

# AGRinsights

## The Future of Agriculture: The Context Network/Paine + Partners Perspective



January 2010

The **Context Network** is a consulting firm providing the world's leading agricultural, bioscience and food industry businesses with strategic and tactical business advice and services.

**Paine + Partners (P+P)** is a private equity firm and specialist investor in global food, agricultural and horticultural industries. P+P does not act as an adviser but is an investor, owner, and partner in businesses throughout this value chain.



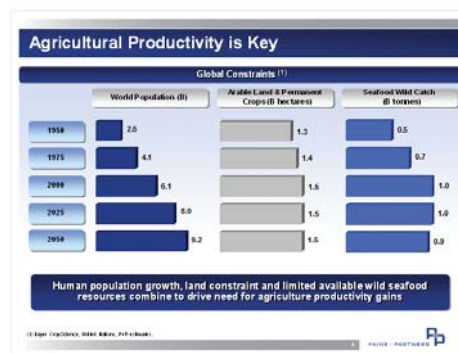
**CONTEXT**



**PAINÉ + PARTNERS**

In our inaugural 2008 edition of Agri-Insights, Context and Paine + Partners focused on key long-term forces shaping the future of agriculture and their implications for business. Since then, agriculture has experienced unprecedented and dramatic market shifts and price swings.

Despite short-term volatility, the fundamentals outlined by Context and Paine + Partners in 2008 have not changed.



These are the forces that will continue to influence and shape the future of the agriculture and food industries.

### Agriculture's Evolution: A View to 2050

In October 2009, Paine + Partners hosted an intensive agribusiness executive forum. Agribusiness executives representing business interests on five continents and several additional participants with interests in fuel, seafood, banking and commodities participated in the day-long session. Innovative thinkers presented ideas and offered perspectives regarding the evolution of agribusiness with a particular focus on where we are and where we need to become more effective.

Emerging from the session were key **themes** – The factors that influence both near- and long-term opportunity and the requirements for operational success.

According to the panel, the most important issues influencing each area of agribusiness included:

- **Discovery and development of new innovation and technology** – The need for productivity will demand that we continue to find new and creative means to fund innovation and technology.
- **Continuing business concentration** – Concentration will pick up in every sector. Access to facilitators of consolidation will be required.
- **Capital structure and liquidity** – Balance sheets will need to be carefully constructed to create the headroom to manage volatility and to fuel the growth opportunities.
- **Increased deployment of institutional capital in agriculture globally** – The retention and enhancement of farm operating skills will be key to successful investments.
- **Rapidly developing emerging markets** – Growth in Asia, Eastern Europe and Latin America, (particularly Brazil) will lead emerging market development. Africa will also see growth, but will not emerge as readily as a business market in the next ten years.
- **Supply chain excellence and managing working capital** – These competencies are critical to sustaining and supporting sound business for the future.

# Context/Paine + Partners: The Bottom Line

## Effectively Positioning for Agriculture's Optimistic Advancement

### Positive Macro Trends

"The long term macro trends for agribusiness are very positive. Population is growing. Demand for animal and vegetable protein will escalate. Businesses that act to enhance agricultural productivity through innovation, technology and/or operational excellence will be long-term winners."

- PAINE + PARTNERS' DEXTER PAINE

"Our basic resources are limited, but our growth potential is not. New land resources are scarce and logistically challenging. However, emerging markets offer exceptional opportunity. Namely, Asia, Latin America and Eastern Europe are key growth areas. Infrastructure and logistics from farms to cities and to ports will be required for effective growth. Africa offers growth potential, but the market is not yet ready for rapid market development. Managing volatility will be essential, especially in emerging markets - investors need a long view and sophisticated hedging strategies."

- PAINE + PARTNERS' DR. DAVID BUCKERIDGE

"Efficient use of, and access to, capital will facilitate opportunity for growth. Working capital management, particularly through this cycle of commodity volatility, is critical. The right capital structure is a requirement for operating with an acceptable risk profile. Too much debt creates both operating difficulties and financial risk. Shareholder returns can and should be created



through growth. Our panelists commented that they continue to see innovation as a key driver of growth and noted that participants in the food and agriculture value chain are prepared to compensate sources of innovation for the value they deliver in yield, productivity, lower variability or other factors."

- PAINE + PARTNERS' KEVIN SCHWARTZ

"The outlook for the seed and crop protection industries is strong. In seed and in crop protection, making the right research and development choices will be important. Many companies will need to seek external collaborations and venture investments to fortify their in-house R&D efforts and ensure that they have products that will compete. Additionally, the path to market will be an increasingly important factor for success. Agreements between competing players and access to the grower (perhaps even purchased access) will be crucial in the future. In a world with multiple ways to do the same thing - control the same pest, enhance yield, minimize plant stress - the relationship with the farmer/customer will increase in importance."

