sub-Saharan Africa, its focus is now on developing the current areas it has under management into efficient and highly productive commercial farms.

Quifel's business model is based on successfully undertaking two separate activities that require different management skills and generate different risk/return profiles:

- Pre–Deployment and
- Deployment

A. Pre-deployment

207. Following the completion of a comprehensive agricultural strategic analysis, Quifel launched its agricultural initiatives in the sub-Saharan countries by stating its intentions to the proper authorities in pre-

selected countries. Afterwards, and with the consent of the proper authorities, land scouting was initiated at the regional level.

208. Quifels' land due diligence process is based on a dedicated agronomist team conducting research *in loco* for suitable arable land in each country in anticipation of engaging in commercial farming. To accomplish this task, the team holds meetings with local governmental entities, communities and agribusiness players already operating in the country.

209. In order to mitigate operational risk, Quifel focuses commercial plantations, which may have not been exploited in recent years but have an operating history which can provide data on land quality and weather conditions to be sued to develop reclamation strategies to bring the land back into production.

210. After identifying the most suitable lands available which are available for leasing, Quifel management would enter into negotiations of lease agreements. At the same time, formal investment project proposals were also prepared.

211. The lease agreement process differs from one country to another, primarily in terms of the maturity of the lease agreement, and requires developing good and transparent relationships with central and local authorities as well as with local communities. This involves organizing many presentation sessions in order to explain the project and its benefits to local populations.

212. In parallel with lease negotiations and when feasible and provided with the proper consent, technical feasibility studies such as soil testing and climate analysis were undertaken in order to evaluate the suitability of each area for agricultural activity. These analyses include:

- assessment of the soil and climate (climate assumptions for a preliminary selection of lands were based on the closest weather stations and direct observation during 12 to 24 month periods);
- analysis of water resources;
- agro-ecological studies of the region;
- accessibility and availability of infrastructures;
- assessing the impact on the surrounding populations;
- evaluating the need to clear and clean the areas and
- topographical surveys.

213. Final approval regarding lease agreement as well as investment project approvals rests with central authorities with support and consent provide by local authorities (taking into consideration the expected impact in each region). A majority of lease agreements are temporary for the first couple of years of operation and are subject to cancellation based on the authorities' evaluation of the agricultural operator's level of execution.

B. Deployment

214. Deploying capital to improve farmland productivity of the farmland is based on five key factors:

- increasing crop yield productivity;

- improving local infrastructure;
- developing input markets by creating local demand;
- adopting a market approach and
- ensuring risk mitigation.

Increasing productivity

215. While Quifel's yield expectations are based on fully comparable projects, since it typically starts deployment of investment on lands that have not been in production within recent years, it anticipates that a five to seven year period is required to achieve productivity targets (with the world's current best practices as targets). Quifel has successfully transferred technology and management practices from Brazil to Africa in order to achieve these objectives (see Figure 33).

Figure 33. Expected net productivities for oilseeds in Mozambique and Angola in a later stage

