7 RISK MANAGEMENT

The level of risk in Australian agricultural business has increased in recent years due to climate variability and commodity price fluctuations. Managing this increased risk is essential.

7.1 SENSITIVITY ANALYSIS

7.2 A RISK MANAGEMENT PROCESS

- 7.2.1 Identify sources of risk
- 7.2.2 Measure the likely occurrence of risks
- 7.2.3 Estimate the impact of risks
- 7.2.4 Create a risk score and rate risks
- 7.2.5 Develop strategies to manage risks



7 RISK MANAGEMENT

All farm businesses need to manage risks. In fact, all businesses in the Australian economy, regardless of their industry, experience risks. Economists would say the profit that you make is the reward for managing the risks you take. The challenge is to balance the risks with the rewards.

KEY POINTS

- Risks to a farming business can seem overwhelming,
 A risk management process has the following steps: especially in difficult times; the key is to focus on those risks that you can influence.
- Sensitivity analysis helps assess the impact of different risks on your farm business.
- - 1. List the business risks.
 - 2. Assess the likelihood of occurrence against the size of the financial impact.
 - 3. Prioritise the risks.
 - 4. Focus on strategies to manage the major risks.

Historically in farm business management, risks have been classified as either (1) business risk or (2) financial risk (Malcolm et al, 2005):

Business risk is defined as any risk a business faces regardless of how it is financed. Most of these risks are beyond the influence of the business, like commodity prices, production levels, costs and climate.

Finance risk, on the other hand, is significantly influenced by management and relates to the level of borrowed funds in the business. One of the biggest risks in farming is the amount of debt the business has to manage. If not managed well, unmanageable debt may lead to bank foreclosure, which would be catastrophic.

The management of risk in your business can be helped by having a process in place. A generic risk management process for business was developed by Australian/New Zealand Standards in 'Risk Management' (1995). This process has been adapted by the author Mike Krause and is provided in this section for the assessment and management of risks to farming businesses.

7.1 SENSITIVITY ANALYSIS

When focusing on risk, it is useful to assess what effect some of the significant risks have on business profit. Section 5.2.3, Profit and loss budget, Module 2 shows how to calculate the 'net farm profit (before tax)' to indicate business profitability. By modelling the impact of prices, yield and cost changes, the direct impact on the farm's net farm profit (before tax) can be analysed. This is a form of whole farm sensitivity analysis.

The sensitivity analysis in Table 7.1 highlights the effect on the sample farm 'Upndowns Farm' net profit (before tax) of a 5% change in each of the individual factors listed, with all other factors held at their existing levels. Each factor has been changed independently (of the other factors) by 5%,

the change in net profit has been calculated and the factors ranked in order of importance. For example, a 5% shift in the \$A/\$US exchange rate from \$US0.90 to \$US0.86 caused profits to increase by \$51,464. This is largely because

> 'We've been here about 25 years. When we came here, it was a wool and beef operation. Over the years, that's evolved to what it is now, which is 50% livestock and 50% cropping and irrigation. It is probably considered to be fairly high risk farming country because we're on the flood plain. We do get severe flood inundation at different times, and you can't stop that. You can put up levee banks if you want to, but the strength of this country on this floodplain is the fact that it floods. So you've just got to learn ways to manage that. As far as droughts go, you know that they're going to happen in this country - you've just got to plan for them. When we started developing the irrigation here, (we've got three pivots and some flood irrigation), the ideal was to set that up as part of our drought management strategy, and during the 2002-2010 drought, we were able to grow feeds like corn and barley under irrigation. So we were able to tap into markets that weren't available to other people.'

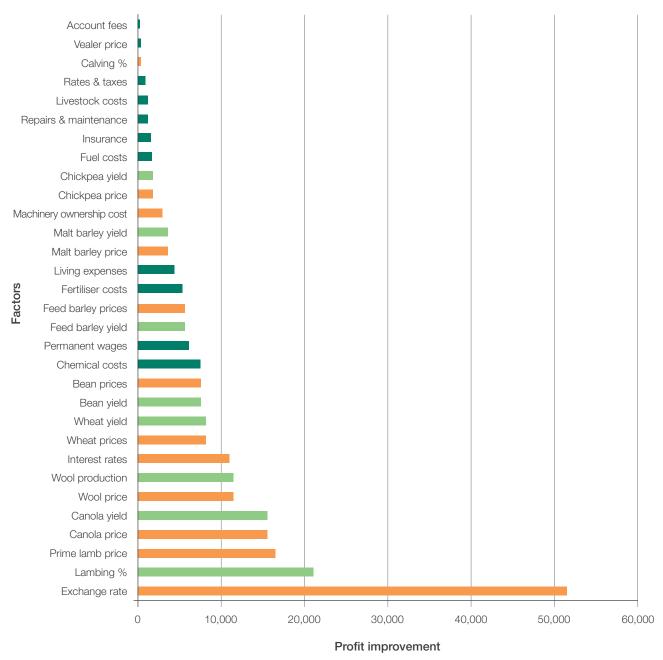
'Berryjerry Station', Wagga Wagga, NSW

Table 7.1: Sensitivity analysis: effect on net farm profit (before tax) of a 5% change in value

