PRELIMINARY FOCUS GROUP STUDY: AUSTRALIAN FARMER ATTITUDE TO ON-FARM RISK MANAGEMENT AND INSURANCE

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Preliminary Focus Group Study: Australian Farmer Attitude to On-farm Risk Management and Insurance

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1. Introduction

Three focus group workshops were conducted in June 2014 across Australia, in order to assess farmer attitude to managing risk on-farm, and the role of current insurance products for agriculture.

The workshops were conducted as part of a study associated with the international project *"The IGES-IAFD Research on Assessing community risk insurance initiatives and identifying enabling po9licy and institutional factors for maximising climate change adaptation and disaster risk reduction benefits of risk insurance",* and in particular addressing the project input requirements by International Agriculture for Development (IAfD). IAfD is an Australian based commercial organisation that is involved in assisting its partners in achieving global food security through improving on-farm agricultural production and market supply chains.

The workshops were conducted in order to obtain some preliminary information that could be used in order to assist in developing in-country participatory surveys in the second year of the project. Specifically the information collected from the workshops would help to identify the specific risk management issues at the farmer level. This would be complemented by the information that was sourced through a literature review of the status of multi-peril crop insurance in Australia (another activity associated with the over-arching research project). The three principle activities that are being undertaken by IAfD as part of this project are presented in Figure 1.

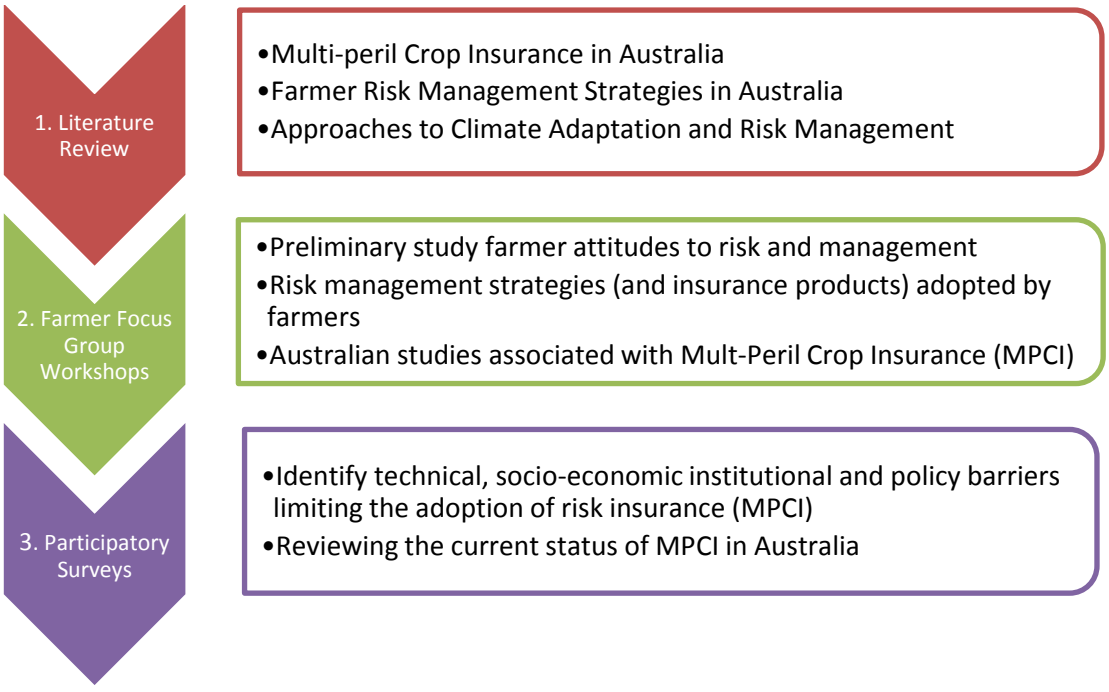


FIGURE 1: Principle activities associated with the project to be undertaken by IAfD.

2. Methodology

The focus group workshops had the objectives to:

1. Identify and assess farmer attitude to risks,
2. Identify strategies that farmers employ to manage risk
3. Identify the current insurance products that farmers currently use to manage production risk.

The focus groups were attended by farmers who were actively involved in the management and production of dryland crops. Of the 18 farmers attending, 16 were male and two were female.

