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GLOBAL TRENDS, CHANGES, AND IMPLICATIONS TO SOUTH AFRICAN FINANCE

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INTRODUCTION

Powerful and persuasive forces are propelling the agricultural industry toward new dimensions for the 21st Century. The drastic changes are due to the emergence of two powerful sources: revolutionary scientific developments in bio and information technology and social and political activism. These two areas have exploded on the scene simultaneously. Let's journey out a decade and examine the agricultural industry, and how it will impact the financial institutions and agrilenders that will be employed in the industry.

CATALYST FOR CHANGE

There will be several key catalysts for change that will shape the agribusiness community over the next 20 years. These components for change are highly interrelated with change in one aspect creating or offsetting change by the other components.

INFORMATION AND BIOTECHNOLOGY EXPLOSION

Most recently, the information explosion and biotechnology have been major contributing factors to increased productivity in most developed agricultural countries. With these two powerful forces converging, changes are forecast for agriculture in most developed regions of the world. These changes are

- (1) increased productivity;
- (2) fewer farms and a bimodal farm and support services sector;
- (3) consolidated productivity in more commercialized and industrialized segments; and
- (4) more political activism concerning implementation of technology.

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The central role of information technology is going to allow the agribusiness firms serving agriculture to move up the information value chain. According to a recent Gallop poll, 59 percent of large agricultural producers with over \$250,000 in sales will purchase products over the Internet in the next two years. Market research indicates that this percentage will be as high as 90 percent in Australia and Canada, and other countries with remote customers. The use of the computer and data mapping to collect data, organize it into information, and then customize it into knowledge and provide solutions will become more standard to high-valued customers. Lenders and agribusinesses will use databases to quickly pinpoint risk and business opportunities at the customer and portfolio levels.

More agribusinesses will form strategic alliances across input sectors, i.e. lenders, input supply services, and e-commerce delivery systems to provide products at a low cost in a real time format, but with customized solutions. The advent of second generation of computer technology will be more human interactive and friendly.

The implications are that an agribusiness, which has not strategically thought about an e-commerce launch, may be out of the mainstream of agricultural sales. Second, strategic alliances are going to be critical, even with competitors, as the information society blurs marketing channels, and the term "coopertition" emerges.

The biotechnology revolution will reshape agriculture, affecting livestock and crop genetics, tillage systems, crop protection, individual human health, and more.

As commercial farm sizes increase and with information more widely available than ever before, technologies that add value will be embraced more quickly. Product life cycles will be dramatically shortened by the introduction of new technologies. The rapid adoption will place tremendous pressure on firms' research and development activities². In the e-commerce world, the 365-day year shortens to 40 days.

For example, to date farmer adoption of biotechnology advances that truly provide greater production efficiencies has been very quick. Round up resistance in soybeans and cotton has easily measurable results. In the crop sector improved high-lysine and high-methionine corn and soybeans oil, protein, and carbohydrate composition are being developed. In animal agriculture, similar developments are allowing genetic firms to link with agribusinesses to control and influence characteristics such as feed efficiency and meat quality. However, consumer, political, and media reaction to these developments in genetically

modified plant and animal agriculture may slow adoption in the markets, which has recently happened in Europe and other economically advanced countries in the world. This can shift potential markets and income streams of whole sectors or geographic regions.

Longer term, more value-added crops and livestock with specific quality/output traits for food, industrialized and perhaps medical use will arrive on the marketplace about 2005. A larger number of value-added products and services not identified currently will evolve on the marketplace as consumer acceptance manifests itself. It could be very conceivable that 60 percent of world population could accept GMOs and biotechnology products, particularly in the emerging nations.

THE CONSUMER

The evolving preferences and attitudes of the end consumer will continue to have major implications for agribusinesses in the next decade. Globally changing lifestyles, levels and distribution of incomes, changing demographics of the food consumer, and an increased awareness of food safety, health, and environmental issues have created a fragmented agribusiness sector and marketplace. Consumer demands for safety, convenience, nutrition, variety, and what is perceived as value will continue to escalate in the next decade.

Food needs in developing countries will be designed to meet basic nutrition needs. This market will be fast growing and a seller's market with concerns on food security and necessary income to purchase the product. Contrast that to developed countries where the consumer will be more discriminating. Selection process will include convenience, entertainment value, health, medical, and food safety in a slow growing buyer's market.

The main drivers of industrialized yet fragmented agriculture marketplace are the consumer, bio and information technology, and global markets. The consumer is demanding more variety in product offering, with information concerning ingredients and details of safety issues. This will require a system that will document the product from genes to retail stores. Food systems executives will demand information on a product to ensure that a food safety scare will not drive them out of business.