| Factors | | Original value | New value | Change in value | Net profit increase | Rank |
|--------------------------|----------|-------------------|--------------|-----------------|---------------------|------|
| Exchange rate | \$US/\$A | 0.90 | 0.86 | 0.04 | 51,464 | 1 |
| Lambing % | % | 100 | 105 | 5 | 20,980 | 2 |
| Prime lamb prices | \$/hd | 110 | 115.5 | 5.5 | 16,581 | 3 |
| Canola price | \$/t | 520 | 546 | 26 | 15,616 | 4 |
| Canola yield | t/ha | 2.0 | 2.1 | 0.1 | 15,616 | 5 |
| Wool price | \$/bale | 1,200 | 1,260 | 60 | 11,642 | 6 |
| Wool production | kg | 37,234 | 39,096 | 1,862 | 11,642 | 7 |
| Interest rates | % | 8.5 | 8.075 | 0.425 | 11,050 | 8 |
| Wheat price | \$/ha | 200 | 210 | 10 | 8,213 | 9 |
| Wheat yield | t/ha | 4.5 | 4.725 | 0.225 | 8,213 | 10 |
| Bean yield | t/ha | 3.8 | 3.99 | 0.19 | 7,529 | 11 |
| Bean prices | \$/t | 250 | 262.5 | 12.5 | 7,529 | 12 |
| Chemical costs | \$ | 149,055 | 141,602 | 7,453 | 7,453 | 13 |
| Permanent wages | \$ | 124,600 | 118,370 | 6,230 | 6,230 | 14 |
| Feed barley yield | t/ha | 4.5 | 4.725 | 0.225 | 5,751 | 15 |
| Feed barley prices | \$/ha | 180 | 189 | 9 | 5,751 | 16 |
| Fertiliser costs | \$ | 108,841 | 103,399 | 5,442 | 5,442 | 17 |
| Living expenses | \$ | 87,000 | 82,650 | 4,350 | 4,350 | 18 |
| Malt barley price | \$/t | 200 | 210 | 10 | 3,623 | 19 |
| Malt barley yield | t/ha | 4.5 | 4.725 | 0.225 | 3,623 | 20 |
| Machinery ownership cost | \$ | 61,300 | 58,235 | 3,065 | 3,065 | 21 |
| Chickpea price | \$/t | 250 | 262.5 | 12.5 | 1,875 | 22 |
| Chickpea yield | t/ha | 2.5 | 2.625 | 0.125 | 1,875 | 23 |
| Fuel costs | \$ | 35,000 | 33,250 | 1,750 | 1,750 | 24 |
| Insurance | \$ | 31,331 | 29,764 | 1,567 | 1,567 | 25 |
| Repairs & maintenance | \$ | 26,000 | 24,700 | 1,300 | 1,300 | 26 |
| Livestock costs | \$ | 25,335 | 24,068 | 1,267 | 1,267 | 27 |
| Rates and taxes | \$ | 22,500 | 21,375 | 1,125 | 1,125 | 28 |
| Calving % | % | 100 | 105 | 5 | 450 | 29 |
| Vealer price | \$/hd | 450 | 472.5 | 23 | 405 | 30 |
| Account fees | \$ | 6,000 | 5,700 | 300 | 300 | 31 |



Figure 7.1: Sensitivity analysis: effect on net farm profit (before tax) of a 5% change in value



exchange rate movements have a direct impact on grain and wool prices, as these commodities are traded in \$US in the international market. As exchange rate shifts have the greatest effect on profits, they have been ranked number 1 when compared to other factors.

The analysis shows those factors, in order of importance, that have the most influence on this business's profits. Study these results, as some of the rankings might surprise you, such as fuel costs only ranking at number 24 and accounting fees at 31. It puts into perspective the important factors affecting 'Upndowns Farm'. While this analysis is not specific to your farm, the relative **ranking** of your farm's risk factors would be similar to these results. The more important enterprises in your business would appear toward the top of the list.

It is also informative to view these results in a graph, as shown in Figure 7.1. Here production factors like yields are in **light green**, price related factors in **orange** and cost factors in **dark green**. It is interesting to note that the factors which have the greatest influence on profit are yields and prices. Interestingly, cost factors which focus on cash flow control, have a lesser impact on profit. These results highlight the sensitivity of profitability to both production levels and price.

This sensitivity analysis focuses on one thing at a time, yet its combined effects that have the biggest impact. It does indicate the greatest potential individual risks to this farm's profits, and therefore highlights where initial effort into risk management needs to be placed.

In reality, although highlighting some significant risks, this analysis proves to be too simplistic for the following reasons:

- Not all of these factors vary by 5% in a year. Some factors like yield and price, could vary by up to 100%, while cost factors are more in line with inflation at 2.5%. This means that production and price factors have a far greater impact on profits than the cost factors.
- Not all risks that affect farm profitability can be measured as easily as those shown in Table 7.1. For example the impact of divorce and partnership break-up on a farming business can be catastrophic, with the final effect difficult to determine prior to the event.

7.2 A RISK MANAGEMENT PROCESS

The topic of risk management started to become popular in the early 1990s when the influence of deregulation on the Australian economy became more apparent. The freeing up of the \$A and interest rates created significant increased business risk. Deregulation of the wool industry and more recently the grains industry has also provided increased risk to farming business in Australia.