The general characteristics of the farm business operations and the agricultural crop production systems associated with each of the three regional workshop groups are presented in Table 1.

CHARACTERISTIC	**LOCATION**		
	WA (Western Australia)	**SA (South Australia)**	**VIC (Victoria)**
Farm Size	Large (4,000 to 10,000 ha)	Moderate (1,000 to 2,000ha)	Moderate (1,000 to 2,000 ha)
Number of farm labour units (Full time equivalents)	1 to 2 1-2 additional labour units during crop sowing and harvest operations	1 to 2 1 additional labour unit during crop sowing and harvest operations	1 to 2 1 additional labour unit during crop sowing and harvest operations
Annual Rainfall	350 to 500 mm	300 to 550 mm	350 to 600 mm
Principal crops	Wheat, canola	Wheat, canola, pulses	Wheat, canola, pulses
Cropping intensity (% farm area sown to crops in any one season, estimate)	90%	95%	85%
Farm Business model	Family owned and operated	Family owned and operated	Family owned and operated
Seasonal overview last 10 years (in relation to rainfall received)	7 years below average 2 years average 1 year above average	2 years below average 6 years average 2 year above average	3 years below average 5 years average 2 year above average
General characteristics	Conservation agriculture cropping system Dryland rainfed, no irrigation Limited livestock (principally sheep)	Conservation agriculture cropping system Dryland rainfed, no irrigation Limited livestock (principally sheep)	Conservation agriculture cropping system Dryland rainfed, no irrigation Limited livestock (principally sheep)

Table 1: General Characteristics of farming operations associated with each of the regions where the focus group studies were conducted.

The three workshops were conducted in Perth (Western Australia), Clare (South Australia) and Bendigo (Victoria). These three locations were selected due to their proximity to the major broad acre dryland grain production zones (primarily cereals (wheat and barley), oilseeds (canola), and pulses (field peas, chickpeas, lupins and faba beans) and livestock production (sheep and cattle) in each of these Australia States.

The workshops were in each case attended by six farmers. Small group sizes were specifically selected in order to allow in-depth discussions between participants, so that quality in-depth information could be obtained, and specific lines of questioning explored. Farmers attending the workshops came from a wide geographical area, representing the different rainfall zones within each of the locations.

The focus group workshops provided the opportunity to adopt a qualitative research approach to collecting information from farmer practitioners themselves, who were actively engaged in field crop production. The type of information collected was qualitative in nature, with specific information collected being sourced from specific lines of questioning and discussions that took place during the workshops.

Participants at each of the workshops were engaged in a range of discussions relating to on-farm risk management, crop insurance practices, and barriers limiting their future farm business operations. The workshops were professionally facilitated by Dr Jay Cummins, who commenced discussions with the group by either posing a specific question, or making a statement relating to the subject matter. Discussions were kept open through the facilitator asking follow up questions for clarification, and respondents amongst themselves asking questions and making comments to one another. Key responses from participants were recorded, which were then used to prepare the summary of findings for this report.

FIGURE 2: Farmer participants at the Focus Group Workshop conducted in Clare, South Australia

3. Key Findings

The following presents a summary of the key findings from all three workshops. Where there were specific differences in responses between the workshop locations these are noted. The findings as presented represent the key points of information derived from the focus group discussions.

3.1 Farmer Attitudes to Risk

There are a range of risks that farmers face as part of their agricultural production and farm business system. Farmers considered that farming both as a profession and as an occupation has many inherent risks. This they considered is part of the nature of being a farmer, to be faced with risks on a day to day basis and importantly knowing how best to minimise these risks in a professional and well thought out manner.

With these principles in mind, participants considered that it was all about identifying and managing the risks on-farm. Farmers themselves considered that it was their sole responsibility, as they were primarily the main decision makers in their respective businesses.

It is important that as farmers, we are able to manage risk, primarily through risk mitigation approaches (the relationships being presented in Figure 3):

1. Identifying the risk
2. Assessing the likelihood of the risk
3. How can the risk be best managed or reduced?

FIGURE 3: Managing on farm risk was considered by farmers to be critical to ensuring business survival, and involved a process of identifying the risk, assessing the likelihood (or incidence), and finally managing the risk.