Biotechnology will require that a producer operate in a systems approach following a prescribed well-defined path that will increase the likelihood of a predictable outcome¹.

Globalization of agriculture suggests that domestic producers will be required to

become the low cost supplier at the global level. In the future with more products being exported having an efficient, well-defined system from product to delivery will be critical to compete.

The trend toward industrialized agriculture started with the poultry industry and has dramatically altered the hog industry within five years. Major food companies are now descending upon the grain and dairy industry. More producers are going to provide the labor, land, and equipment. The contractor will provide the seed, chemicals, and other inputs and the system of management through virtual, vertical, or horizontal integration.

THE RESULT

Implications of this structure of agriculture will have a profound impact on marketing and risk management. Historically, 70 percent of production was sold as a commodity where the producer was responsible for marketing. Twenty percent was marketed through contracts, mainly poultry and vegetable. Ten percent has been value-added, ranging from organic to specialized niche markets.

In the next five to seven years, the market structure could move to 50 percent contract production, 30 percent individual responsibility for marketing, and an increase to 20 percent as value-added. Lender risk may not only be at the production level but may become more concentrated with the industrial segments further up the food value chain. The second risk is that the agribusiness firms and food processors may target new generation producers who have cash flow and working capital, but may lack the collateral to provide the capital, expertise, inputs and the markets, thus gaining a significant amount of market share.

ENVIRONMENT

Increasingly, economic change around the world is adversely affecting the public perceptions of the environment and these affects are resulting in governmental efforts to protect the ecosystems. Fundamental differences between growth and profit objectives and environmental concerns will force government to enact legislation for environmental protection. Public opinions and challenges will be formed and initiated from the local, regional/provincial, and national and international levels.

In the United States, the industrialized hog sector has seen farm numbers reduced by 80 percent in the last five years. The result has been a geographic migration of the industry along with consolidation. The biggest issue to agribusiness

producers has been the disposal of waste. In some areas the waste issue has resulted in a stoppage of any new units, and migration of an industry to other areas with less stringent standards, where water is less of an issue. Citizen's lawsuits in the dairy industry in the Northwest USA have resulted in migration to the Midwest United States. Water shortages and quality will be troublesome in some regions of the world as competition intensifies between agriculture and the public. Water in the 21st Century will become what oil was as a resource in the 1970s globally.

Agrienders will be required to track environmental practices and keep the non-farm public informed. In the next 25 years, top producers will have to develop a system to obtain the most out of their resources like soil, water, and livestock, in a more natural biological manner. Second, as portfolios concentrate, the risk of loss can have a significant impact on the total portfolio.

GLOBALIZATION OF WORLD MARKETS

Global demand for food and fiber, perhaps as much as any other factor, will drive profits in agribusiness firms in the next decade. Issues of competitiveness as they affect global location of agricultural production will dictate market opportunities. Macro profits for most commercial producers will be a simple equation: $(P = E+W+G+I)$. Explaining the equation, profits are equal to exports potential, plus worldwide weather patterns plus government policy, plus interest rates that influence exchange rates, and cost of doing business. These variables are factors that producers and agribusinesses must manage around rather than control.

In most developed agricultural countries managers produce more than is consumed. The "E" in the equation is important to the bottom line. The producer is often competing against block economics rather than a specific country. In the next decade we will see the emergence of international block economics, i.e. North America, South America, Europe, Asia, the South Pacific, and Africa.

There will be a globalization rating and ranking game in major agricultural producing regions. North America, the USA, and Canada could be pitted against South America, Europe, Asia, Africa, and others in sizing up global competitors. Factors such as soil and water availability and quality, infrastructure, political and financial stability, and market accessibility will be factors in the rating game. For example, if South America can demonstrate an environment of political and financial stability, it could emerge as a dominant player by 2010.

WEATHER

Each year an estimated 10 percent of the world's landmass receives too much rain and 10 percent experiences a drought. As agricultural production concentrates worldwide in seven major areas (United States, Canada, Australia, New Zealand, Europe, South America, South Africa, and China) a major weather phenomenon in regions such as the Midwest or the Canadian, Australian, or South American grain belts can result in a wide variation in prices. For example, if La Nina moves toward the Midwest, particularly Iowa, which produces more corn than the Southern Hemisphere of the world, large surplus could be quickly diminished, impacting portfolio risk, through price and cost shocks.

GOVERNMENT POLICY

In theory we are moving to a free market world; in reality, it is still less than a level playing field. Environmental regulations, food safety, farm subsidies, along with intellectual and property rights and anti-trust trade sanctions will play a major role in an agrilender's strategic plan, and overall risk management.