- CONTEXT'S TRAY THOMAS

"Looking toward the future, food security will come first, then sustainability. A sustainable environmental and social approach is a prerequisite, not a PR strategy. But defining and measuring what is meant by sustainability will be critical toward effective advancement. Additionally, effective understanding and management of water resources will be critical to agriculture's ability to advance productivity for the future."

- CONTEXT'S DR. THOMAS B. KLEVORN





# AGRIinsights

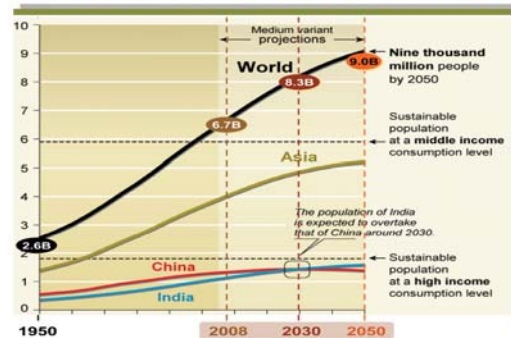
## Key Drivers

Paine + Partners and Context note the macro drivers they outlined in 2008 remain. New statistics support that position.

### More People

6.8 billion human beings currently inhabit the planet. By 2030, that number will increase to 8.2 billion. Twenty more years will bring an additional billion people for a projected total of 9.3 billion people. Feeding this population is both the number one challenge for agribusiness and its greatest opportunity.

#### World Population in the 21<sup>st</sup> Century...

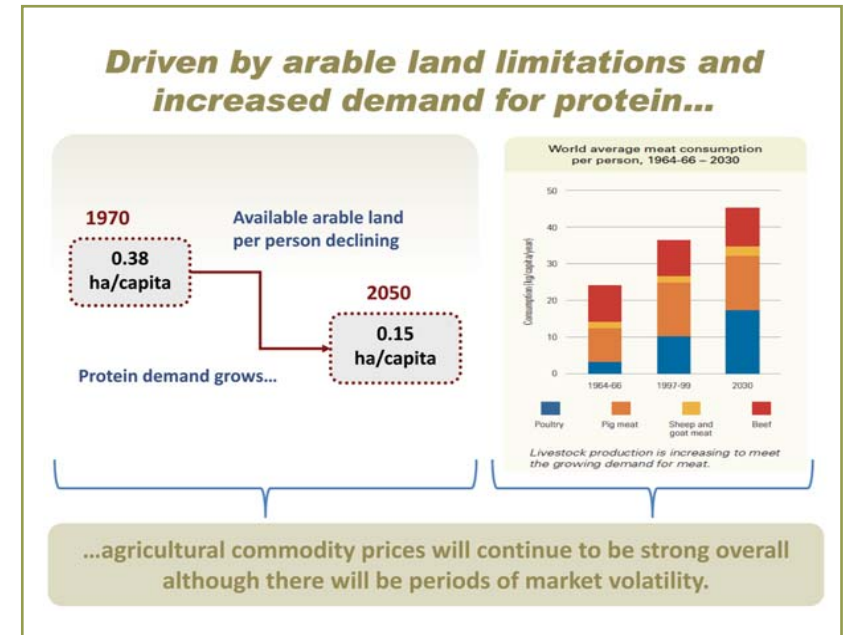


### Arable Land Access

Arable land is limited and arable land per person is shrinking. Arable land was projected to decline from 0.38 hectares in 1970 to a projected 0.15 hectares per