The farmers considered that it is important to describe and define the specific risks. There are many risks, and it is important to define and categorise the risks accordingly (and are summarised in Figure 4):

1. Production risks – associated with producing the crop
2. Climate risk – linked to production and outcomes
3. Commodity market risks – marketing, including forward contracting, currency shifts
4. Financial management – farm business cash flow

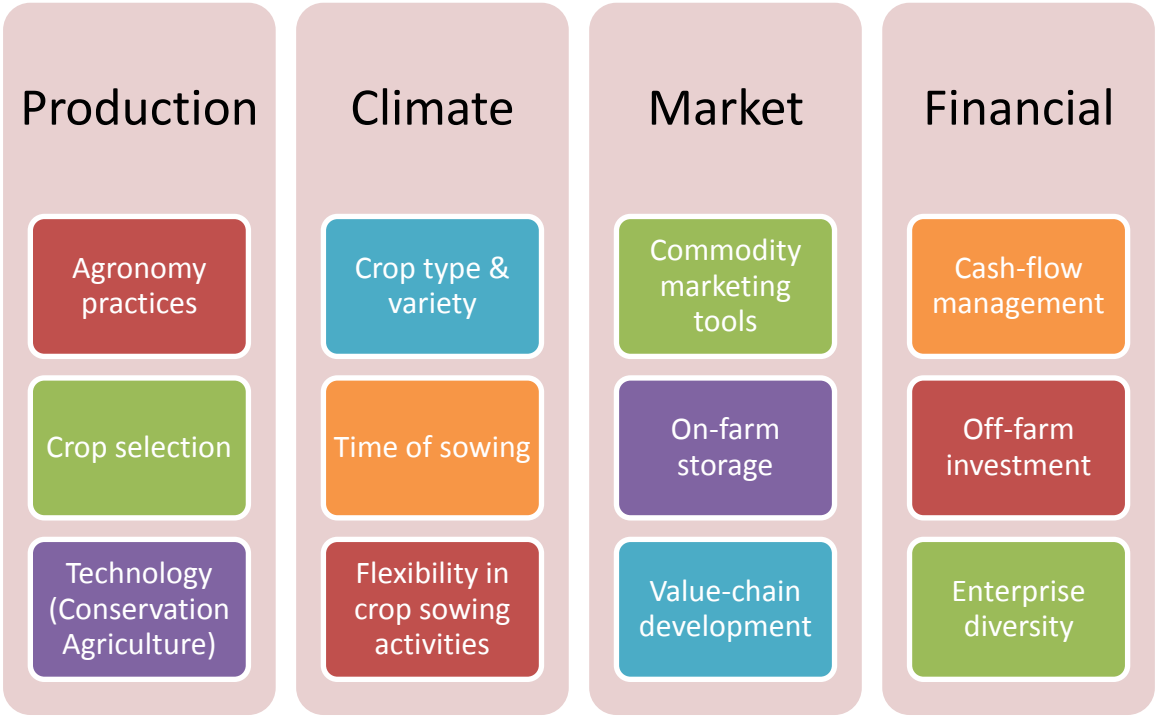


FIGURE 4: Categorisations of specific risks encountered by farmers, including some of the strategies that they adopt to reduce such risks as part of their on-farm enterprise and business management approaches.

In terms of farmer attitudes to risk, their attitudes are a reflection of their own particular farming environment. For instance, the farmers from WA tended to be more risk adverse during the workshop compared with the other two groups involved in the study. This was reflected in the 'run of poor seasons' that they had experiences in the previous 10 years (referring to Table 1), with 7 of the previous 10 years having received below average rainfall.

Farmer decision making was considered to be an important characteristic critical to managing on-farm risk, and tended to reflect their attitudes to risk, i.e. attitude to risk shaping their decision making processes. The experiences of farmers shaped their attitude to risk. For example, in the case of climate risk, farmers recognised that climate variability was becoming an increasing issue. The variability in production from one season to the next was largely determined by the variability in the seasonal rainfall and weather conditions.

Nowadays, it is not so much ‘how much rainfall that you get’ but when the rainfall actually occurs. Similarly, spring conditions during flowering and maturation of crops also influenced final crop yield. This was particularly the case with some of the ‘softer’ crops such as pulses and canola, which tended to be more vulnerable to high daily temperatures (and hot northerly winds) during flowering and pod set.