Some areas of the world have or are moving to free markets. However, major players, such as the United States, have reacted in a manner to recouple farm program payments. This places producers in both the United States and throughout the world on an uneven playing field. For example, 60 percent of the farms in the Midwestern United States have at least 50 percent of their net income in the past five years from direct farm program payments. In 1999 over 40 percent of agricultural net income was directly or indirectly received from government; in the year 2000, it's projected to be near 50 percent.

This is most likely to continue as long as the USA has a favorable general economy, cheap food policy, the used food as a political tool, and attempt to save the family farm. However, this presents risk to agrilenders through government earnings capitalized in collateral, particularly land. In the USA, 50 percent of land values are capitalized because of the wealth of Wall Street, and strong economy, plus government programs.

Over the next ten years, there will be great debate over farm vs. rural policy and domestic as opposed to global policy. The European model of subsidies and rural policy could be very prevalent in talks in advanced countries as well as rainy day or liquidity or cyclical funds for industries like food and energy, which are vital to national security and prosperity. If the developed countries such as the USA and Europe continue to provide subsidized support the question then becomes will they place emerging agricultural economics at a competitive disadvantage hindering growth. Public policy will be agriculture's biggest risk over the spectrum from the local, regional/provincial to the national and

international levels.

INTEREST RATES

Agriculture is a heavily capitalized industry that requires stability in interest rates. During the farm crisis of the 1980s, 47 percent of the losses could be linked to the spike in interest rates. Net incomes and land values are influenced by rates. Interest rate stability is critical for stability in currency, which is important for countries exporting a considerable part of the agricultural product.

THE GENERAL ECONOMY

The general world economy will have a significant impact on the health of the agricultural and rural sector. Seventy percent of agricultural producers have a dependence on non-farm revenue streams. Changes that happen in general business economic cycles with the leading economic players can have a dramatic impact on agricultural profits and demand for food.

Macro economic policy changes, shifts in the equity and stock markets, and consumer and federal debt levels, oil and energy consumption will be factors on every agribusiness's radar screen as they strategically position themselves in the 21st Century. In some areas recreational farm ground purchased by high-income households or those who have gained paper wealth in the equity markets have fueled strong land values despite an agricultural economy in recession.

Thus, any restructuring of the world economics will change trading partners and wealth centers throughout the world. This in turn will suggest a moving target in agricultural risk management, and business development.

In the context of the macro and micro changes in agriculture and government reform in South Africa the following is a five-point program for an agricultural economy at the crossroads. This discussion is designed to provoke thought, present ideas that could build upon present success in agricultural finance and take South African agriculture to the next level.

RAINY DAY/CYCLICAL FUND

Agriculture has a history of being cyclical. Agricultural economists and other professionals have been quite astute in their abilities to predict the cyclical deviations for the grain, beef, and hog industry. Expansion and contraction cycles also exist in the general economy with a similar predictive ability.

Normal supply and demand imbalances created by weather, technology, market supply and demand have produced challenges for policy makers and producers and managers of the industries that serve agriculture. These deviations are the norm and will be compounded by political and trade issues, global market abnormalities, consumer activism, and the overall concentration and consolidation of agriculture.

Agricultural industry leaders and academia must develop proactive programs for agriculture in order to manage the wider degree of variation in incomes for a heavily capitalized agricultural industry.

A case in point can be taken from Australian and Canadian agriculture as they prepare for the movement toward free market global agriculture. Government and industry leaders developed a very proactive plan for producers that were very susceptible to wide variations in income due to market, political, and national forces.

For example in Canada the NISA program developed in the early and mid 1990s by industry leaders and government has been quite successful. Producers could invest up to 3 percent of their gross revenue (tax deferred) in a rainy day fund. Government would match their proceeds and the combination of government and lenders would pay market rate interest on these accounts.

The result has been that over two thirds of the producers who qualified for these accounts currently have balances. As recent as July of 1999 nearly \$2.7 billion has been invested in NISA accounts. This is approximately 30 percent of the Canadian producers variable expense side of the income statement. Producers are taxed as they withdraw monies from these working capital accounts. One downside is that some producers have been reluctant to withdraw monies as they consider these as retirement investments.

In countries such as South Africa that is very susceptible to changes in global markets, and domestically to weather and other political issues, a cyclical fund is critical. Perhaps a tax incentive could be given to the commercial and emerging farm segment to encourage them to build working capital reserves.