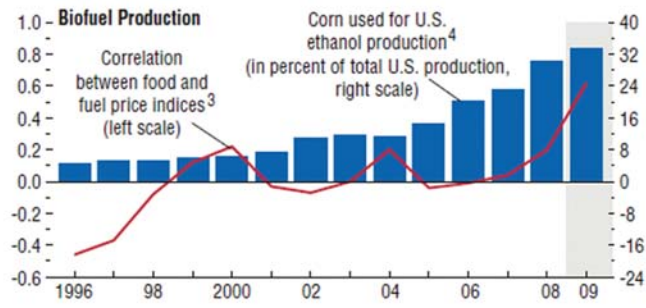
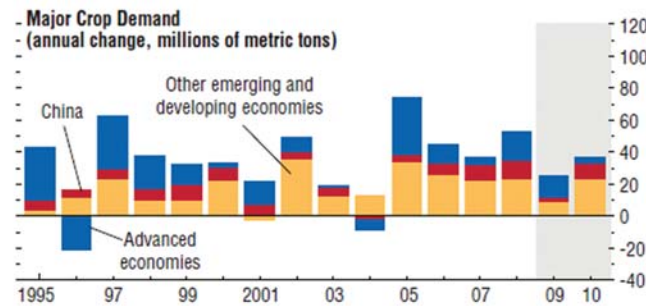
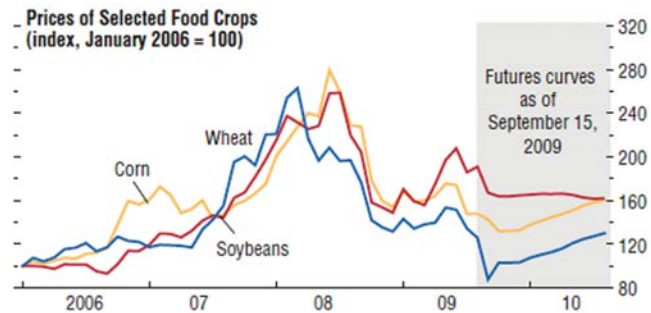
person by 2050 (FAO data). Land prices remain strong but stable. Panelists noted several investors have missed the need for farm operating skills in the rush to acquire "cheap" land assets and that this

is coming home to roost. Farm operating skills are essential and know-how is relatively scarce. Meanwhile demand for protein worldwide continues to increase. Land prices remain strong but stable.



# Context/Paine + Partners: Macro Drivers

## Recent Developments in Markets For Major Food Crops



Sources: Bloomberg Financial Markets; U.S. Department of Agriculture; and IMF staff estimates.

- <sup>1</sup>Major food crops are wheat, corn, rice, and soybeans.
- <sup>2</sup>Projections for 2009 and 2010 are from the U.S. Department of Agriculture.
- <sup>3</sup>Rolling window of 36 months of monthly price changes.
- <sup>4</sup>Refers to marketing years (e.g., 2009 refers to September 2009 through August 2010).

### Commodity Price Volatility

Large swings in commodity prices affected all segments of agribusiness in 2007-2009. Volatility is anticipated to continue. However, the underlying expectation is for long-term increases in commodity prices.

### Energy Price Volatility

High energy prices (>\$100 per barrel) and price volatility are likely to continue for the "carbon" fuels – oil, coal, natural gas. Demand for energy will continue to grow. Energy costs are slowly rising again. This poses a serious issue for ag input costs and is not necessarily correlated with high output values. Margin squeeze in some years is a real risk.

### Capital Structure and Liquidity

Poor capital structures and over-leveraged balance sheets have severely constrained management's freedom to operate businesses with optimum efficiency. Operating cash flow is key. Buying opportunities cannot be taken advantage of if cash is being used to pay high interest rates on too much debt in the balance sheet. A lack of liquidity has reduced freedom to operate, sometimes to the point of catastrophe. Capital structures are improving developing world markets – farming enterprises will achieve better buying structures for inputs and hedging of outputs.

# Context/Paine + Partners: Macro Drivers

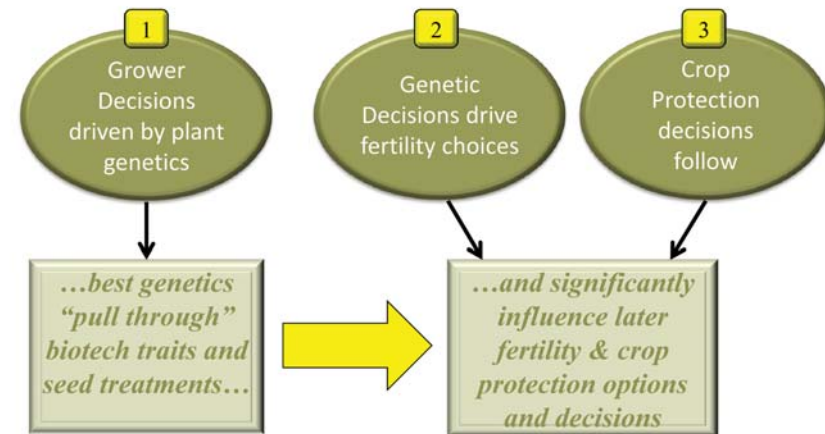
## Optimism on Genetics

Technical innovation provides a strong reason to be optimistic about both plant and animal genetics. Panelists commented specifically on the seeds industry. Prices are projected to recover inflation, especially in seeds markets with a high degree of trait sales. Technology trait sales will expand and the pipeline is deep and full. Still, seed trait technology will work in tandem with the crop protection industry rather than replacing it. Technology focus is migrating toward traits that help manage the environment such as water, pH, salt, etc., as well as traits that address pests and diseases. An increasing importance and sophistication of seed treatment technology will ultimately more closely align crop protection and plant breeding. The very techniques that have driven growth in the seeds sector are increasingly deployed in the animal genetics arena. Acceleration of genetic gain is being witnessed among the top companies.