When considering risk management, differences in the following concepts need to be understood (Malcolm B. 2009):

- Risk This is where the probability of occurrence is knowable. Prior experience with a risk means that the probabilities are understood. An example is the likelihood of drought occurring. Most regions of Australia have over 100 years of rainfall data, so the probability of drought occurring can be reasonably estimated. This could be expressed as drought occurring 2 years in 10.
- Uncertainty This is where the probability of an event occurring is unknowable. A good example is the destructive earthquake experienced in Christchurch in 2011 when there was no prior knowledge of a destructive earthquake occurring in the area. Consequently, there was limited risk mitigation in place and the earthquake caused significant devastation.

An important principle in risk management is to focus on those events that have a knowable probability of occurring: we know it can occur and have some understanding of the likelihood of its occurrence. Effective risk management should focus on those events of which there is some prior knowledge.

To manage risks, follow the process below:

- 1. Identify sources of risk.
- 2. Measure the likelihood of that risk occurring.
- 3. Estimate the effect on profit and/or asset value over time in the event of that risk occurring.
- 4. Create a risk score and rate the risks.
- Determine the strategies to be adopted to manage the major risks.

This process will lead you through thinking about all the risks facing your business, help you to rank the risks so that you focus only on the major risks, and then look at ways to manage those risks. You will not be able to manage all the risks in your business, but the aim is to manage those that could have the greatest impact on your business's ability to achieve your goals. Since most of your goals will probably be

measured in terms of profits and assets, the likely impact of these risks will be measured against these financial indicators.

7.2.1 Identify sources of risk

In section 3.4.3, Bringing strategic thinking to management, Module 1, risks were broadly defined as either business or financial risks. It is useful to fine tune these categories so that the full profile of risks is considered. The main risk categories are shown in Figure 7.2. Some of the categories concern risks within the business and others are risks that occur outside the business.

The seven categories of risk are:

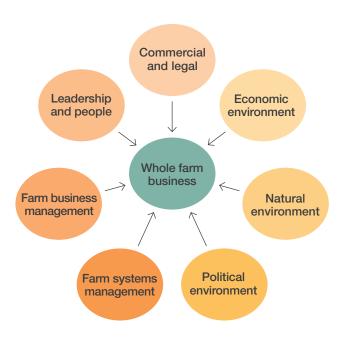
1. Commercial and legal relationships

This category covers any risk that occurs due to formal relationships from individuals through to institutions.

Contract and leasing arrangements – This includes contractual arrangements such as with banks where a mortgage has been arranged, an agreement with land owners where the land is leased or share farmed and the relationship with grain traders where contracts to deliver have been agreed. Failure to reach these obligations may result in substantial consequences and hence have risk.

Business structures – This includes the legal arrangements of a marriage or a partnership. If these break down, the consequences can be substantial, even catastrophic if the business needs to be wound-up.

Figure 7.2: Risk categories





2. Economic environment (domestic and international)

The economic environment encompasses a broad range of factors, such as commodity markets through to the purchase of inputs. They are affected by supply and demand of commodities, money (lending) and inputs like fertilisers.

Exchange rates – The change in the \$A/\$US exchange rate has a direct impact on the farm gate price of exported commodities. Generally, a high \$A/\$US exchange rate means it is more difficult to export as prices are higher, but easier to import as prices of imported goods, such as machinery, are cheaper. The opposite occurs when the \$A/\$US is lower.

Interest rates – If your business equity is at 70% or below, the movement of interest rates can have a significant impact on the business. While interest rates have been historically low in recent years, the probability of them rising is high, resulting in potential risk to your business.

Market regulation/deregulation - Market deregulation usually means increased risk as prices respond to changes in demand and supply. With this increased risk comes increased opportunity, but the challenge is to manage this opportunity.

Marketing environment for products (supply and demand) – Generally all inputs to the farming business such as fuel, fertiliser and chemicals, are subject to the world's supply and demand for these products. Price shifts for these inputs can be significant, but it is the lack of supply for inputs such as chemicals to cover disease and pest outbreaks that can create significant risks.

Economic environment for inputs and services (supply and demand) – This topic covers the use of genetically modified organisms (GMO) and whether they are accepted by the market. There are both risks and uncertainty surrounding the use of GMOs, which makes the management of this risk very challenging.

3. Natural environmental

The variability of Australia's natural environment has always been a significant risk to farm businesses. In recent years, debate surrounding climate change itself has increased levels of uncertainty.

Weather events - The Australian climate is characterised by drought, frost, floods, windstorms, excessive rain, flood, low and high temperatures, tides and hail. These events all cause financial risk.

Fire – The effect of fire can be devastating.

Earthquakes – This risk is at low levels in Australia and its effect is mainly on infrastructure.

Biological pests and diseases – These risks can be significant and at times unpredictable.

Current environmental conditions – Each season has its own characteristics and the beginning of the season sometimes has no relationship to the end of the season. A good start to a season can actually increase risk if the season ends poorly or in drought as all the input costs have been committed.

4. Political environment

The Australian political environment is generally quite stable which helps reduce risks from political instability.

