

AGRICULTURAL CHANGE AND IMPLICATIONS
FOR FUTURE AGRICULTURAL LENDERS PRACTICES

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by

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The agricultural lender can be the lifeline or he can be the downfall of present and future agribusiness operations. Which of these he becomes depends to a major degree on how he envisions the agriculturalist and the environment within which the agriculturalist must operate. My assignment is to stimulate your thinking about this agriculturalist of the future, the environment in which he will make decisions, and cause you to plan your operations accordingly.

Let's first take a look at some of the speculations or predictions regarding some major changes that will be in effect by the year 2000. Not all will directly affect agriculture, but will affect the total society and, so indirectly, affect agriculture.

1. About 6 of each 10 people in the U.S. will be living in metropolitan areas of 1 million or more (currently about 4 in 10 live in such areas).

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2. Urban areas will occupy 1/6th of the continental U.S. and contain 5/6ths of the population.

3. Working hours per worker will decline only slightly, but employees will have more flexible hours to fit their personal needs.

4. Employers will be under greater pressure from government and unions to give workers more voice in setting company policy and participating in profits.

5. Increasing government controls will come with expanded business volume. Government will exercise closer supervision over product prices and product content, wages, plant location, stock issuance, hiring, foreign investment, employee health and safety, and company expansion -- virtually every facet of daily corporate decisions.

6. Health insurance coverage will likely be in force for everyone and some form of guaranteed minimum income will be available for all.

7. Pollution controls will be very stiff and there may be curbs on private use of automobiles, especially in cities for pollution and energy savings.

You may consider several of these ideas as inappropriate with the current national administration, but in most of these ideas the die has been cast and the process has only been slowed down.

8. Solar converters will be heating many homes.

9. Nuclear-fueled generators will have assumed a major role in providing America's energy needs with development of more effective reactors and additional safeguards against radiation leakage.

10. The nation may be facing a water shortage which will lead to an intensive program of water conservation and supply; including waste water recycling, restricted nonessential use such as lawn sprinkling, and extracting useable water from ocean water.

11. Husbands will share more household chores with the traditional roles of women as mothers and homemakers dwindling in importance.

These are only a few of the many predictions one can make, however, they should be sufficient to stimulate one to think regarding some of the changes society may face over the next 20 years. These types of changes will eventually have impact on agriculture.

Now, let's shift to some trends I see which will have a direct impact on the future of agriculture. There are many factors affecting the future, but time restricts me to discuss only a few; however, these few will be ones I consider to be most important. These factors are: 1) the trend toward industrialization of agriculture; 2) the trend toward a market-oriented agriculture; 3) the trend toward changing management

philosophy; and 4) the trend of increasing international impact on agriculture.

The Trend Toward Industrialization of Agriculture

We have been experiencing an unprecedented rate of technological advancement in agriculture. This has occurred through the substitution of improved technical inputs for the conventional inputs on the farm. We are displacing land and labor through the use of such technical inputs as hybrid varieties and mechanization. This process will continue and, due to modern communications, will be adapted faster by agriculture. We are experiencing a trend toward complex, large scale, highly capitalized production units in agriculture.

We find that technology has pushed the minimum scale of production for many commodities beyond the capital and managerial capabilities of many producers. Many farm operators do not reach the technically optimum size farm. Some cannot accumulate the necessary capital to achieve the optimum complement of land and machinery. Some are part-time farmers who have nonfarm jobs that prevent them from devoting the time required to operate the technically optimum size farm. Some lack the managerial skills required to achieve growth and successful operation of the optimum farm. For these reasons, smaller than optimum farms continue to exist.

The technically optimum size of crop farms has increased about 50 percent in the last 10 to 15 years, mainly because of

increases in the size and capacity of tractors and other farm machines. These machines have also become technically more advanced and more automated. For example, wheat producers are using wider tillage machines and wider seeding drills, and the cutting width of the grain combine has been increased from 12-14 feet to 18-20 feet. Further, it would appear that these types of changes will continue, although perhaps not on the same scale as we have witnessed during the past couple of decades. Hence, the technically optimum size farm will continue to increase in the future.

This trend obviously has implications for the lending institutions -- a rising need for capital in our agricultural production units. With the substitution of capital for other inputs, the capital requirements for farming are extremely large. Further, traditional methods of financing are becoming increasingly inadequate, i.e., have exceeded the capabilities of conventional capital sources. In many cases, because of inadequate traditional capital sources, farmers have turned to other credit sources, most of which involve competition with nonagricultural industries.