## Fertilizers and Crop Protection

Nitrogen (N) and Phosphorus (P) prices are expected to stabilize in the next two years. Potassium (K) prices remain high and sales volumes have been severely depressed, but farmers need to use more to ameliorate for missed 2008/9 applications. Dynamics may differ in developed and developing world markets. P and K fertilizers will be critical to upgrading new land for cultivation in emerging markets such as Brazil, where P and K investment are viewed as a capital expenditure investment with very attractive returns. The glyphosate rollercoaster has been a new phenomenon in crop protection but something companies need to learn how to manage. A stream of new off-patent crop protection chemicals, including Strobilurins, Fipronil, Imidachlorprid and others, will lead to new management challenges and approaches. Innovation was ranked as a high priority by input companies and by farmers.

*As the main determinant of yield, genetics are the key factor in grower crop production decisions worldwide...*



*Yield is the focus – best genetics combined with the best traits & seed treatments will continue to shift value in the direction of “genetics”*





# Context/Paine + Partners: Macro Drivers

## Environment

Weather events may be increasingly variable. These changing patterns, along with technical innovation, are leading to shifts in cropping patterns. We will continue to experience underlying biological threats to crop and animal production systems; some large and catastrophic, others more insidious. Innovation will still be critical to keep pace with nature in a sustainable way. Social and environmental sustainability are now core operating requirements, but methods and implementation lack consistency, enforceability and robust measurement criteria.

## GMO Acceptance

The heat in the debate over genetically modified organisms' place in crop production is waning. The general population is becoming more accepting.

## Regulatory Costs

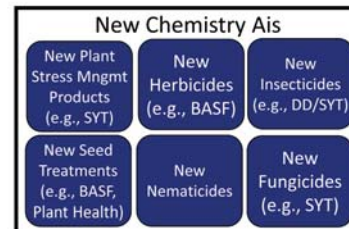
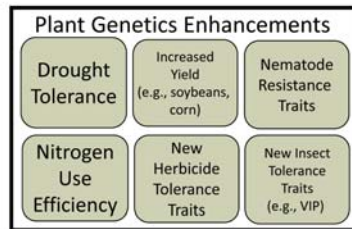
The cost of agribusiness regulation and policy will increase and is not always adding value from a business or biological perspective, but in some segments is creating a material barrier to entry.

## Human Capital

There will continue to be a premium placed on 'know-how' and relationships at all levels. Even with significant advancements in technology, good work ethics and focused ingenuity at the worksite are valuable attributes that must be encouraged and developed. Panelists felt that it was essential to equip employees to communicate the value of the industry to and through the channel and especially to the consumer.



*Several significant new technology platforms and product introductions are anticipated...*



- Entry crops are corn & soybeans
- Rapid platform expansion to other crops including wheat, cotton, rice, canola, etc.
- Trait stacking becomes the norm

- Corn & soybeans are key crops
- Broad uses of STs, insecticides & fungicides in all crops to enhance yield
- Greater genetics (seed) influence on CP

**Technology and product combinations will deliver increased yields more reliably**

**...creates increased competition at all levels of the value chain and increases the importance of continuing provider access to technology**



**CONTEXT**



**PAINE + PARTNERS**

# Context/Paine + Partners

## Global Ag Executives Weigh-in

**Quite Optimistic:** That's the longer-term outlook for agribusiness according to participating agribusiness leaders from around the globe. However, there remain large challenges within the supply chain often driven by macro-factors such as population growth, land accessibility, changing weather patterns and commodity price fluctuations. Our executive attendees were asked, "What are the most critical issues facing your agribusiness in the next 3-5 years? Their answers included the following:

- "Agriculture has always been **cyclical**. It's a direct consequence of the variation and imbalance of supply and demand in a market system that is fundamentally driven by biology. But today, and different from ten years ago, it is a cycle that is occurring against the backdrop of an **irresistible upward trend**."  
– RICHARD WOOD, CEO, GENUS PLC
- "If we look further up the value chain toward an investor perspective, we can **consider what the investment opportunities** are. Demand for food will probably increase by nearly 50% in

the next 20 years. Rapid development of emerging markets is upon us. Brazil is under way. **Eastern Europe** is next. Africa will develop but it is likely to follow somewhat later."