Government assistance – This relates to any government assistance available to farming businesses. It could be in the form of drought assistance, interest rate subsidies or subsidised training. The risk of these programs is that they can be stopped or changed with little warning.

Political environment of foreign countries – This continually provides risks to Australian agriculture as our industries often compete with subsidised international industries. As these subsidies tend to be stable and long-term, their effects are already built into the international commodity prices.

Government policy – This relates to government policies in areas such as live animal exports, biosecurity, financial arrangements with industry research bodies, federal and state government budgets, and import duties. If changed quickly, these can provide an element of risk.

Lobby groups - These groups can be particularly disruptive to specific rural industry groups. For example, People for the Ethical Treatment of Animals (PETA) campaign against chicken cage sizes, livestock slaughter in other countries and mulesing of sheep.

5. Farm systems management

The adoption of technology can provide significant improvements in labour, productivity and operational efficiency to the farming system. This could include Guidance Systems (GPS), mobile communication, telemetry, plant variety selection, fertiliser application and quality of livestock. However, failure of this technology can contribute significant risk to production.

Information provision – We live in an age where information is readily available, but the challenge is authenticity and accuracy. There are real risks in acting on misleading information. The use of professional advisers does not necessarily mean that risks are decreased. As a manager, you need to balance their advice against the goals of your business.

Information accessibility – This includes access to the internet, GPS and mobile communications. If this technology is not available in the rural community or is not reliable, it may add to business risks.

Equipment and machinery reliability – This risk is very real when mechanical break-downs occur in peak periods like seeding, spraying and harvesting.

Maintenance accessibility – One challenge of using improved technology generally is that when things go wrong, it can be more difficult to gain the specialist services needed for support. This can significantly increase risks associated with timeliness of operations on the farm.

6. Farm business management

Farm business managers face a wide range of demands on their time and management skills including compliance issues regarding chemical use, occupational health and safety standards and responsibilities to the Australian Taxation Office (ATO). As with financial and physical management, sometimes one of the biggest risks to a farm business is the quality of management.

Management's experience – With the decline of formal farm business education, it is more difficult for new entrants into agricultural businesses to gain knowledge and experience. This challenge, as well as advancements in technology, makes it difficult for managers to remain up-to-date and increases risk in the business.

Management's strategic and tactical skills – This section is covered in greater detail in section 4.2, The strategic planning process and 4.3, The tactical planning process, Module 2. Both strategic and tactical management skills are important in running a long-term business and their absence can add significant financial risk to the business.

Financial management systems – With the advent of quarterly GST, reporting has meant financial management systems need to be maintained in each farm business. There are legal obligations that come with reporting to the Australian Taxation Office (ATO), which does not come without risk. There are also risks associated with not managing the broader financial performance of the business and the associated risks are significant, especially if default on loans occurs.

Occupational health and safety – This is a significant risk to the farming business if machinery standards fall and infrastructure is not maintained. There are significant legal risks if accidents occur due to poor occupational health and safety standards.

Quality Management – If the quality of produce is not maintained to industry standards, significant financial risk can result.

Security – This risk relates to theft and arson, which can occur in a farming business.

7. Leadership and people

A challenge for all businesses, and farming is no exception, is the management of human resources in and outside the business. Risks occur as a result of poor communication, leadership or team work.

Owner/manager – The management skills of the owners and/or managers of the farming business are one of the most significant risks to the business, and may actually magnify other risks that exist. One strategy to help minimise this risk is to follow a 'balanced wheel' of life where breaks or holidays away from the business are taken.

People management – The heart of any farming business is the people involved with the business. If members of your team are not well managed or led, significant risks can occur.

This issue was addressed in section 2, Leadership and people management, Module 1.

Employees – Risks associated with employees can be broad. Some have been covered above in OHS. This area of risk focuses on how well the employees manage their own risks of being involved in the farming business. There is a 'two-way' responsibility of employer and employee and this should be encouraged by management to help manage employee risk.

Professional assistance – Professional advice is becoming more available to Australian farm businesses, such as from accountants, financial advisers, bankers, agronomists, livestock advisers and farm business management advisers. Advice from these professionals can help manage risk but may also increase risk. To minimise the risk of poor advice, managers of the business need to communicate their key questions to advisers as clearly as possible and then be able to understand and implement the advice.

These seven areas of risk provide a list to identify and rank risks to your own farm business.



7.2.2 Measure the likely occurrence of risks

Essential to assessing each risk is to rate the likelihood of it occurring. If a risk has some historic measurement, these records can be used to assess the likelihood of occurrence. For example, when assessing the risk of drought for 'Upndowns Farm' in a medium to high rainfall area, records may indicate a 1 in 10 year drought, or a 10% probability. However, other risks like the incidence of divorce in the farming family would be very hard to quantify. It could occur but may have never occurred before, so it is difficult to assign a probability. In this case, the likelihood could be described as 'unlikely'. Although this measure is subjective, it can provide a likelihood 'score' as shown by the scale provided in Table 7.2.

Table 7.2: Likelihood of occurrence

| Description | Rating |
|----------------|--------|
| Rare | 1 |
| Unlikely | 2 |
| Moderate | 3 |
| Likely | 4 |
| Almost certain | 5 |

Source: P2PAgri Pty Ltd

Each risk can be assigned a likelihood score, from 1 being 'Rare' through to 'Almost certain' having a score of 5. The 10% probability of drought for 'Upndowns Farm' could be rated as 'Unlikely', so has a score of 2.

