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Farm Crime in Australia

NATIONAL COMMUNITY CRIME PREVENTION PROGRAMME

FOR THE NATIONAL COMMUNITY CRIME PREVENTION PROGRAMME

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Defining rural crime

As Carcach (2000) states, 'in exploring rural crime, one must recognise that there is no single standard definition of rural, and that rural areas are incredibly diverse (p.2).

> *The term rural crime may refer to behaviours and incidents that can only occur in rural areas. Victimisation surveys of farms and ranches conducted in the United States (Donnermeyer, 1987; Voth and Farmer 1988; Cleland 1990 and Saltiel et al. 1992) indicate that the most frequent agricultural crimes are vandalism, stolen farm supplies and tools, and burglary. It is rare to find incidents of violent crime occurring among the farm population, and most of these incidents take place at off-farm/ranch sites. In addition, personal crimes of theft are relatively rare on agricultural operations, but can occur to the farm and ranch population at other locations. Official crime statistics do not provide enough details to classify crimes as strictly rural or urban. Therefore, it is not possible to focus on what might be defined as pure rural crime (p.2).*

The report relies on data from a quantitative survey conducted of farmers Australia-wide as well as qualitative interviews with key stakeholders throughout the farm business network.

For the purpose of this study, farm crime was defined as property crime against farming operations for each of the three surveys. This includes theft from the farm (livestock, materials, equipment, produce, fuel, vehicles and machinery etc), and damage/vandalism to farm property. The definition of farm crime for the purposes of the surveys does not include crimes against the person, such as assault, manslaughter or family violence.

The primary purpose of the National Farm Crime Survey (NFCS) was to describe:

1. The number of farms who were victims of crime Australia-wide;
2. The use of farm crime prevention strategies; and
3. Possible weak links throughout the farm business network in preventing crime.

Findings from this study indicate that:

- An estimated 17 per cent of farmers have experienced at least one crime related to their farming operations over the surveyed period;
- Awareness of crime prevention materials may result in greater uptake by farmers of crime prevention strategies; and
- Shifting socio-economic demographics, including the increased urbanisation of previously rural areas, may affect the level of farm crime.

Prevalence of farm crime

The NFCS found that 17 per cent of farms surveyed in 2002-03 experienced some type of crime relating to their farming operations. Farms situated in remote areas, and larger farms (more than 5000 hectares) had higher overall rates of victimisation. More detailed analyses indicate:

- Livestock theft, theft of materials, and illegal hunting and fishing is more prevalent for remote or larger farms;
- Farms situated closer to urban areas are more likely to experience theft of farm machinery and equipment, theft of tools, farmhouse robbery, theft of farm vehicles or damage/vandalism;

- Farms smaller than 100 hectares are more likely to experience illegal dumping of waste;
- Almost half of the farmers surveyed believed the crime occurred within sight of public roads;
- The theft of property/materials varies by type of farm:
    - Livestock theft is more prevalent for sheep and cattle properties;
    - Theft of fuel is experienced more by dairy farmers;
    - The cropping sector, horticultural operations, and other livestock farms experience higher levels of theft of machinery and equipment; and
    - Theft of small tools and spare parts is more likely to be experienced by horticultural operations.

Half of farmers surveyed who had experienced farm crime were repeat victims.

Crime prevention strategies

The research found that the majority of farmers employed crime prevention strategies on their farms. The most commonly employed crime prevention strategies were:

- Locks on the farm residence (67 per cent);
- Locks on barns/sheds (41 per cent); and
- Guard dog/geese (39 per cent).

The least commonly employed strategies were alarms (six per cent), regular meetings with police (five per cent) and closed circuit television (less than one per cent). One in five farmers who had livestock on their farm used the National Livestock Identification System (NLIS) and a further 49 per cent had other livestock identification devices in place.

Half of all farmers were uncertain about the availability of crime prevention materials. Generally, the majority of farmers rely heavily on neighbours (69 per cent) or local friends and family for farm crime prevention advice (67 per cent).

Farmers are generally more likely to have crime prevention strategies in place if:

- They perceive that their community is annoyed with the level of crime in the area;
- They perceive that crime is increasing in the community;
- The farmer is aware of published crime prevention material; and
- The farmer resides on the farm.