– DAVID BELL, PROFESSOR HARVARD AGRIBUSINESS

- "Operational efficiency will be key to our success. We'll work very hard on improving working capital, inventory and looking further back in the chain to operate more efficiently."  
– JIM WISSMILLER, VP TENCOZ INC.
- "In Australia, farming is still very "family owned and operated." We're seeing big companies moving in and the differences are significant. The big question will be that of supply – how do you **marry institutional capital** with the ability to farm the **family farm**?"  
– GREG HUNT, FORMER CEO, ELDERS LTD.
- "The **opportunity for expansion** is **enormous**, but we **need** a very **disciplined approach** to our capital structure in order to get from here to there. Improving liquidity will offer us real operating advantages. Our natural resources are unquestionably a great asset, but we need to think about their

sustainable exploitation like business-men."

– FABIO MEDEIROS, CEO MAEDA FARMS, BRAZIL

- "The use of derivative markets and forward sales has become a key aspect of our business; although with the benefit of hindsight, we should have been far more aggressive and put **greater emphasis on securing a margin** over our cost of production as opposed to being opportunistic in the market itself."  
– JAMES TOWNSHEND, CEO VELCOURT FARMING
- "The way we organize and manage our supply chain in collaboration with our customers and suppliers will be the difference between success and failure. We'll be **working harder** on **alliances** with others and making a couple of important decisions on **who's going to feed Asia**."  
– CHRIS RICHARDS, CEO ARYSTA LIFE SCIENCES
- "The increasingly populated world will need **new technologies** to grow more **from fewer resources**. Water is essential for agriculture yet it is one of the biggest limiting factors in the world's ability to feed a growing population. To meet future demand, **water** will have to be used much **more**

**efficiently**. Every year, billions of dollars worth of crops are lost in rain-fed areas which is why drought tolerance and plant water management is a research area of great focus for us. We are researching and developing crop protection, seed care and seeds to enable a full toolbox to be deployed."

– ROBERT BERENDES, HEAD BUSINESS DEVELOPMENT, SYNGENTA

### P+P's Kevin Schwartz concluded:

*Working with partners to help optimize businesses will be critical to our success as a long term investor in food and agribusiness that is providing access to capital, balance sheet enhancement and supporting directed growth. The opportunity is to work together with companies to determine ways to help them achieve their strategic objectives and create value for all stakeholders."*







The Science of Seed | The Business of Biotechnology  
The Fundamentals from Food to Forestry

**Vision** is a product of inherent industry knowledge, exceptional experience, careful forecasting and thoughtful, practical intellect. The Context Network provides the world's leading agribusiness companies with inimitable vision in agriculture, biosciences, food, fuel and forestry industries.

**Clarity** comes from perspective and thorough understanding of the business environment. Leading global agro, bio and food industry companies look to Context for senior level executive leadership and direction on issues facing the industry and confronting each business segment.

**Relevance** is earned through consistent, solid engagement in the industry. Composed of a core group of professional executives, Context is complemented by a network of more than 100 industry and subject-matter experts who bring actionable relevance to current and future issues and opportunities.

The Context Network, LLC  
1 Corporate Place, Suite 472  
1501 42nd Street  
West Des Moines, IA 50266  
P: 515.225.2204 | F: 515.225.0039  
info@contextnet.com  
www.contextnet.com



Paine + Partners is a private equity fund that utilizes extensive industry expertise in a disciplined and differentiated global investment strategy to deliver superior risk-adjusted investment returns. Since its inception, it has enjoyed more than a decade of successful investments and partnerships in the agricultural, horticultural, food and protein industries, in leading companies such as Seminis, Advanta and Iccicle Seafoods. Paine + Partners is proud to have developed lasting relationships with many others. The firm invests through management buyouts, going private transactions, and company expansion and growth programs. Paine + Partners engages exclusively in friendly transactions developed in cooperation and partnership with a company's management, board of directors, and shareholders.

The firm was founded in 1997 and today has more than 25 professionals, including seven industry veterans who serve as operating directors, managing \$2.7 billion on behalf of leading financial institutions. The firm has invested \$2.1 billion in 18 platform investment companies and made 59 follow-on acquisitions in over 20 countries, representing \$6.4 billion in enterprise value.

Paine + Partners, LLC  
One Franklin Parkway, Building 910, Suite 120  
San Mateo, CA 94403  
P: 650.393.7100 | F: 650.393.7150

461 Fifth Avenue, 17th Floor  
New York, NY 10017  
P: 212.379.7200 | F: 212.379.7235

71 South Wacker Drive, Suite 1875  
Chicago, IL 60606  
P: 312.564.5300 | F: 312.564.5400  
www.painepartners.com