7.2.3 Estimate the impact of risks

The next part of the process is to assess the effect on profit and/or asset value over time if a risk were to occur. Using the 'Upndowns farm' again, the estimated net farm profit (before tax) is estimated to fall from \$350,334 in an average season to \$133,900 in drought conditions. This is a decrease of about \$216,400, or 61.8%. While significant, the business remains viable, indicating it can manage the financial challenge of one drought. The impact of drought on this business could therefore be classed as 'moderate'.

Table 7.3 shows that the impact of a risk can be expressed as 'Insignificant' with a score of 1, through to 'Catastrophic' which has a score of 5. This impact score is also subjectively applied, but in most cases, this is the only option when determining the impact of a risk.

Table 7.3: Impact of a risk

| Description | Rating |
|---------------|--------|
| Insignificant | 1 |
| Minor | 2 |
| Moderate | 3 |
| Major | 4 |
| Catastrophic | 5 |

Source: P2PAgri Pty Ltd

Two things to keep in mind when scoring the risks faced by your business:

- Level of impact When viewing these impact scores, rate them relative to the impact they would have on the cash flow, profits and equity. 'Catastrophic' means the business would be deemed as no longer viable, so this is the ultimate impact. For example, the divorce of the business owners could result in assets needing to be halved. In most farm businesses, this would mean the business would not survive. 'Insignificant' means the impact of the risk would be virtually unnoticeable. For example, if interest rates increased and the business had 100% equity, there would be negligible financial impact.
- Current risk management strategies in place Some of the risks to your business will already have a risk management strategy in place. For example, the effect of fire damage to a standing wheat crop can be covered by crop insurance. If a fire damages the wheat crop, the insurance is triggered and the insurance pay-out covers the financial loss. In this case, the financial impact of the fire would be 'Insignificant'. When considering each risk, keep in mind the current risk management strategies that are already in place.

7.2.4 Create a risk score and rate the risks

The next step is to use the risk assessment matrix in Table 7.4 to rate and rank the risks. The risk scoring system uses the following formula:

Likelihood score x Impact score = Risk score

Using 'Upndowns Farm' and the risk of drought, the risk score would be 6:

$$2 \times 3 = 6$$

Table 7.4 shows the risk matrix completed for 'Upndowns Farm', with strategies outlining actions needed to minimise each major risk.