This trend toward industrialization has a second implication for the lending industry -- the risk to capital lenders is increased as farm size increases and as individual operations become so complex that conventional lenders often lack the expertise to evaluate loan applications or to adequately service loans after they are made. A consequence of this develop-

ment is that lenders are increasingly requiring advanced assurance of markets and of profitable outcome of investments before loans are made. Contracts and other forward pricing techniques are being used to provide this assurance.

Finally, the farmer's ability to manage larger amounts of capital is being severely tested. What implications does this trend have for the potential of and requirements for farmers and ranchers in the future? The answer is quite simple to state but difficult to satisfy -- those in agriculture must increase their managerial capabilities or they will not survive. Future farmers will, for example, use borrowed computer time to plan planting, capital equipment purchases, and other strategic activities.

The Trend Toward a Market-Oriented Agriculture

We have been experiencing a trend toward a market-oriented agriculture -- that is, an agriculture highly influenced, if not controlled in many cases, by the market and the marketing system. The implication from this trend is that the food and fiber distribution system must be responsive to final market demands. This in turn requires that production agriculture must be responsive to the demands of the distribution system. This latter response must involve more orderly supply flow processes, increased product uniformity, and more stability in raw product prices. The entire agricultural system must recognize that success is, in most cases, synonymous with marketing success.

According to economic theory, price has the function of equating the quality and quantity of products supplied with the quality and quantity of products demanded. However, price has not always effectively achieved this equilibrium. This is due to many reasons, but perhaps, the most significant would be government interference on the pricing system and the lag of production response to price changes.

As a result of price ineffectiveness, we have seen a rise of vertical integration in the form of contract farming and actual land ownership by corporate farms. Under vertical integration, a higher level of market orientation has been achieved than through the traditional pricing system. This is not a fault of the traditional pricing system, but rather a result of interference with the way that the pricing system should function if it were functioning in a free-marketing system.

The ultimate purpose of agriculture should be to create a customer at a profit. This means that the needs of the consumer must be carefully attended to. We must study what the consumer is buying, or wants to buy, rather than what we are trying to sell and produce to meet that exhibited demand. This challenges the traditional right of farmers to produce raw food and fiber products without regard to market demands. And, it calls for an increased degree of coordination throughout the agricultural system.

Consumers have been very concerned with the sharp rises

in food costs during the last five years compared with the moderate rises before 1973. Rising food costs have eroded the security of the middle class and adversely affected the diets and lifestyle alternatives of the poor and those on fixed incomes. Since food is a necessity and since food prices are so visible to the consumer, the psychological impact of a rise in food prices is greater than price increases in most other products. This is particularly true since most purchases of food are on a cash basis and most purchases of other items are on a credit basis.

In addition, real incomes of consumers have been decreasing over the past several years. Since the food budget is a residual (i.e., in most homes the installment payment type purchases are paid for first out of the budget and then the residual is available for purchases of food items), the opportunity for increases in consumption of our higher-priced food items, such as beef, is relatively limited. Further, for years, working wives demanded processed foods with built-in maid services. Higher prices may cause the housewife to switch back to home-prepared foods. This would have a tremendous impact on our total marketing system.

In the past, producers have traditionally produced without concern for changes in consumer tastes and desires. However, over the last several years, it has become quite clear that producers must become concerned (for example, decreased consumption of beef and increased use of competitive meats and

substitutes). Unfortunately, one of the major outcomes of these changes has been producer overreaction to changes in demand. This has caused instability of prices received by farmers and has not been good for either the consumer or the producer.

Another factor that will materially affect the instability in the near future are changes in the Agricultural Bill. Current indications are for less government support, therefore, a more market-oriented demand and greater price risks. Additional borrowed funds may be needed for price hedging to insure against these risks.

Farmers' and ranchers' reactions to changes in consumer demand will have a tremendous impact on the future organization of the marketing and production of agriculture products.

Now again, we ask the question, what implications does this trend have for the potential of and requirements for agricultural enterprises in the future. And, again we say the answer is simple to state but difficult to satisfy -- those in farming and ranching must become thoroughly familiar with the marketing system and its requirements or they will not survive. They need to know what their market is and how to produce for it. They need to know both the quality and quantity demanded for the marketing system.

