



Six-Step Process for Managing Risk: A New Mexico Scenario

Tate and Shyann are a married couple operating a farm in northwestern New Mexico. They raise sheep/lambs and alfalfa hay for their primary cash crops, but they also grow traditional Native American crops of maize, beans, and squash primarily for family consumption.

Every year drought is a major risk that threatens their opportunity to generate profits on their farm, and last year a major drought negatively impacted the forage production of their grazing lands and the yields of their hay lands to a point it nearly put them out of business. They know they could not survive another major drought, and thus, began exploring what risk management tools and strategies might be available to them.

Tate contacted his banker about ways he could better manage for drought and the other risks associated with their farm. The banker told Tate about a six-step process many of his bank customers used to manage risk on their farms. He gave Tate a copy of a six-step risk management workbook developed by RightRisk. He told him to take the workbook home and work through each step with Shyann.

Tate and Shyann decided to set aside two hours immediately after their Saturday morning breakfast for two consecutive weeks to work through the six-step process. Shyann took diligent notes in the workbook to keep them on track and headed in the right direction.

Step 1: List and classify our risks

- **Production risks** – factors that affect the quantity and quality of commodities produced.
- **Market risks** – uncertainty about the prices producers receive for their products or prices they pay for inputs.
- **Financial risks** – factors affecting the financial health and stability of the farm such as rising interest rates, loans being called by lenders, and restricted availability of credit.
- **Legal or institutional risks** – uncertainty surrounding government actions, tax laws, regulations, and other institutional and legal impacts.
- **Human risks** – factors such as accidents, illness, death, divorce and other risks associated with the people involved with the business.



Given their recent experience, Tate and Shyann quickly identified drought as a risk of concern. They decided that this would best be described as a production risk associated with uncertain precipitation. Another production risk they were concerned about was the threat of insects impacting their hay production. Tate expressed his concern about market price risks associated with the sheep and hay they sell. Finally, Shyann said she was concerned about the human risk related to the impact on the business if something (death, illness, injury, etc.) would happen to either one of them.

Step 2: Measure (and prioritize) the importance of our risks

- **Low Probability/Low Impact** – Lowest Risk
- **High Probability/High Impact** – Highest Risk
- **What can we do about the risk?**
 - Highest Risk/Highest Influence – Highest Priority
 - Lowest Risk/Lowest Influence – Lowest Priority

After considerable discussion Tate and Shyann identified precipitation/drought risk and market price risk as their two highest priorities. They knew both of these had the potential to impact them considerably and, given recent experiences and what the experts seemed to be saying, they thought they also had a reasonably high probability of occurring in the not too distant future. They decided the next highest priority was addressing the threat of insects impacting their hay production. And finally, they decided that the low probability of something really bad happening to either one of them would make human risk their fourth priority at this point in time.

Step 3: Consider our ability or capacity to bear risk

- **Liquidity** – the ability of the business to meet cash flow needs or obligations.
- **Solvency** – the ability of a business to withstand adversity and continue in business.

Once these risks were identified and prioritized, they spent some time with their financial records to assess their ability to bear the potential impacts any one of these risks might bring to their business. The recent drought impacts had taken a toll on their finances and they both felt the business had little room or capacity to bear another large financial setback.

Step 4: Consider our risk preferences

- **Risk adverse or risk avoiders**
 - Cautious individuals.
 - Prefer less risky sources of income/investment.
 - Willing to sacrifice some income to reduce the probability of low incomes or losses.
- **Risk preferring or risk takers**
 - More adventuresome individuals.
 - Prefer more risky business alternatives.
 - Willing to accept some probability of lower income or losses for the opportunity of higher income.
- **Risk neutral**
 - Individuals between risk adverse and risk preferring.
 - Choose the decision with the highest expected return.
 - Not concerned with the specifics about extreme highs or extreme lows.

At the same time they discussed their capacity to bear risk, Tate and Shyann also shared with each other their personal preferences about risk taking. They decided that, while they both were risk takers for being in the business they were in, they both also had a preference to avoid or miti-

gate any risk that might potentially put them out of business. They decided to classify themselves as moderately risk adverse.