Farmers' perceptions

The survey found that:

- Forty-four per cent of farmers were unsure of the level of farm crime in their community;
- Farmers in very remote locations and/or on large farms were least likely to believe there was an increase in crime, but were more likely to be victims of crime;
- Farmers believe that the police require more training in livestock identification; and
- The need for the police to concentrate on crime within the town creates the impression among farmers that crime occurring on farms, stock losses or other theft/damage, is less important.

Financial costs

Farm crime was estimated to have cost Australia's economy $72 million in 2001-02. In 2002-03, that estimate was $70 million and the average cost of crime per farm was $5701.

The costs of farm crime are not only financial:

- In some cases, formerly productive farmers leave the industry because of the pressure applied to them to remain silent about their victimisation; and
- Given the complexity of the farm business network, farm crime has a flow-on effect, the financial impact of which would be difficult to estimate.

The financial cost of crime is a conservative estimate as it is based only on data provided by the 26 per cent of victimised farmers who responded to this question. Furthermore the total cost of crime to the farm sector would need to include details on costs throughout the farm business network.

Methodological issues

Two key methodological issues should be highlighted. First, all sample surveys are subject to sampling and non-sampling error. Sampling error is caused by the inability to examine all population units. Non-sampling errors may arise as a result of errors in the reporting, recording or processing of data. Sampling error can be estimated mathematically whereas estimating non-sampling errors are not always known.

Sixty-one per cent of farmers who were approached in 2003 completed the survey. It is possible that those farmers who did not answer the questionnaire were in some way different from those who did and this could affect the estimates in this report. The accuracy of the responses is also subject to memory recall and willingness to report.

Section 1: Overview of farm crime

Introduction

Discussions of crime in Australia generally focus on national or state/territory data drawn from research undertaken in large metropolitan areas. In fact, due to the large populations of capital cities and other urban areas compared to rural areas, reporting on crime trends and patterns tends to be driven by urban patterns. Few studies focus specifically on farm crime and fewer still examine the differences in crime trends between rural and urban communities which underpin differences in crime trends in discussing farm crime. In this context, while the incidence of crime in rural areas may appear lower than that of urban areas, it is significant. The impact of farm crime can extend to the wider rural community in which that farmer resides, and can influence Australia's domestic and international trading environment.

This report looks at a range of issues related to farm crime. In the next section, prevalence rates and the correlates associated with victimisation are examined. The third section focuses on the range of crime prevention strategies that farmers have utilised. The following section examines the issues relating to policing in rural communities while the fifth section focuses on the farm business network to gain an understanding of the inter-connectedness of the network and to identify sectors that are vulnerable to criminal activity. The final section of the report explores options for crime prevention in more detail.

In this first section a brief overview of farm crime in Australia is provided.

There is often a code of silence that surrounds farm crime and reporting to police.[1] As a result, official statistics may under-estimate the extent and nature of the problem. To improve the knowledge base about farm crime in Australia this study collected crime victimisation data from self-completion surveys and conducted face-to-face interviews with farmers and other stakeholders. The methodology used for the surveys and the limitations of the existing evidence base are outlined below. The ultimate purpose of this work is to identify a range of issues that offer possibilities for enhanced crime prevention activity.

Commonwealth/State policy on farm crime

The Australian Government's policy agenda for the rural sector was highlighted in its August 2001 Stronger Regions: A Stronger Australia statement. That agenda emphasised the Government's belief that regional Australia should be 'recognised and respected by all Australians for its enormous contribution to the nation's identity and to our national economic and social wellbeing.' (*www.dotars.gov.au*) The National Crime Prevention Program was launched in 1997 by the Prime Minister, the Hon John Howard MP. The Program's objectives were 'to identify and promote innovative ways of reducing and preventing crime and the fear of crime' (*www.ag.gov.au*). Confirmation of the Government's commitment to strong regional communities, and the evidence concerning significant levels of farm crime, resulted in the National Crime Prevention Program funding the Australian Institute of Criminology in 2001 to identify the extent of farm crime. This work has led directly to the Australian Government's development of a crime prevention brochure (*www.crimeprevention.gov.au*). A National Community Crime Prevention Grants Programme has been established to increase the ability of communities to recognise local crime problems and to pursue effective crime prevention initiatives at the grass roots level.