The Trend Toward Changing Management Philosophy

The first two trends lead me to the third implication that I wish to emphasize, which is that current trends in commercial

agriculture require increased management capabilities and a change in management philosophy of agricultural producers. If agriculture is to become more market-oriented, there must be a change in the basic management philosophy of many producers. The alternative to a change in philosophy is to import management skills from outside commercial agriculture. However the change in philosophy is achieved, this change must occur. Obviously, as technology advances and capital needs increase, management capabilities must increase. This may be difficult to achieve in some cases because we know that these capabilities have already been stretched to the limits of the existing management structure of many operations.

The Trend of Increasing International Impact on Agriculture

Agriculture is one of the few U.S. industries which can compete favorably in international markets. As a result, agriculture is gaining increasing economic importance to the United States' balance of payments situation. At the same time, however, agriculture is becoming less important in the political power structure in the U.S., i.e., farmers have much less political impact than in the past. This situation obviously poses a dilemma -- the political importance of agriculture is much weaker than the economic importance would indicate.

There are other trends that one could discuss, but for my purposes today, I will use these four as a basis for my discussion. Again, the four implications are: 1) a trend toward

a market-oriented agriculture which requires an increased ¹¹ degree of coordination and control throughout the entire agribusiness system starting with anticipated consumer demand and extending to basic production decisions; 2) a trend toward an industrialized agriculture, caused by technological advance, which is creating a highly capitalized agribusiness system in the face of increasing difficulty in acquiring capital from traditional sources; 3) a trend toward increasing management capabilities and changing the management philosophy of agricultural producers; and 4) a trend toward an increasing impact of agriculture in the international arena while a decreasing impact in the political arena.

There are two additional general comments that I must make. These comments relate to two additional changes in agriculture that will have an impact on future growth of the industry.

The first concerns the fact that a majority of the farm population today does not receive over one-half of their total income from farming. Consequently, policy decisions affecting agriculture take on less significance to these farmers than they would to those who derive their entire income from the farm. Further, these "part-time" farmers are not very responsive to price changes which greatly hinders the marketing system from performing its function.

The second comment concerns the fact that U.S. agriculture has been based upon cheap fuel. However, it appears that we have entered an era, and a lasting era, that will not have

cheap fuel. Consequently, we can expect serious changes in production practices due to increased costs of inputs, particularly fuel, even though fuel cost is a relatively small percent of out-of-pocket production costs (fuel costs account for up to about 8 percent of these costs for high fuel users like small grain producers).

Some project that the worsening of the energy crisis might return former farming technology and production arrangements to favor. Farmers might, for example, use less chemical fertilizer and pesticide, more animal manure and natural pest killers. Farmers might resume crop rotation to preserve soil nutrients. They might buy smaller, less energy-consuming gear and farms might become smaller; with energy a scarce commodity, bigness might become labor-intensive, and some people even see a return to draft animals for certain farm work.

I guess I've given you enough to think about regarding the environment within which the agriculturalist will have to operate in the future. And, I suspect by now you will have diagnosed that the agriculturalist will be faced with many decisions, most of which may not be based upon factors under his control. Furthermore, I suspect by now you are wondering just what kind of an individual will the agriculturalist be and how will you be able to service him in an efficient and effective manner.

To help describe the type of farmer I think you may be dealing with, let me share with you briefly, the operation of a family farm that I learned about several years ago.

This was a family operation, fully integrated, that was

designed to produce and market one million turkeys annually. The firm planned to own and operate 20 farms, each producing about 50,000 market birds annually in completely environmentally controlled houses. Each farm was to be managed by an employee of the firm who lives in a company-owned house on the farm. In addition to the production farms, there was to be a breeder farm to raise breeder hens for egg production for the company hatchery and for outside sales. The poults were to be placed on company farms and also on outside sales. There was to be a feed mill to supply feed for the birds as well as outside sales. The finished market birds were to be moved to the firm's processing plant where they were to be processed for use, primarily in the firm's franchised chain of turkey restaurants in which the firm planned to maintain at least 50 percent ownership. The restaurants were designed as both take-out and eat-in facilities.

Now, what are the reasons for this type of operation?

Let's look at a few of them:

1. Economies were to be achieved in transportation because all production facilities were to be located within 10-15 miles of the center feed mill, hatchery, and processing plant.
2. Per unit cost savings were to be achieved by operating all facilities on a year-round basis (most turkey hatcheries and processing plants still operate only part of the year). This year-round operation was to be facilitated by having a market, the restaurants, that would require the birds on a year-round basis.