Step 5: Describe our risk goals

- **Use clear statements** of where you want to be after a period of time (short-term, intermediate term, and long-term).
- **Goals should be SMART** (Specific, Measurable, Achievable, Relevant, and Time Bound).
- **Identify the required actions** to achieve our goals.

Tate and Shyann next determined their risk management goals. The first goal they reached a consensus on was to reduce market price risk such that a total collapse in the cash market price for any one of their products would not decrease overall annual cash revenue more than 40 percent. They realized their current lack of diversification in product sales would make this tough to achieve but they both agreed it was something they preferred to see. Their second goal was to reduce production risk so as to have at least an 80 percent probability of achieving at least 65 percent of normal (5 year rolling average) overall production value each year. They decided to first work on these two goals but committed to taking up the task of addressing human risk within the next two years.

Step 6: Identify risk management tools and strategies to help manage priority risks

- **Identify risk management tools** such as diversification, insurance, contract agreements, etc. that are available to address our high priority risks.
- **Consider whether we want to reduce the risk**, transfer it, or increase our capacity to bear it.
- **Identify risks we want to completely avoid** and risks we are willing to completely accept.

Through a brainstorming session, Tate and Shyann determined that the use of crop insurance and diversifying their enterprise mix would help them reach both of their risk management goals. They decided that Tate would research possible crop insurance products available to them, while Shyann would investigate additional enterprises and alternative markets for their existing hay and sheep enterprises.

Tate learned there were three primary crop insurance products available to their operation. After researching each product, he printed fact sheets for each product to share with Shyann.

The “Pasture, Rangeland, Forage (PRF) Pilot In-

surance Program,” offered by the USDA-RMA, could provide insurance coverage on their pastures and hay acres based on a Vegetation Index designed to measure all biomass and estimate plant condition in approximately five by five mile grids. Coverage is based on a grid index rather than on an individual producer’s losses.

“Whole Farm Revenue Protection,” also offered by RMA, could help them manage both their marketing and production risks. It protects a farm against the loss of insured revenue expected to be earned from commodities produced during the insurance period.

The “Noninsured Crop Disaster Assistance Program” (NAP), administered by the USDA Farm



Service Agency, provides financial assistance to producers of noninsurable crops to protect against natural disasters that result in lower yields or crop losses. Tate and Shyann could use it to provide some protection in those times when hay yields were very low especially during times of drought.

Shyann discovered in her research how product or enterprise diversification can be used to reduce income variability because all product prices and yields are not likely to be low or high all at the same time. She decided adding additional animal enterprises was not a good idea because it would force them to decrease their sheep numbers and it would not really alter their dependency on current forage resources. However, she discovered in her research that diversification could also be accomplished by selling multiple products out of their existing enterprises. Shyann shared with Tate how they could diversify by producing and selling



different types of lambs or by differentiating their hay based on bale size and quality. They could also diversify by finding multiple buyers for their lambs rather than selling them all to one feedlot buyer like they have been doing.

After sharing their research, Tate and Shyann met to make some decisions about how to proceed. They thought crop insurance would provide good protection against both drought and low market prices. They decided to wait until Tate learned more information about the process and timing for purchasing each product before making a final decision.

Tate and Shyann were both excited about diversify their sheep operation. They knew the local youth were always looking for show lambs which producers sell for premium prices. Tate thought they had some of the best sheep in the area and could likely market about 15 lambs each year as show lambs. He also thought some of their ewe lambs could be sold as bred females to the growing number of small farms in the area.

Tate and Shyann agreed that further investigation of crop insurance and the potential demand for show lambs and bred ewes were a good place to start with building a plan of action in the coming weeks. As times goes on they will work on implementing their plan and continue the process of managing risk for their operation.

Additional Resources:

[RightRisk Courses](#)

<http://RightRisk.org> > Courses

[RightRisk Risk Analysis Tools](#)

<http://RightRisk.org> > Resources

[USDA Risk Management Agency](#)

<http://www.rma.usda.gov>

[USDA Farm Service Agency](#)

<http://www.fsa.usda.gov>

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