New South Wales funded the Rural Development Centre at the University of New England to research property crime in rural New South Wales between 2000-02. That research recommended training programs for police and farmers to support crime prevention strategies. A kit was also prepared for distribution to farmers, state-wide. The kit incorporated a range of crime prevention strategies for use by farmers.

1 Research has found that within highly cohesive rural communities threats of exclusion can limit the reporting of crime to police (Barclay & Donnermeyer 2002).

Farm crime in Australia

Very little research into the nature and incidence of farm crime at a national level has been undertaken in Australia and what has been done has not included the range of farming industries. The only other country to undertake a national survey of farm crime has been Scotland, although there have been a number of state based surveys in Australia and in the United States. In terms of crime prevention there has been no documentation of the use of crime prevention strategies by farmers Australia-wide.

In the Australian context the most detailed work to date has occurred in New South Wales. This work found that of 393 farms that were surveyed, 54 per cent experienced farm crime over a two-year period (Barclay et al 2001). Theft of small tools and equipment was the most common type of crime with 33 per cent of farmers reporting this crime. This was followed by livestock theft (23 per cent) and theft of fuel (21 per cent). In that research, just under half of those victimised reported the crime to the police (49 per cent).

The Scottish survey in 1998 (Laird, Granville & Montgomery 1999) found that 32 per cent of 1022 farmers interviewed had been victims of farm crime in the previous five-year period. The most common types of crimes experienced were vandalism (18 per cent), followed by theft of livestock (14 per cent). The survey results suggested that all types of farms experienced crime, but particularly those farms that were close to towns or main roads. The study found that only half of all victimised farmers reported the crime to the police (49 per cent) and that one in five farmers (20 per cent) had no security measures in place.

The interviews conducted for the current study found that there remains an acceptance among farmers that they will lose one or two animals or small amounts of fuel or produce for the personal use of people from within the district every so often.[2] While the loss of one or two animals may seem insignificant, on a grand scale it represents a considerable loss to the rural economy. One example is the slaughter[3] of livestock by locals in remote regions in Australia. Not only can such slaughter have a negative impact on the morale of property owners/managers, it can represent a significant financial cost to the individual farmer, the local community and to Australia's domestic and export economy.[4]

At a more theoretical level, two conceptual models which focus on the community are particularly relevant in explaining why farm crime occurs. The first, social disorganisation theory seeks to explain crime rates in terms of characteristics of social interaction and levels of social cohesion within communities. Social disorganisation emphasises how disruptive forces within the community, such as migration, inequity and discrimination, create the foundations for crime. It examines the broader community and the associated values, norms and trust that prevent and promote crime. When these conditions break down an environment conducive to criminal activity is established. In relation to farm crime, where communities are generally small, the effect of changes in the social structure such as the population or unemployment levels can be dramatic (Jobes et al 2004).

Routine activity theory provides a more specific model of action at the local level to explain crime rates (Felson 2002). Put simply, there are three elements that converge to provide the ideal conditions for criminal activity to occur. These elements are:

- Suitable targets;
- The absence of capable guardians; and
- Motivated offenders.

2 One of the more unusual farm thefts was the Saturday 8 May 2004 'daring morning robbery' of a vintage crop duster from a wheat property 70 kms southwest of Dirranbandi, southwest Queensland. It was flown approximately 400 kms away to Taroom, and was found on Wednesday 12 May (Gregg 2004; Queensland Police Service 2004).

3 A particular animal is targeted for slaughter. It may be grazing near a public road and in prime condition. The slaughtered animal is intended for personal consumption or for on selling in the local community. This type of theft dates back to the early days in colonial Australia.

4 One recently published book written by Frances Boyle describes her family's struggle against relentless livestock theft (2003).