Lending institutions could create an interest rate incentive on both interest paid and received for those producers who proactively vested funds in these accounts. Producers who demonstrated initiative then could be rewarded through reduced interest rates or a special government reduction of the debt.

These accounts could be used as justification by the agricultural departments within financial institutions as a safeguard in an industry with a perception of

higher risk. This in turn could ensure a stable and reliable source of credit to a heavily capitalized industry that must compete with other industries and entities as bank management teams seek to maximize shareholder wealth.

COOPERTITION

In emerging agricultural economies such as South Africa with less than optimal growing conditions and natural and human resource base the agricultural industry must seek a sense of common ground or coopertition. That is, joining together for the betterment of the industry even amongst competition.

Through strategic alliances, vertical and horizontal integration a Canadian and U.S. study found that when competition joined together they were 39 percent more profitable within a 3 year period.

A task force of government, lenders, producers, and agribusiness leaders must be coordinated to find common ground and speak as a common voice for all sectors regardless of size of global entity to raise the level of South African Agriculture. Agriculture is at a crossroads that needs its best minds, institutions, and agribusiness focused on a common goal and mission for the betterment of society.

First, could be a centre of knowledge with a specific mission to pool resources and the best minds in the world that cut across disciplines and cultures. This centre of knowledge could be virtual and access the latest technology. The high touch aspect of the centre could provide cutting edge programs to groups and individuals that are specifically designed to meet needs. Strategic alliances could be formed with global partners to provide the resources, i.e. human and financial to operate the center.

Coopertition is needed to develop a pool of loans similar to the secondary markets in the United States for housing, student loans, and agricultural loans. As agriculture consolidates and more emphasis is placed on the free market a mechanism for sharing the risk nationwide is needed to ensure a reliable stable source of credit regardless of size of entity.

NEW GENERATION OF AGRICULTURE

A challenge to both emerging and developed countries in agriculture will be financing the new generation agriculture. Academicians and lenders must join together to build upon successful works and develop new prediction models for business and loan success. These underwriting standards must be tested through deeper cyclical aberrations. New components of risk must be examined with

firms that are less capital intensive, more financially leveraged, have risk further up the food chain in the forms of contracts and strategic alliances, and financial strength through integration or major food firms.

Research is needed to establish financial benchmarks and best management practices for producers in the small and mid-sized group who have a relatively high probability of success. This could be contrasted to those who are exiting the industry with a major goal of preserving wealth.

In an emerging country such as South Africa, emphasis must be continued on the successful business and personal and family characteristics of subsistence farmers. The underlying principle regardless of segment is to have a thorough understanding of business, family, and personal goals, and how it relates to quality of life success.

TRANSITION

The 45,000 commercial farms in South Africa and the emerging segment face transition management issues very analogous to North American Agriculture. In the next ten years demographics, economics, and the drivers of change aforementioned in this paper will accelerate this transition.

Transition management programs in cooperation with government, academicians, agribusiness, and lenders could be developed that are both educational and networking in purpose. In Virginia and many other U.S. states a farm link program has been developed to assist older farms exiting and younger producers with interest and commitment entering into agriculture.

The Royal Bank of Canada has developed a comprehensive Via Farm program for the commercial producers. The foundation behind this program is to have their farm business consultants do an extensive review of the business and personal motivations of family or business partners. A consultation report is used as a means to facilitate the transfer through transition management team made up of lenders, accountants, lawyers, financial and operations planners, and outside facilitators who ask probing and at some times difficult questions.

EDUCATION AND COMMITMENT

In my global travels and working with a diversity of agricultural, governmental, and economic institutes I have discovered one common denominator behind a vibrant agriculture.

First, the agribusiness, agrilending, and the academia communities must have passion behind the agricultural industry. This passion is demonstrated not only through financial commitment but the human resources they expend. In the 21st Century the cutting edge agriculturalist will be required to receive 2 to 6 hours of education per week to stay abreast in this information base society.

Education programs must be designed to demonstrate value at a wide range of ages and farm segments. First academics in cooperation with the agricultural community must have resources to conduct research of producers and agribusiness needs in each segment.

Second, innovative educational programs such as day seminars and weeklong schools must be integrated toward these needs at the various segments.

Third, agricultural students must be targeted for internships and cooperative educational experiences throughout South Africa and the globe. This in turn will enable the new generation of leaders to establish networks, processes, and perspectives to operate within a global context. These undertakings will require financial resources and time commitment from academicians, agribusinesses, agrilenders, producers, and government.

These are five areas of high priority for an agricultural industry and country at a crossroads. If South Africa is going to be an economic force in the 21st Century, agriculture will be the foundation of the pyramid of success.

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