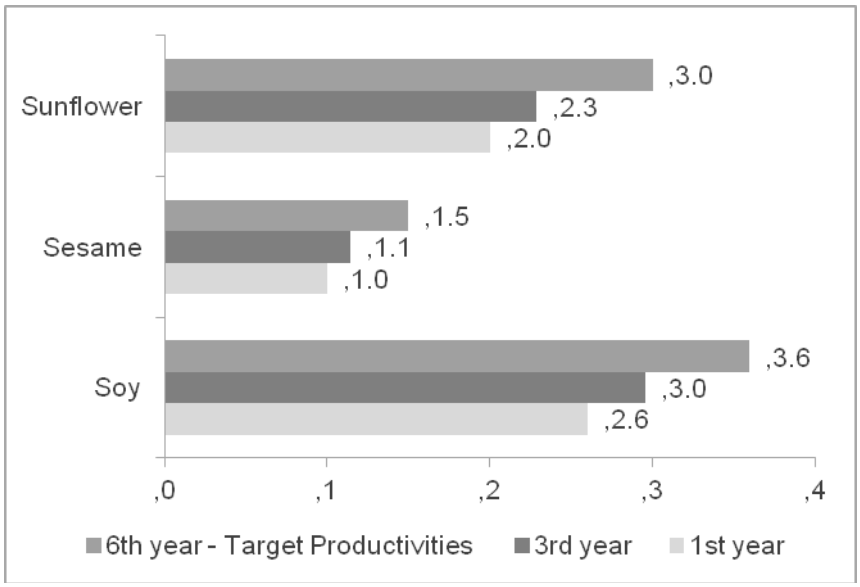
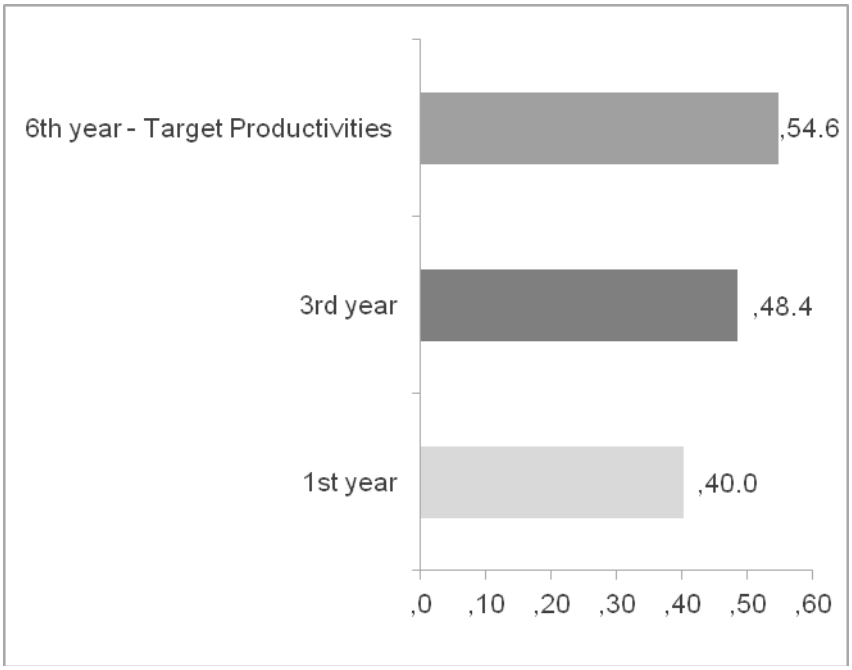


Figure 34. Expected net productivities for pineapple in Sierra Leone



216. For example, Quifel exploits farming techniques and machinery similar to those used in Brazil and Costa Rica, such as spacing and agro-chemicals application, in order to produce more efficiently. Since the land that Quifel leases typically have been out of production for a number of years, there is less incentive to apply crop chemicals due to the lower incidence of diseases and insect infestation. In addition, in Mozambique, enhanced seeds were acquired from Brazilian suppliers (with the same production characteristics of Mozambique). Quifel anticipates that over time seed banks will be established and developed, providing opportunities for new businesses to be established to market and distribute seeds to Quifel and other producers in the local market.