For the first condition for crime to occur, there must be a suitable target. In the case of farm related crime, the suitable target would be the farm and/or valuables on farm property. However, not all farms are equally suitable. Farms that have goods that are concealable, removable, available, valuable and disposable tend to be more appealing to thieves (Clarke 1999). The second condition for crime to occur is that there must be an absence of a capable guardian. A guardian can be a person (eg police, ordinary citizen) or thing that can prevent an offence from taking place (eg. fences, locks). The final condition for a crime to occur is a motivated offender. Offenders have many different reasons for committing an offence. In the case of farm crime offenders could be motivated by economic hardship from recent droughts, and therefore steal cattle, feed or water from other farmers. Another example is that people passing by an orchard might be motivated to steal fruit because of poverty.

The two theories of social disorganisation and routine activies theory are complementary. Social disorganisation theory is suited for broadly explaining how norms and values of a community underlay crime. Routine activity theory is intended to specifically identify characteristics, including targets vulnerable to potential offenders and the absence of capable guardians, that make locations attractive.

Key research questions

This project was designed to answer a number of key research questions that would provide an evidence base for future policy in this area. These questions were:

- What is the extent of farm crime in Australia?
    - Whom does it affect?
    - How often does it happen?
    - What type of crimes are more common and why?
    - What are the significant risk factors?
    - Where are the weak links in the farming business in terms of preventing criminal victimisation?
- What kinds of crime prevention strategies are utilised?
    - What predicts the use of crime prevention strategies?
    - Who takes up crime prevention measures after being victimised?
    - What are farmers/law enforcement/local government doing to prevent crime?

The National Farm Crime Survey (NFCS)

In 2000, the Australian Government commissioned research into farm crime to be undertaken by the Australian Institute of Criminology (AIC). The research involved three annual surveys between the years 2000-01 and 2002-03. The main focus of this report is on the 2002-03 component of the NFCS. The 2002-03 component of the AIC's national farm crime project had two parts:

- A quantitative study that resulted in 4717 completed questionnaires from farmers about their experiences and perceptions of crime; and
- A qualitative component that involved interviews with key stakeholders such as police, local councils, retailers and victims of farm crime.

The quantitative surveys

The Australian Bureau of Agricultural and Resource Economics (ABARE) undertakes a National Farm Survey every year and the Australian Institute of Criminology has conducted a supplement to this survey for the past two years with a focus on farm crime (Carcach 2002; McCall 2003). The first two surveys (2000-01 and 2001-02) were conducted by face-to-face interviews with a sample of about 1300 farmers. However, these surveys were limited in their scope due to restrictions on the number of questions that could be asked and concentrated only on the dairy and broadacre sectors (which represents approximately 75 per cent of the farming community).

In order to facilitate a more representative analysis of farming industries' victimisation, the 2002-03 NFCS methodology had to change. The sample size was expanded and a mail back methodology used. The AIC requested the assistance of the Australian Bureau of Statistics (ABS) in conducting the survey mailout. The ABS provided a sample stratified by state size and industry of 8670 farms from its register of farm businesses and despatched the forms on behalf of the AIC. In order to maintain confidentiality, the names and addresses of those farms selected in the survey were not provided to the AIC. Farms selected in the sample were sent an introductory letter explaining the purposes of the survey and a copy of the questionnaire. For farmers who did not respond to the first questionnaire after three weeks, another questionnaire was sent out. A third questionnaire was sent to farmers who did not respond to the first or the follow up questionnaire. For further information about the methodology, see Appendix 1.

The qualitative interviews

The qualitative component consisted of fieldwork in Queensland and Western Australia between October-December 2003. Supplementary fieldwork was undertaken in Victoria and New South Wales in January 2004. Queensland and Western Australia were chosen as the sites for in-depth interviews because:

- Little research has been undertaken in either state on farm crime;
- Both states have significant farming industries; and
- Both states have a dedicated stock squad/investigation unit.

The relevant stock squad/units were asked to identify two fieldwork sites: a low farm crime site and a high farm crime site in each state.

Interviews were conducted in each site with:

- Farmers;
- Police;
- Industry;
- Community groups; and
- Local Council representatives.

The findings from the fieldwork were compared with the results from the questionnaire to provide a more in-depth qualitative analysis of some of the issues facing Australia's farming community with respect to crime.