3.2 Strategies Adopted by farmers to manage risks

As indicated in the previous section, farmers considered it was important to define and categorise the specific risks. Different approaches and strategies are applied to managing the risks according to the type of risks concerned, and have been summarised in Figure 4.

Production Risks

Production risks, reflected through variability in crop yield were one of the major risks as identified by farmer sin the workshops. Whilst production risks are also linked to climate variability, farmers considered that these two risks should not be viewed in isolation.

Production risks farmers considered could be managed on-farm through the adoption of improved farming technologies, such as conservation agriculture (no-till or zero-till crop sowing practices). Australian agricultural production systems are highly mechanised, with low labour inputs. As a result, farmers are able to sow large areas of land in little time. A single tractor and an airseeder can sow as much as 600 hectares in a single 24 hour period, and with two operators working around the clock, large areas of farm land can be sown (refer to Figure 5).

FIGURE 5: Australian farming systems are highly mechanised, with larger areas of crops being sown with minimal labour input.

Researchers have shown that delayed sowing in low rainfall farming environments can result in yield losses of around 200 kg of cereal per week's delay. Hence this is one means of minimising production risks on-farm by the farmers attending the workshops. Other agronomic practices as part of a 'best management approach' to farming were also considered to be important in reducing crop production risk (selection of good quality seed, adequate nutrition made available to the crop), as well as crop type selection and variety were all factors selected by farmers considered to be important characteristics.

Climate Risks

Farmers attending the workshops were very familiar with the climate risks that they faced on a seasonal basis. The variability in climatic conditions form one season to the next provided one of the major challenges to the farm business. As discussed in the production risks (above), farmers adopted similar strategies to deal with, and manage climate risk (and associated variability).

As a background, farmers involved in the workshop all operate in a Mediterranean farming environment. Hot dry summers are preceded by cooler autumn periods, with 'opening rains' occurring in April-May, followed usually wet winter periods and warmer Spring conditions (with finishing rains) leading onto harvest in the early summer period.

Farmers attempt to manage the variability in seasonal conditions through adopting a flexible approach to their crop sowing practices. These include having an optimum 'time of sowing', where if opening rains are not received by a specific date they may adjust their management practices, which may include any of the following strategies:

1. The dry seeding of some crops if it has not rained sufficiently by a certain date. This requires the farmer to also have his weed management practices planned well in advance. It is likely the farmer will only dry seed a proportion of his total crop area, in order to manage risk factors.

2. Changing the type of crops grown, from a long season to shorter season maturing crop types and varieties. In addition to this, the farmer will also need to manage potential frost risks (crop yields can be completely wiped out should a severe frost be experienced during the flowering of field crops

3. In marginal production zones, taking the decision not to sown any crop at all, or reduce the areas sown to specific crop types.

4. Reducing specific crop inputs (such as reducing the amount of fertiliser applied in line with a reduction in the yield potential of crops)

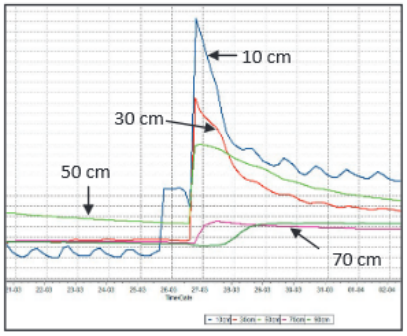
5. Undertaking Soil Probe Monitoring of stored moisture and available nutrients. Monitoring available soil moisture during the autumn period, coupled to analysis of available plant nutrients (nitrogen, phosphorus) has increasingly become a valuable management tool for grain growers. If opening rains are low, but available soil moisture in the profile adequate, then farmers may be more likely to sow their crops sooner than later. Fertiliser inputs will also be adjusted in line with available levels in the soil profile, and the likely potential yield for the season. (refer to Figure 6)

Where's your moisture and what does it mean for crop and fertilizer application across soil types?