४११४ Table 7.4: Risk matrix completed for 'Upndowns Farm'

| sing ery leasing e | | i | | | | | : | . i |
|--|--|------------------------------------|-------------------------|--------|------------|------------|---------|---|
| a. land leasing b. machinery leasing c. share farming d. contracts and leasing arrangements e. employment contracts f. bank mortgages g. other agreements a. partnership b. company c. trusts 2. Interest rates 3. Marketing environment/deregulation d. deregulation environment for inputs f. stability a. prices b. substitutes f. stability d. competitors e. substitute g. quality issues (QA) d. competitors e. substitute f. stability d. competitors e. substitute c. quality issues (QA) d. competitors e. substitute f. stability d. competitors e. substitute f. stability d. competitors e. substitute f. stability f. chapily situation f. stability | | Risk categories | | Impact | Likelihood | Risk index | Ranking | Strategy |
| 1. Contracts and leasing arrangements c. share farming d. c. contract to supply e. employment contracts f. bank mortgages g. other agreements g. other agreements c. trusts c. trusts a. exchange rates a. interest rates a. interes | | | a. land leasing | | | | | |
| 1. Contracts and deasing arrangements arrangements contract to supply e. employment contracts f. bank mortgages g. other agreements a. partnership b. company c. trusts c. trusts a. exchange rates a. exchange rates a. exchange rates a. interest rates a. interest rates a. interest rates a. interest rates a. exchange rates a. exchange rates a. exchange rates a. interest rates a. interest rates a. interest rates a. exchange rates a. exchange rates a. exchange rates a. exchange rates a. interest rates a. interest rates a. interest rates a. exchange ra | | | b. machinery leasing | 2 | - | 2 | | Read and understand the agreement |
| 1. Contracts and e. contract to supply e. employment contracts f. bank mortgages 4 2. Business structures g. other agreements 5 3. Business structures c. trusts c. trusts c. trusts c. trusts c. trusts c. trusts a. interest rates a. interest rat | | | c. share farming | 0 | 4 | 12 | 4 | Negotiate longer agreement |
| e. employment contracts f. bank mortgages g. other agreements a. partnership b. company c. trusts c. trusts c. trusts d. ceregulation environment/deregulation d. deregulation d. deregulation d. deregulation d. ceregulation d. competitors e. substitute f. stability d. competitors e. substitute f. stability f. stability f. stability d. competitors e. substitute f. stability f. | | Contracts and leasing arrangements | d. contract to supply | 4 | 0 | 12 | 2 | Look at contracts other than physical |
| 2. Business structures 6. onher agreements 4 2. Business structures a. partnership 5 1. Exchange rates a. exchange rates 4 2. Interest rates a. exchange rates 3 3. Marketing environment/deregulation d. deregulation d. deregulation 4. Marketing environment c. quality issues (QA) 2 6. substitutes f. stability a. prices b. supply situation 2 6. Environment for inputs c. quality issues (QA) 2 6. Environment for inputs c. quality issues (QA) c. quality issues (QA) 6. substitute c. quality issues (QA) c. quality issues (QA) | | | e. employment contracts | | | | | |
| 9. other agreements 2. Business structures 2. Luchange rates 3. Marketing environment deregulation 4. Marketing environment for inputs 5. Environment for inputs 6. cubstitutes 7. Exchange rates 7. Exchange rate | l. commercial and legal relationships | | f. bank mortgages | 4 | 2 | ∞ | | Keep bank better informed |
| 2. Business structures 2. Business structures 3. Linterest rates 3. Marketing 4. Marketing environment for inputs 5. Environment for inputs 6. competitors 7. Exchange rates 7. Interest rates 7 | - | | g. other agreements | | | | | |
| 2. Business structures b. company c. trusts 2 1. Exchange rates a. exchange rates 3 2. Interest rates a. interest rates 3 3. Marketing environment/deregulation d. deregulation 4 4. Marketing environment c. quality issues (OA) 2 for products e. substitutes f. stability a. prices e. substitutes g. cquality issues (OA) b. supply situation 2 c. quality issues (OA) c. quality issues (OA) d. competitors e. substitute e. substitute e. substitute f. stability e. substitute e. substitute f. stability | | | a. partnership | 5 | 2 | 10 | | Have holidays and more family time |
| c. trusts 1. Exchange rates 2. Interest rates 3. Marketing environment/deregulation environment/deregulation d. deregulation d. deregulation 3. Marketing environment d. competitors e. substitutes f. stability a. prices b. supply situation c. quality issues (QA) d. competitors e. substitutes b. supply situation c. quality issues (QA) d. competitors e. substitute f. stability f. stability f. stability f. stability f. stability f. stability | | 2 Business structures | b. company | | | | | |
| 1. Exchange rates 2. Interest rates 3. Marketing environment/deregulation d. deregulation d. deregulation 3. Marketing environment 4. Marketing environment for products for products for products for products for products for products for competitors for products for competitors for com | | | c. trusts | 7 | 7 | 4 | | Question the accountant about trust arrangement |
| 2. Interest rates 3. Marketing environment/deregulation environment/deregulation d. deregulation 3. Marketing environment d. cupply situation 4 b. supply situation d. competitors e. substitutes f. stability a. prices b. supply situation 2 for products e. substitutes f. stability d. competitors e. quality issues (QA) d. competitors e. substitute f. stability f. stability f. stability f. stability | | 1. Exchange rates | a. exchange rates | 4 | 2 | 00 | | Monitor |
| 3. Marketing environment/deregulation a. regulation a. prices b. supply situation d. canality issues (QA) b. supply situation d. competitors e. substitutes f. stability a. prices b. supply situation b. supply situation c. quality issues (QA) and services b. substitute d. competitors e. substitute f. stability d. competitors e. substitute f. stability d. c. quality issues (QA) d. competitors f. stability f | | 2. Interest rates | a. interest rates | က | 2 | 9 | | Consider more fixed interest rates |
| a. prices b. supply situation 4 4. Marketing environment for products for competitors for products for competitors for competition for competition for competition for competitors for competition for competition for competition for competitors for competition for competit | | 3. Marketing | a. regulation | | | | | |
| a. prices b. supply situation 4 c. quality issues (QA) d. competitors e. substitutes f. stability a. prices b. supply situation 5. Environment for inputs c. quality issues (QA) d. competitors e. substitute f. stability f. stability c. quality issues (QA) f. stability f. stability | | environment/deregulation | d. deregulation | 0 | 2 | 9 | | Monitor selling choices |
| 4. Marketing environment 4. Marketing environment 6. cquality issues (QA) 7. cquality issues (QA) 8. substitutes 9. supply situation 9. supply situation 2. cquality issues (QA) 9. cquality issues (QA) | | | a. prices | 4 | က | 12 | က | Monitor grain selling plan |
| 4. Marketing environment for products 6. competitors 6. competitors 7. stability 8. prices 9. supply situation 9. supply situation 6. quality issues (QA) 9. competitors 1. stability 1. stability 2. competitors 3. prices 4. competitors 6. substitute 7. stability | | | b. supply situation | 4 | က | 12 | 10 | Monitor |
| for products e. substitutes f. stability a. prices b. supply situation 5. Environment for inputs c. quality issues (QA) d. competitors e. substitute f. stability | | 4. Marketing environment | c. quality issues (QA) | 2 | 2 | 4 | | Understand the changing QA environment |
| 6. substitutes 7. stability a. prices b. supply situation 2 5. Environment for inputs c. quality issues (QA) and services d. competitors f. stability f. stability | | for products | d. competitors | | | | | |
| f. stability a. prices b. supply situation c. quality issues (QA) d. competitors e. substitute f. stability | 2. Economic environment | | e. substitutes | | | | | |
| a. prices b. supply situation c. quality issues (QA) d. competitors e. substitute f. stability | | | f. stability | | | | | |
| b. supply situation c. quality issues (QA) d. competitors e. substitute f. stability | | | a. prices | | | | | |
| c. quality d. compe e. substitt f. stability | | | b. supply situation | N | N | 4 | | Understand supply issues for fertiliser and chemicals |
| | | 5. Environment for inputs | c. quality issues (QA) | | | | | |
| e. substitute f. stability | | מוכן אם אוכתיא | d. competitors | | | | | |
| f. stability | | | e. substitute | | | | | |
| | | | f. stability | | | | | |