3. Cost savings were to be achieved through a much greater degree of coordination of all activities by direct ownership than could be achieved any other way. For example, feed deliveries, poult deliveries, delivery of birds to the processing plant and to final market could all be coordinated such that all facilities were to be operating at capacity at all times.
4. Quality control, with particular reference to disease control, was to be greatly improved by having all production facilities built to specifications and all flocks handled by company-trained employees who are supervised by a specialized production manager.
5. Market orientation was to be achieved because the firm has flexibility in meeting the demands of the market. For example, the firm had developed, from its breeding stock, a four-pound, fully-developed turkey fryer which would be utilized as barbecued turkey in the restaurants.
6. The scale of operation allows the firm to employ top-notch management. Further, the firm would be able to retain these personnel through the use of stock options and other fringe benefits which smaller operations usually cannot afford.
7. The scale of operation also allowed the firm to computerize all production and marketing performance data, and provide this data to management on a daily basis if necessary.

8. Because of all of these above factors, the firm would be able to acquire financing from an insurance company for almost \$2 million and filed with the Securities Exchange for purposes of going public.

The family that operates this integrated firm consisted of a father (BS in Poultry Science), two sons (one has a BS in Poultry Science and an MBA, and the other has a BS and MS in Agricultural Economics) and the wife (two-year degree in Accounting). Furthermore, their employees included one with a PhD in Poultry Nutrition and one with a PhD in Genetics while most of the farm managers had a BS in either Poultry or Agricultural Economics. This was, to say at the least, a rather impressive academically-trained management group. It was this group that developed the entire plan and put it into effect.

The problem soon encountered by this operation was lack of capital. Local banking sources lacked the expertise to adequately evaluate this operation, so they turned to "non-traditional" sources -- first, an insurance company and then later, to the Securities Exchange. I have seen this happen many times over the past few years, i.e., farmers turning to non-traditional sources of capital because of the inability of traditional banking organizations to adequately evaluate and service the required loans. The Farm Credit System is certainly one of the sources of funding for large integrated farming operations.

Let's now sort of summarize the characteristics that farm managers of the future will possess.

The farmer/rancher of the future will have to function within social, economic, and environmental situations relating to such things as vertical and/or horizontal integration in agriculture; competition for the use of scarce natural, financial, and human resources; changing market structure, patterns, and practices; increased government regulation in such areas as ecological considerations, pollution, labor relations, quality control and international marketing and increased consumer influence in agriculture, both politically and through the dollar. These farmers and ranchers must be able to anticipate, understand, and effectively adjust to these rapidly changing social, economic, environmental, legal, and financial situations.

In order to be able to effectively deal with these situations, it would appear that our farmers/ranchers of the future will possess the following characteristics:

1. He will be extremely well-versed in the principles of sound management (in fact, many will have MBA degrees).
2. He will use a systems approach to problem identification, identification of effective alternative courses of action, precise evaluation of each alternative, and aggressive, positive implementation of policies and/or actions to solve the problems.
3. He will have full command of the use of economic tools of analysis to aid in the decision-making process in-

cluding profit maximization, break-even analysis, budgeting, enterprise analysis, hedging, etc.

4. He will have a comprehensive cost accounting system for use in decision-making plus tax management.
5. He will have adequate understanding of the physical production functional relationships (input-output relationships) for use in deciding cropping systems, use of fertilizers and chemicals, etc.
6. He will be well-versed in the use and application of computers in management (he will probably have a terminal in his office) since he will be doing his planning for all field operations, buying inputs, marketing his products, selecting capital investments, selecting enterprises, and financing his operation with the aid of computers.
7. He will be using strategic decision-making in his operation involving such decisions as own vs rent, specialization vs diversification, size goals in relationship to long run average cost curves for the industry, and choosing alternative forms of capital generation and business organizational structures including utilizing capital sources outside traditional agricultural lenders.
8. He will be very knowledgeable in labor management and will practice such activities as maintaining personnel records, conducting employee training and performance

reviews, and operating employee benefit plans which will become commonplace in agriculture.

9. He will have a machinery management program, on a computer, to answer questions such as when to trade (comparison of new capital costs vs reduced repair and downtime costs), machinery efficiency standards and labor efficiency relationships.
10. He will be knowledgeable regarding marketing strategies including the role and potential impacts from changes in the international arena.
11. He will be very involved in the decision-making process in regards to governmental programs and policies.

There are many additional areas which I could mention -- but, I feel these will be sufficient to get the point across that the future farmer/rancher will be a business manager in every sense of the word. The challenge to you, as lenders, will be to become at least equivalent in your managerial capabilities to that of your clientele. Only in this way will you be able to adequately service our future agriculturalist.