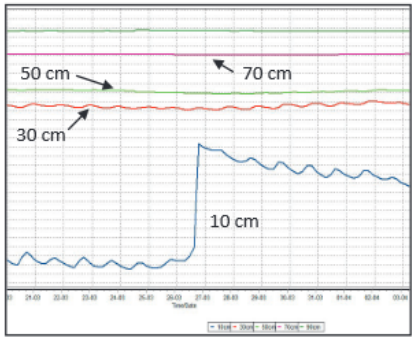
The practical use of soil moisture probes to improve the decision making of dryland farmers across the district is one of the main focus's of Mallee Challenge, with 10 probes placed at 3 sites, as well as 8 probes that have been collecting data for the last 3 years at 3 NRM Weather Station sites across the SA Mallee. Another 8 probes will soon be established at other Mallee Challenge sites.

Early indications from these probes have clearly indicated the value of summer weed control in preserving soil moisture that has penetrated to at least 30cm depth. Areas where skeleton weed was allowed to grow for summer sheep feed showed moisture that had penetrated to 50cm after January rain was quickly being lost.

It has also been interesting to note that on three occasions at different sites and months, where 20-30mm of rainfall was received, that the heavier soil types retained all the moisture in the top 20cm where at 2 sites it had all been evaporated after 35 days, while on the same paddocks the same rainfall had penetrated to 30, 50 and even 90cm in depth.



Moisture probe readings from Paruna Site Sand after 30mm rain on March 27, penetrating to 90cm sensor depth.



Moisture probe readings from Paruna Site Heavy Flat soil after 30mm rain on March 27, only impacting the 10cm moisture sensor, but not reaching the 30cm sensor.

FIGURE 6: Extract from a newsletter form the Mallee Sustainable Farming Program (MSFP) provided to farmers in relation to available soil moisture.

6. Adoption of 'rainfall deciles' to guide crop production decision making during the growing season. The rainfall decile comparison provides an indication as to how favourable the season is progressing in terms of rainfall received (in comparison to average rainfall for a given district). Please refer to Figure 7, which provides an example of rainfall deciles for Australia from September 2007 (a 'drought year' for much of southern and West Australia).

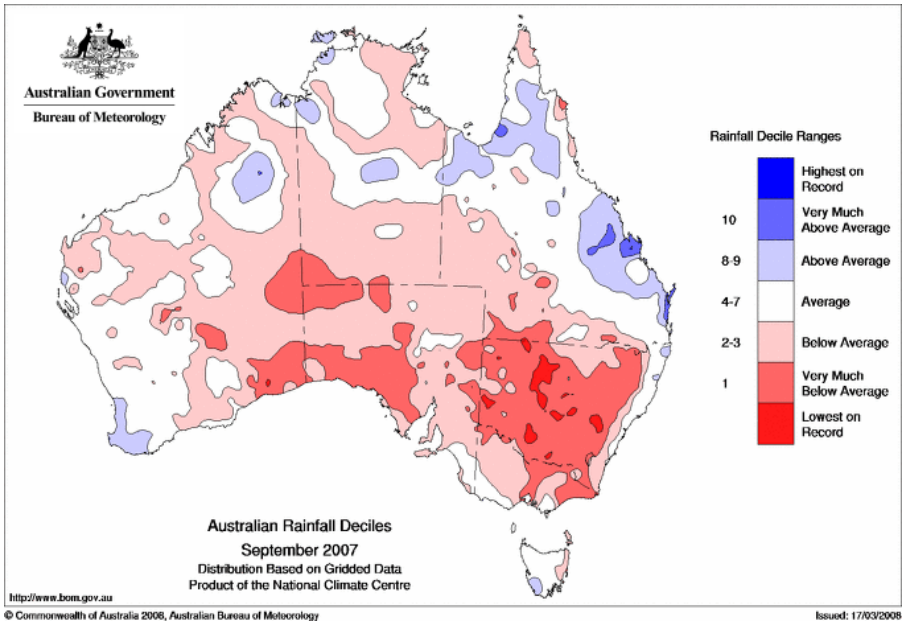


FIGURE 7: Example of rainfall deciles across Australia (for the month of September 2007)

The incidence of drought in many regions of Australia is commonplace. Farmers considered it important that they had strategies mapped out in advance for managing drought accordingly across their farm business. There are a whole range of strategies that they will employ in order to limit the impact of drought on their respective farm businesses.

Market Risks

Australian farmers are exposed to global commodity markets, with no government subsidies or interference in the prices that farmers receive for their commodities. There is no government procurement, no minimum price set for the grain and other commodities that they produce.