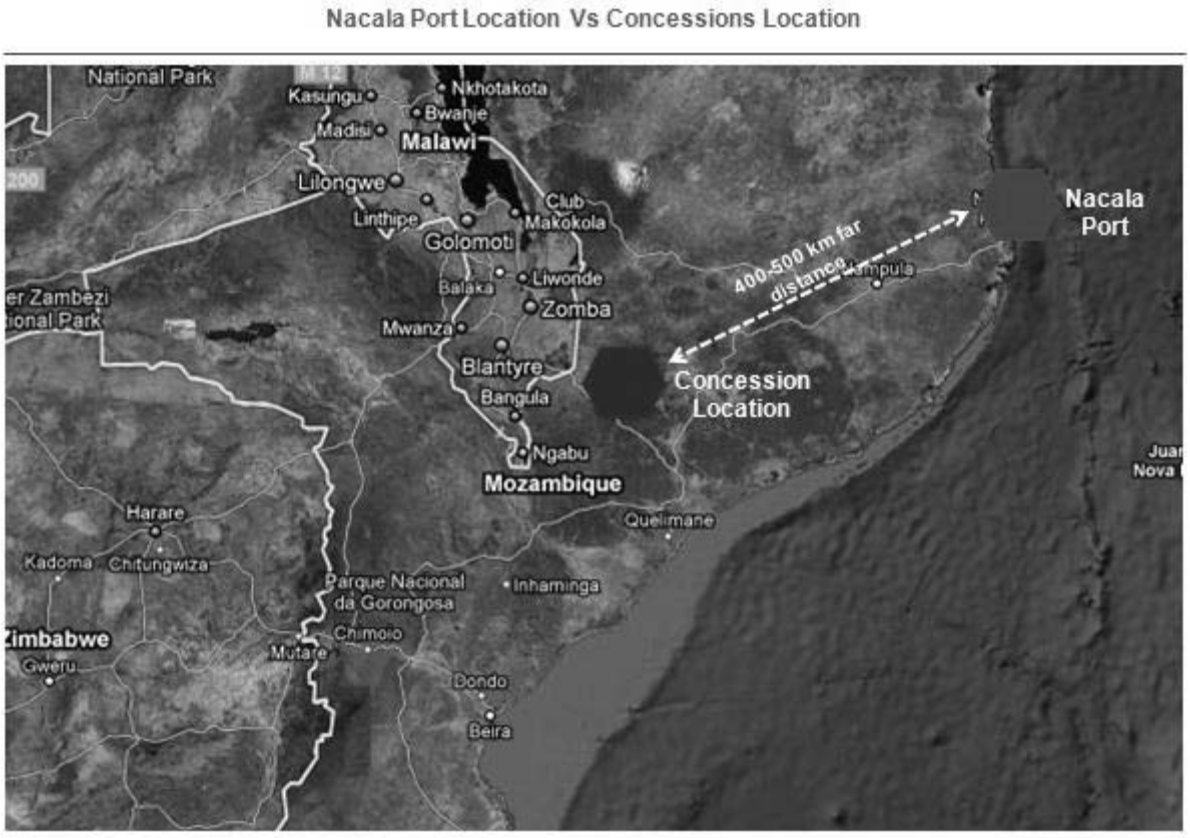
217. In Sierra Leone, Quifel is studying the possibility of introducing the SRI rice planting system (*System of Rice Intensification*) which increases the productivity of irrigated rice cultivation by changing the management of plants, soil, water and nutrients.

Impact on local infrastructure

218. Quifel is adopting new approaches in terms of infrastructure in order to improve storage capabilities and prevent the deterioration of harvested crops. These approaches are based on the transfer of operating practices and equipment which have been proven in best of class projects in South America.

219. For example, in Mozambique railways and roads connect both of Quifel's concessions to the ports of Nacala, Beira and Quelimane, and to Malawi. These are pivotal axes that facilitate access to the international export market. Additionally, Quifel's operations – and that of others – have influenced other players to invest in a grain storage facility in the port of Nacala which will benefit Quifel and other producers in the region. The map below (see Figure 35) illustrates the access of Quifel's largest concession by road and rail to the port of Nacala.

Figure 35. Map showing location of Nacala port relative to concessions



220. In Sierra Leone, Quifel is considering the rehabilitation of two abandoned warehouses located on its leased land for use as operation centres.

Develop input markets by creating local demand

221. Quifel's is confident that business that can provide services and products for crop production (in particular fertilizers, machinery sales and maintenance and food processing) will benefit directly from its investment activities and that these businesses will develop into economic clusters which will have widespread benefits for the local economy.

222. As crop production is the leading edge of agricultural activity, it is normal that there is a lag time in terms of service and product providers responding to demand from producers. With the expansion of its farming operations and the entry of other companies engaged in the same activity in the regions where is operates, Quifel's management is confident that the number of service providers is growing and the quality and professionalism of their operations will continue to improve over time.

