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Managing Risk

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Introduction

Farming is and will always be a risky business. As farm businesses have become larger, risk exposure levels have increased significantly. This is due to bigger investments, greater debt, and a growing dependence on purchased inputs. Changes in farm programs and trade policy have a direct impact on farm businesses. New technology frequently favors larger farms, which is one reason farm numbers have declined. Moreover, new technology may not always perform as advertised or may not be profitable. Plus, the application of new technology frequently demands sophisticated management skills. All of these factors create extraordinary demands on the managers of modern farm businesses. How can a manager cope?

There is a time-tested approach that managers can follow to enhance their chances of success. This technique includes setting clear goals, careful planning, possessing or obtaining the resources and skills needed to implement the plan, and systematically monitoring and evaluating farm performance. Monitoring and evaluating farm performance and taking corrective actions when needed are sometimes referred to as *controlling* the business. ***Planning, implementing***, and ***controlling*** are the three broad functions of management. Risk management is an important component of the planning and implementing functions.

If the manager of a business is to control risk, he or she must have (or must develop) a broad awareness and understanding of risk and risk management as well as an appreciation of the value of incorporating risk management into the planning and decision-making process. Risk management includes an understanding of sources of risk and the ability to evaluate the impact of specific risks, the capability to set risk management priorities, an understanding of risk management strategies and decision-making tools, and the ability to develop and implement plans to manage specific risks.

Sources of Risk

Describing and categorizing risks in a meaningful way can help a manager develop an understanding of the sources of risk, which is essential in the development of effective risk management strategies. There are five fundamental sources of risk:

(1) *Weather and other natural phenomena*. Local weather affects yields and quality, both directly through temperature and precipitation and indirectly through impacts on pest populations. Global weather affects world production and prices. Weather and other natural phenomena can cause many types of natural disasters.

(2) *Technology*. Technology is embodied in farm operating inputs, for example, seeds and pest control products and capital assets such as machinery and buildings. The performance of existing technology is not known with certainty. The performance of new innovations is even more uncertain but, once established, may render current farm practices and assets obsolete. Early adopters of new technology take more risks because new technology may not work under certain conditions or may not be profitable. However, when new technology is profitable, the early adopters earn the greatest rewards.

(3) *Social attitudes*. The attitudes and preferences of society as a whole affect the demand for farm products directly, and indirectly they influence the many and diverse government policies and regulations that affect the agricultural economy.

(4) *Institutions*. This encompasses a wide array of government policies and regulations, the legal framework of society and business, and industry structure and performance. Government policies are pervasive and include farm, trade, macroeconomic, and environmental policies. Health and safety policies and regulations affect productivity and cost. Laws determine or influence business and economic behavior by defining what is legal and what is criminal activity, and laws affect business incentives and opportunities.

(5) *Individual human behavior*. This category includes the skill level and knowledge of the primary operator as well as key employees. It considers the family situation (health, personal relationships, etc.) and also the behavior of third parties (failure to fulfill business contracts, negligence, criminal acts, etc.).

The sources of risk described above affect the financial performance of the farm in a variety of ways. These include impacts on production, prices, profits, cash flow, and asset values. Farm profit is defined as farm revenue less all economic costs. A farm business must be profitable to prosper and survive. Cash flow feasibility is the ability of the farm business to meet its financial obligations in a timely manner. This includes paying bills, making debt payments and providing cash for family living needs. Asset values affect the solvency of the business and the ability to obtain credit.

If risks are to be controlled, the manager must consider both the probability of an undesirable event occurring and the nature and size of the impacts that an event would cause if it did occur.

Setting Risk Management Priorities

Risk has two components: (1) the chance or probability that an unfavorable event will occur, and (2) the impact of that event if it does occur. A comprehensive approach to risk management means assessing the potential impacts of the multitude of risks faced by the business and then addressing these risks in some order based on importance or significance. Some risks have a low probability of occurring and would have a small impact if they did occur. Others may have a higher probability and a much larger potential impact on the business.

To assess the financial consequences of various risks on the viability of the business and the achievement of business and family goals, the manager must have a sound grasp of the financial performance and status of the business, which includes solvency, profitability and cash flow.

Risk Management Strategies

The third component of risk management includes strategies and tools for deciding what action to take to manage a specific risk. There are three basic strategies:

(1) Reduce the probability of an unfavorable event.

(2) Self-insure and accept the impact if an unfavorable event occurs.

(3) Reduce the impact on the business if an unfavorable event occurs by shifting risk to others.

Each category includes a large number of specific actions to consider.