As Australia is a net exporter of grains, the prices farmers receive are reflective of world market prices. Coupled to the risks associated with global grain prices, as commodities are traded globally primarily in USD, there are also other risks introduced associated with currency shifts. A high Australian dollar (in comparison to USD foreign currency) will result in lower returns to farmers.

As a result, there were a number of tools identified by workshop participants that they utilised in an effort to reduce the risk and variability in prices received for their grain and other commodities. How and when farmers sell their grain is one of the principle tools that farmers can use to reduce the risk of price volatility, and hopefully maximise the price that they receive for their grain.

The price offered to farmers for their wheat for example, varies constantly from one day to another. Farmers can opt to sell their crop even before they have commenced sowing, hence they need to make sure that they are capable of harvesting and delivering the amount of grain they have contracted at the commencement of the growing season. Farmers therefore have the option of forward contracts, contracting grain during the growing season, or opting for a cash price at harvest.

Workshop participants recognised the complexity of making such decisions, and often rely upon advice from specialised consultants or grain traders. In recent years, some of the farmers had received the wrong advice, and were penalised financially to significant amounts of money through receiving the wrong advice in relation to the forward contracting of crops. Not being able to supply the amount of grain that they had contracted at harvest was also another concern to farmers, particularly those that farmed in low rainfall areas where the incidence of drought was more frequent.

Financial Risks

At the workshops farmers identified a range of financial risks that they were exposed to.

Shifts in the Australian dollar (currency risk) was something that they had little influence over, however they did recognise the impact of this on their farm business operations, whether it be marketing their grain on a global market, purchasing farm inputs from overseas (fertiliser, pesticides all imported) or in the purchase of expensive farm machinery (largely imported from overseas).

Cash-flow in the farm business was an important aspect to manage. Having adequate funds to sow the crop, and manage the crop through the growing season for many required careful financial management. Most farmers at the workshop went into additional debt during the season (prior to harvest), requiring them to have funds advanced to them from their banks in the form of a ‘bank overdraft’.

Farmers attending the workshop also had long-term debt. This was largely associated with the purchase of additional farm land, as part of the need to expand farm areas so as to remain viable commercial production units. Some farmers indicated that at times they struggled to repay debt, particularly in seasons where yields may be low and/or commodity prices lower from a global market perspective. Farmers and their financial lenders tended to use their debt-equity ratio as being the primary means of assessing farm business viability.

Finally, some workshop participants identified the need to diversify in their enterprise mix, be it the strategy to sow a range of different crops, or to have an integrated crop-livestock production system.

3.3 Current Insurance products utilised by farmers

There were a limited range of farm insurance products that farmers used. Insurance products utilised by farmers as indicated were as follows:

1. General insurance products such as equipment and building insurance (general fixed assets)
2. Income protection, accident and life insurance policies (for farming family members)
3. Crop Insurance products (insuring crops against adverse events prior to harvest – primarily fire and hail damage, i.e. 'single event')

In terms of the crop insurance products that the farmers were using (for insurance against hail and fire just prior to harvest), farmers unanimously declared that it was a necessary practice to undertake, given the relative risks to crops leading up to, and during the grain harvest period. The policies, taken out during the grain flowering and grain fill period would have the specific level of cover adjusted according to the anticipated yield of the crop (as assessed by the farmer) when taking out the specific insurance policy. Within these policies, there is also the option of insuring the grain whilst in on-farm storage facilities. Figure 8 provides an example of the calculation of compensation provided to farmers for specific crop losses due to the occurrence of an insured event (such as hail or fire).

Claim examples

Example A	
Assumptions	
Percentage loss of Potential Yield	20.0%
Area	100ha
Insured Value	$200 per tonne
Excess	5.0%
Potential Yield	2.25 tonnes/ha
Insured Yield	2.0 tonnes/ha
Date of loss	After the Final Revision Date
Calculation	
Yield	2.25 tonnes/ha
Sum Insured	$45,000 (2.25tonnes/ha x 100ha x $200 per tonne)
Net Loss Percentage	15.0% (ie. 20.0% -5.0% Excess)
Claim payment	$6,750 ($45,000 x 15.0%)

Figure 8: An example of a claim for crop losses for an insured event.