Market approach

223. Quifel believes that to be successful as an operator in agribusiness sector it is imperative to set clear parameters for the route-to-market of its crops. Therefore, and since the beginning of its involvement in agricultural projects, Quifel's management has defined the following marketing strategy for its production as follows:

- In the short-term, when production levels do not correspond to the minimum scale required for export activity, Quifel sells it production FOB to local buyers;

- Over the medium to long-term, when production levels exceed local demand and the trading capacity of local buyers, production can be channelled into the export market, with a focus on leveraging proximity to major concentrations of demand (India and China for oilseeds and Europe for fruits and vegetables).

Risk mitigation

224. Quifel addresses risk mitigation through by managing five levers:

1. Assuring diversification (country diversification and crop diversification);

2. Retaining and developing seasoned management;

3. Conducting continuous field testing of new and enhanced crop varieties;

4. Pursuing pro-active security policies for fire and theft (examples: guards, fire corridors and fire extinguishers placed within proximity of agricultural machinery);

5. Active use of insurance programs, including MIGA insurance underwritten by The World Bank (yet to be implemented) and other financial instruments, for example to address currency risk.

Impact of business model on financial objectives and local communities

225. Quifel's management believes that the investments it has made in sub-Saharan Africa have had and will continue to have both direct and indirect benefits for the local economies.

Direct impact

226. Given increasing competitiveness in international markets, Quifel has made a commitment to leverage large scale capabilities in order to achieve positive results in its operations. A key factor to do this is to hire and train competent local staff in order to have a workforce with the right skills, experience and training.

227. As part of the lease agreements signed with the local authorities, Quifel has agreed to provide social support to the communities where it operates land concessions. This includes commitments to:

- create jobs in the local community;

- provide basic training to most hires as their employment as typically their first experience working within a large-scale commercial farming operation;

- provide on-the-job training according to the needs of specific project as well enrollment in program at local agricultural schools and sites visits to other plantations for qualified employees and

- provide revenue sharing with the local communities to provide financing for local social infrastructure development.

228. Quifel has made public its commitment is to hire and train local staffs where it operates in order to ensure that it has a workforce with the right skills and experience. Quifel's objective is become a force for sustainable long-term growth of its businesses through job creation and increasing the level of job qualification.

229. In addition, Quifel's management believes that the development of agribusiness clusters will also generate positive impact for local economies. Having several large-scale agricultural companies operating within the same region is leading to the development of opportunities for related businesses (inputs and machinery suppliers, crushers and food processers, infrastructure/logistic companies, and traders/buyers) and creating demand for qualified employment in the local economy.

230. One of Quifel's concessions in Mozambique is located near a village with a population of approximately 1 000 people. Many of the inhabitants are subsistence farmers who have developed a positive perception of Quifel's investment in the local economy as it has generated stable employment for a number of them and resulted in infrastructure development which benefits the overall community. In another concession in Mozambique, an agriculture professional school provides Quifel with qualified labour as well as skilled workers trained to use mechanization and new technologies. Quifel currently employs between 50 to 100 people (depending on the need for seasonal labour) in both concessions. Over the long-term as Quifel expands its operations in Mozambique to employ several hundred workers.

Indirect impact

231. Quifel's interaction with local communities has resulted in projects which have improved the local of infrastructure, expanded and improved health services, improved education and increased employment opportunities for the local population. These initiatives are contributing to the alleviation of poverty and introducing improvements in the local quality of life.

232. In Sierra Leone, Quifel has helped to refurnish one school located within one of its concessions and has committed to providing learning materials for the school program.

233. In Mozambique, Quifel's social activities have included a series of donations made to local communities located near its concessions for the rehabilitation of several infrastructures.

234. Finally, Quifel intends to support an initiative to provide micro-credit for school teachers (the "sponsor a teacher" project). Timing for the project has yet to be established.