Reducing the probability of an unfavorable event can be accomplished by effective strategic planning. In particular, managers can develop their management skills and increase their knowledge base either directly through self-improvement or indirectly by using outside advisors. Examples of effective strategic planning include a thorough understanding of the external environment within which the business operates and of the trends and forces that could change this operating environment in the future; an understanding of the management process and of the production processes of the enterprises that comprise the business. (This includes understanding past farm performance, both physically and financially, and knowledge of the current financial status of the business. It also includes knowledge of the historical variability of key factors, such as yields and prices.); skill development, which runs the gamut from production skills through labor and financial management.

All of these activities impose costs in the form of time spent (opportunity costs) and money.

Self-insurance includes the following options:

- Modify revenue-related risks by diversifying the enterprise mix. However, this may lead to lower average revenue or added costs through a loss of efficiency.
- Reduce production risk by spreading production geographically. This option is likely to cause costs of production to increase.
- Build net worth. This will help a business survive adverse events, but may also mean foregoing credit financed business opportunities or reducing family living withdrawals.
- Build excess production capacity to reduce the likelihood that production-related activities will be delayed, reducing yields. This adds to costs, including added investments in oversize or back-up equipment and carrying extra labor.
- Establish a form of asset ownership and business organization that optimally minimizes the impact of adverse outcomes. This includes decisions about leasing versus owning farm assets, the proportions of equity and debt capital invested in the business, and the legal basis of the business organization.

Reducing the impact by risk transfer includes buying insurance of one form or another including indemnity insurance, life insurance, and multi-peril crop insurance. Costs are incurred in the form of insurance premiums. Hedging, options, forward contracting, etc. can reduce price risk; but management time is required, and there are transactions costs.

For any given risk, there may be more than one risk management strategy. In fact, there may be several options under each strategy. The cost and effectiveness of each option may be different, so benefits and costs must be weighed. Furthermore, the financial status and performance of the business affects the choice of strategy. Decision criteria and tools are needed to evaluate alternative risk-management options. Many tools are available such as sensitivity analysis, payoff matrices, risk-rated returns, decision grids, and contingency planning.

Implementation

Most farmers have extensive experience implementing the production part of a business plan. This includes acquiring the resources called for in the plan — land, facilities, equipment, and working capital. Implementation also consists of acquiring and managing human resources, both hired employees and family. Implementing a risk-management plan requires information and skills in various areas such as production, marketing, financial, institutional, and human resource risk. Evaluating and making timely decisions about specific risks takes time and may be a continuous process, for example, tracking market developments when using futures to manage price risk.

Self-management is also necessary. It includes taking the time to manage and develop all the skills required of a manager including information management and effective problem solving. An assessment of past business performance, knowledge and skills relative to managers of similar businesses may help an individual manager determine his or her strengths and weaknesses. This, in turn, may suggest areas where professional development would be helpful, or where assistance from outside professionals is required.

Controlling

Controlling is the third area of management. It consists of monitoring farm performance and evaluating results against clearly defined standards or targets. Evaluating performance regularly allows a manager to identify problems early and take corrective action. Minor problems may be easy to solve with a little fine-tuning, but larger problems may require major changes.

Effective monitoring requires timely information from a record keeping system designed specifically for this purpose. The targets can be production related, for example, per acre yields, animal growth rates or feed conversion rates. Then again they may be financial, such as prices received, cost of production per bushel, return on investment, or income generated for family living. Monitoring financial performance such as debt-to-asset ratios, net worth trends and cash flows will show changes in the financial status of the business and its ability to bear risk.

In addition to controlling business performance, managers must also monitor the external business environment for impending changes or unexpected events that may create either problems for the business or new opportunities.

Summary

The approach to risk management described here has four parts, namely goal setting, planning, implementing the plan, and controlling business performance. Goal setting provides direction, and the other three parts describe the process of managing the business to achieve these goals. Risk management is a component of planning and implementing.

A manager must be aware of the many risks facing the business and the importance of risk management in achieving family goals. This includes an understanding of the sources of risk and the impacts unfavorable events can have on the business and family. This in turn helps a manager to identify gaps in his or her current risk management program and set risk management priorities.

It is relatively easy to define and categorize a number of risks and discuss risk management strategies in general terms. However, the development of risk management strategies imposes added costs and makes added demands on a manager's time. Therefore, priorities must also be set between risk management and other management functions. Within the time allocated to risk management, the manager must set priorities among the various risks facing the family and farm and develop specific risk management strategies for the most serious ones. Outside assistance likely will be required, because these decisions can be complex and specific technical knowledge often is required.

Clearly, managing a business in a risky environment places high demands on a manager's time, energy and skills, but carefully developed risk management strategies are the only way to increase the likelihood that a business will succeed.

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