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| | Risk categories | | Impact | Likelihood | Risk index | Ranking | Strategy |
|--|---|----------------------------|--------|------------|------------|---------|---|
| | | a. low rainfall & drought | ೮ | N | Ø | | Assess strategies to include more livestock in the system |
| | | b. frost | 4 | က | 12 | 0 | Spread cropping program |
| | | c. flood | | | | | |
| | 1. Weather events | d. hail | က | - | က | | |
| | | e. windstorm | 4 | - | 4 | | Improve monitoring of weather forecasts |
| | | f. extreme temperatures | | | | | |
| | | g. excessive rain | 4 | 2 | 00 | | Assess use of more gypsum |
| | | h. high tides | | | | | |
| | C | a. assets | 2 | 2 | 4 | | Check insurances |
| Natural environment | N. TEG | b. crop/livestock | - | 2 | 2 | | Check insurances |
| | 3. Earthquake | a. earthquake | | | | | |
| | | a. pests - crops | က | 2 | 9 | | IPM (integrated pest management) |
| | 2 2 3 3 5 5 6 7 7 | b. pests - livestock | 2 | - | 2 | | Improve monitoring of stock |
| | +. Diological | c. diseases - crops | က | 2 | 9 | | IPM management |
| | | d. diseases - livestock | 2 | - | 2 | | Improve monitoring of stock |
| | | a. salinity | | | | | |
| | 5. Current environmental | b. erosion | | | | | |
| | conditions | c. water table | 2 | 2 | 4 | | Monitor water quality and table changes |
| | | d. soil suitability | | | | | |
| | | a. natural disaster relief | | | | | |
| | י ססיים וו מסטיסומו וכת | b. financial assistance | | | | | |
| | 2. Foreign country political | a. suppliers | က | 2 | 9 | | Assess forward purchase |
| | environment | b. buyers | | | | | |
| A Dollitical cavivacant | | a. taxation and levies | 2 | 2 | 4 | | Manage with accountant |
| 4. I Ollifori GIVIIO II | 3. Domestic government policy | b. fiscal policy | 2 | က | 9 | | Manage with banker |
| | | c. monetary policy | | | | | |
| | | a. environmental | | | | | |
| | 4. Lobby groups | b. animal welfare | 2 | 2 | 4 | | Pay industry levies |
| | | c. land rights | | | | | |



क्ष्डें Table 7.4: Risk matrix completed for 'Upndowns Farm' cont.

| | | | 1 | I Harting | | | |
|------------------|---|------------------------------------|--------|------------|------------|---------|----------------------------|
| | RISK categories | | Impact | Likelinood | MISK INGEX | Hanking | Strategy |
| | | a. professional | က | 2 | 9 | | Attend relevant workshops |
| | I. ITIOTHIAMOI provision | b. public domain | | | | | |
| | () () () () () () () () () () () () () (| a. professional | co | 2 | 9 | | Source improved FBM advice |
| | Z. ITHOTHIAUOH ACCESSIONITY | b. public domain | | | | | |
| | | a. machinery | 0 | (C) | 0 | | Maintenance program |
| 5. Farm systems | 3. Equipment & | b. fixed structures | 2 | - | 2 | | Maintenance program |
| management | machinery reliability | c. electrical/electronic equipment | | | | | |
| | | a. machinery | | | | | |
| | 4 Maintenance accessibility | b. fixed structures | | | | | |
| | | c. electrical/electronic equipment | | | | | |
| | | a. experience | | | | | |
| | Morogomont | b. strategic | က | 4 | 12 | 7 | Organise an advisory board |
| | ויין און און אין אין אין אין אין אין אין אין אין אי | c. tactical | က | 4 | 12 | 80 | Work with agronomist |
| | | d. financial | က | 4 | 12 | 5 | Organise an advisory board |
| | | a. electrical | | | | | |
| | | b. gas | | | | | |
| | | c. mechanical (standing) | | | | | |
| 6. Farm business | 2. Occupational health and safety | d. mechanical (moving) | | | | | |
| management | | e. mechanical (power tools) | ന | N | 9 | | OH&S practices |
| | | f. chemical | က | 2 | 9 | | OH&S practices |
| | | g. fixed structures | | | | | |
| | 2 Oliality management | a. quality procedures | | | | | |
| | C. Kadiry Tianagerien | b. quality standards | | | | | |
| | A Social Section 1 | a. theft | 2 | 2 | 4 | | Check insurance wording |
| | | b. arson | 7 | - | 2 | | Check insurance wording |