3.4 Introduction to Multi-Peril Crop Insurance (MPCI)

Multi-Peril Crop Insurance (MPCI), in the case of farmers being able to insure against one off disasters such as drought and frost has only recently been introduced to Australia by a limited number of companies in the States of Western Australia and New South Wales. Figure 9 provides an example of a company advertising this new concept for Australia farmers. None of the farmers attending the focus group workshops had any personal experience with MPCI, although one of the participants was quite knowledgeable about the specific insurance product.

FIGURE 9: Example of Multi-Peril Crop Insurance being advertised to Australian farmers

Feedback from a farmer who had some knowledge of the MPCI product is summarised as follows:

- Whilst the initial cost of the insurance seems quite cheap, the price will vary according to the level of insurance that is taken out (the value and yield of the crop)
- The cost of the insurance will vary according to the rainfall reliability of the given farming district. That is, the greater the likelihood of drought occurring, the higher will be the cost of the insurance.
- Generally speaking, farmers who can 'least afford' the insurance are the ones that should take the insurance out (farmers with high debt ratios, and who farm in drought prone areas). In many instances the cost of the insurance becomes prohibitive.
- Finance institutions (banks) are promoting the MPCI product to their 'at risk' clients.

As a brief introduction to MPCI, according to Nexus, the guiding principles of their insurance product are as follows:

"The aim in any business is to make a profit, but to do so the first thing you must do is cover costs. If you do not cover cost you must then draw on external funds to meet the shortfall and then find extra funds to run the business moving forward.

The concept of Certainty Insurance™ crop income protection is simple: to provide your business with a safety net, so that in a worst case scenario, you break even. If it costs $1 million to cover your cropping business enterprise, then you would aim to purchase approximately $1 million of crop income protection to replace costs in a disastrous season. For example in the case of a bad year, when you have experienced a severe frost or drought event and your income drops to $400,000 your claim would be to the value of $600,000."
Refer to Figure 10 for a summary of the specific benefits offered.

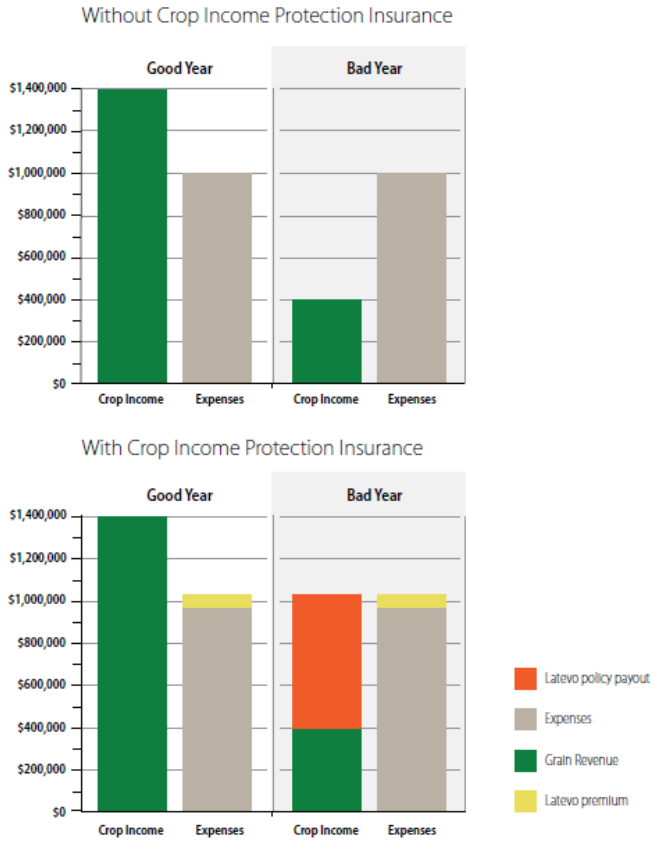


FIGURE 10: Simplified demonstration of a Mult-Peril Crop Insurance product and the potential benefits offered to farmers in Australia.

4. Relevance of workshop findings to Climate Change Adaption (CCA) and Disaster Risk Reduction (DRR) Insurance

The workshops successfully highlighted that risk management is the principle driver for influencing how farmers manage their agricultural production and business management systems.