| | Risk categories | | Impact | Likelihood | Impact Likelihood Risk index | Ranking | Strategy |
|--------------------------|------------------------------------|---|--------|------------|------------------------------|---------|--|
| | | a. personal expenditure | က | က | 0 | | Budget personal expenditure |
| | | b. family relationships | 5 | 2 | 10 | | Plan quality family and couple time |
| | | c. personal goals | 4 | - | 4 | | Revise goals regularly |
| | | d. other income | | | | | |
| | 1. Owner / operator | e. succession planning | က | 2 | 15 | - | 1 Start succession planning process |
| | | f. people management internal | 4 | က | 12 | 9 | Attend people management workshops |
| 7. Leadership and people | | g. people management external | 2 | 2 | 4 | | Regular communication with accountant and banker |
| | 2. Employees and contractors | | | | | | |
| | | a. accountants | 2 | - | 2 | | Review accountant responsibilities |
| | 3 Professional assistance | b. bankers | 4 | 2 | 00 | | Have biannual bank meetings |
| | | c. advisers (financial and physical) | က | α | 9 | | Develop practical questions |
| | 4. Other off-farm personnel income | | | | | | |

A template to complete this risk assessment can be downloaded at: www.grdc.com.au/FBMtemplate-RiskManagementAssessment





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Table 7.5: Major risks and strategies for 'Upndowns Farm'

| R | isk categories | | Impact | Likeli- hood | Risk index | Ranking | Strategy |
|-----------------------------|---------------------------|-------------------------------------|--------|-----------------|---------------|---------|------------------------------------|
| 1. Commercial and | Contracts and leasing | c. share farming | 3 | 4 | 12 | 4 | Negotiate longer agreement |
| legal relationships | arrangements | d. contract to supply | 4 | 3 | 12 | 2 | Look at grain supply contracts |
| 2. Economic | Marketing environment | a. prices | 4 | 3 | 12 | 3 | Monitor grain selling plan |
| environment | for products | b. supply situation | 4 | 3 | 12 | 10 | Monitor |
| 3. Natural environment | 1. Weather events | b. frost | 4 | 3 | 12 | 9 | Spread cropping program |
| 6. Farm business management | 1. Management | b. strategic | 3 | 4 | 12 | 7 | Organise an advisory board |
| | | c. technical | 3 | 4 | 12 | 8 | Work with agronomist |
| | | d. financial | 3 | 4 | 12 | 5 | Organise an advisory board |
| 7 Londovahin and | 1. Owner / | e. succession planning | 3 | 5 | 15 | 1 | Start succession plan process |
| 7. Leadership and people | operator | f. people management internal | 4 | 3 | 12 | 6 | Attend people management workshops |

Source: P2PAgri Pty Ltd

Once the risk matrix has been completed, select the risks with the highest scores and focus the risk management plan in these areas. The strategies used for 'Upndowns Farm' risk management plan are listed in Table 7.5. The succession planning risk has been identified as the biggest risk to this farm.

7.2.5 Develop strategies to manage risks

The business focus should now be on developing strategies as part of the business risks management plan. Possible risk management strategies are listed in Table 7.6. However, your farm and its management skills are unique, so the development of a risk management plan will be unique to your business.

This risk management plan should be reviewed annually as circumstances will change and the plan should respond to these changes.

Action points

- Undertake a risk assessment of your farming business and list the 10 biggest risks that require improved risk management.
- Complete an action list of the risk management strategies you will implement over the next 12 months
- Re-evaluate risk management strategies yearly.
- Download a risk assessment template at: www.grdc.com.au/FBMtemplate-RiskManagementAssessment

Table 7.6: Possible risk management strategies

| Risk categories | Risk management strategies |
|------------------------------------|---|
| Commercial and legal relationships | Fully read and understand any contract before signing Re-structure debt if required Use legal advice before agreeing to any contract Maintain good communication with any party with whom you have legal and contractual arrangements Have a written agreement for land lease and share farming |
| Economic environment | Subscribe to market reporting and indicator services Attend relevant seminars, discussion groups and conferences Monitor market trends Consider value adding products Diversify with off-farm enterprises Consider marketing contracts and continuity of supply Improve quality control as best quality sells Consider forward selling contracts Have storage to diversify markets and service alternate end users Set trigger prices for forward selling Consider seasonal price fluctuations Use the various interest rate products offered by the banks Obtain independent marketing information Sell to domestic markets |
| Natural environment | Use crop monitoring Use agronomic advice to ensure herbicide weed resistance is managed Select rotations with break crops Balance the advantages and disadvantages of burning or not burning Use seed dressing and cleaning Use certified seed Use correct livestock management for health care Be aware of land suitability issues Use an agronomist for advice Conduct your own trials within your farming program |
| Political environment | Contribute to an industry lobbying organisation Consult with your sitting member of parliament |
| Farm systems management | Use Insurance and assurance policies Have a proactive repairs and maintenance program Have a network of service support people Be aware of emerging technologies Monitor GRDC conferences and website |
| Farm business management | Monitor gross margins Have a yearly financial monitoring system of cash flow, profit and loss, and balance sheet Use a professional farm business management adviser Attend professional seminars to improve knowledge Use an advisory board Brief accountant on their expected role |
| Leadership and people | Schedule holidays Have a succession plan Develop a vision and mission statement for the business Utilise superannuation Use a professional financial planner Attend people management courses Develop job descriptions Provide regular staff reviews |