Farmers are continually monitoring and developing improved farming practices that address political, social and environmental change. The need to respond to climate variability (a result of climate change) through adaptation of management is critical to ensuring long term production and prosperity of Australian agriculture, and in turn food security. Through raising the skills and capabilities of farmers, it is possible to improve their skills and capabilities in better managing climate variability, and in this instance there is no foreseen needs to offer insurance products that provide a form of insurance / compensation towards climate change. The Australian approach is to make farmers better managers, so that they can introduce improved systems of risk management and in turn reduce or mitigate such risks all together.

The extent to which DRR insurance is taken up by Australian farmers is primarily limited to a small number of products that are related to insuring for specific events, such as hail and fire (with insurance being taken out by the farmer prior to harvest). Other more elaborate products, such as the Multi-Peril Crop Insurance (MPCI) whilst capable of insuring farmers against such events such as drought, tend to be cost prohibitive, particularly amongst those farmers located in the drought prone regions, where the incidence of drought is far greater.

5. Australian Government Findings on Agricultural Risk Insurance

The Australian Government undertook a study into agricultural risk insurance in 2012. Their conclusions are simple:

"Attempts to introduce traditional yield insurance products in Australia have consistently failed, but the recent introduction of index-based products shows some promise. Internationally, traditional yield insurance products are common, particularly in developed nations; however, all schemes are heavily supported by governments. In recent years, index-based products have been introduced, largely in developing countries that do not have subsidised yield insurance. India and Mexico have the most advanced schemes, but most other schemes have not yet moved past the pilot stage.

Recent studies into demand have found that appetite for insurance products by Australian farmers is generally fairly low. In the absence of significant government support, traditional insurance products are likely to be further burdened by high costs and, therefore, high premiums over and above the cost of risk, because of significant problems with adverse selection, moral hazard and systemic risks, in addition to high loss adjustment costs.

Index-based products overcome most of these problems, but their effectiveness (and therefore demand) is limited to the extent that the underlying indices on which they are based are correlated with actual yields experienced on an individual farm.

The economic case for government subsidisation of premiums or underwriting of risk is not strong. However, further investigation is warranted into the role of government in the compilation and provision of information to improve shire-level yield or weather station data, or in supporting research and development of crop simulation models."

From Marco Hatt, Edwina Heyhoe and Linden Whittle (2012)
Options for Insuring Australian Agriculture, Report to client prepared for Climate Change Division, Department of Agriculture, Fisheries and Forestry September 2012 ABARES p.5.

5. Summary and Conclusions

The focus group workshop research proved to be a worthwhile exercise in firstly engaging with farmers and exploring their ideas and attitudes towards risk, and secondly to gain an insight into how they manage risk on-farm as professional operators and business managers.

Overall, it is apparent that those farmers that were involved in the workshops were very good operators, from the perspectives of being able to grow profitable crops, and secondly being able to manage their respective farm businesses.

Critical to the success of their operations is how they manage risk. It has been demonstrated that as farmers, they are faced with a wide range of risks in their operations and their businesses.

Whilst Australian farmers receive little government support (in terms of the absence of guaranteed prices received at harvest, subsidised crop inputs), they have largely had to compete on global trading market platforms on their own. The size of Australia's population means that the Australian Government simply can't afford to subsidise farmers be it for crop production inputs, guaranteed prices at harvest, or for multi-peril crop insurance.

Strategies adopted by farmers to manage business risk has proven to be a critical success factor in allowing them remain internationally competitive and viable in their farming operations. It has been identified by farmers that there are a wide range of risks, and once these are defined and categorised, farmers adopt a range of strategies to minimise such risks. Climate Change Adaption (CCA) is largely achieved by farmers through managing production and climate risks. Through improved management (supported in many instances by government capacity building and training programs as well as grass root group initiatives), Australian farmers are continuing to become better managers.

The information collected, and experiences gained through the focus group workshops reported in this study will provide useful information in guiding the phase three of this project. During this next phase it is proposed to undertake participatory based interviews amongst farmers in order to identify the opportunities and barriers to developing and adopting a broader range of agricultural insurance schemes (such as MPCI, which is largely at the infancy stage of introduction in Australia). Obtaining direct feedback from farmers in relation to their attitudes and opinion of MPCI and other similar products will add an interesting dimension to this study.