Conclusion

While farm crime is not a new problem in Australia, the development of research tools with which to examine the incidence and prevalence of farm crime Australia-wide is a relatively recent development. This report provides data that can help inform evidence-led policy making and community initiatives. Sections 2 and 3 describe the results from the study.

Section 2: Farm crime in Australia

Introduction

This section provides a snapshot of the demographics of Australia's farms and farmers and explores the level of farm crime reported in the three surveys, with a particular focus on the most recent survey in 2003.

The Australian farmer

According to data from the 2001 census, there are 193,883 farmers in Australia (ABS 2004a). Whilst there has been a general decline in the number of farmers in Australia (0.44 per cent per annum), the rate is beginning to plateau. The highest decline in the number of farmers is centred on the West Australian cropping region and grazing regions that are closely settled. These regions experienced a decline in farming numbers due to declining trade opportunities in conjunction with property aggregation. This decline is particularly evident for the cropping and dairy industries.

In terms of the rate at which farmers enter and exit a farming region, there are four types:

- The regions where there is a low entry rate and a low exit rate are generally the cropping regions of west and east Australia. Very few people enter farming in these areas, and very few leave. Due to the complexity of the cropping process, new farmers are unlikely to be attracted;
- Farms at the other end of the spectrum, ie those that have high entry rates and high exit rates, are generally in the north and north-western regions of Australia. These farms are large, managed by paid employees and a number of the owners do not live within close vicinity of the farm;
- Those farms with high entry rates and low exit rates are located around coastal areas north and south of Perth, and areas surrounding Melbourne, Adelaide, and coastal areas north of Brisbane. The farm holdings around these areas are smaller and owners generally have bought the farm on the basis of the lifestyle it provides; and
- There are very few farming areas with low entry rates and high exit rates, as they are unsustainable.

The Australian farming population is ageing. Regions where both aggregation has declined and small farms are more prevalent have the oldest farmers. In particular, decline is evident for farmers aged less than 50 years of age. The number of farmers aged 35 years or younger has declined by at least half over the 30-year period from 1971-2001. Table 2.1 below outlines the demographics of Australian farmers and farms. The mean age of the 2002-03 survey sample is 55 years (ABS, 2004a). The average number of adults living on the farm is two and the average number of children on the farm is two. Farmers had lived on the surveyed farm for an average of 29 years and had lived in the district for 38 years. These demographics show the prevalence of older farmers with low exit rates from their farm.

Table 2.1 Demographics of Australian farms (means)

	Mean	Std dev.
Age	55	12
Adults on farm	2	2
Children on farm	2	2
Years lived on farm	29	20
Years lived in district	38	20
Paid employees	2	6
Farm size (hectares)	2937	23677

Source: AIC, National Farm Crime Survey weighted data, 2002-03 [computer file].

The majority of farmers surveyed were male (80 per cent); owned the farm (93 per cent), and lived on the farm (84 per cent).

Characteristics of farms

A range of farm characteristics, such as income, farm size, farm location (remoteness), and number of employees, has been linked to the risk of criminal victimisation (McCall 2003). The 2002-03 questionnaire asked farmers to provide some broad information on both their personal characteristics and the farm.

Table 2.2 Farm characteristics by industry type

	Horticulture and fruit growing	Grain, sheep and beef	Dairy	Poultry	Other livestock	Other cropping	Total
Farmer characteristics							
Average age of farmer	53	56	55	55	56	55	55
Percent male	84	79	81	81	65	84	80
Percent owned farm	89	94	96	85	97	94	93
Percent live on farm	79	83	91	87	94	87	84
Average years on farm	22	31	32	22	22	33	29
Average years in district	31	40	40	30	27	44	38
Farms characteristics							
Average remoteness (ARIA)	2.4	3.4	2.1	1.3	2.1	3.6	3.0
Average number of employees	4.3	0.9	0.9	2.6	1.0	1.4	1.5
Average capital ($'000)	899.3	1338.8	1190.0	1280.0	879.2	1389.1	1235.0
Average income ($'000)	207.1	192.7	169.7	312.3	164.5	153.4	191.2
Average debt ($'000)	176.5	229.8	331.0	396.0	144.8	339.2	236.0
Average size(ha)	107	4433	257	169	1759	603	2937
n	817	2990	463	41	141	266	4717

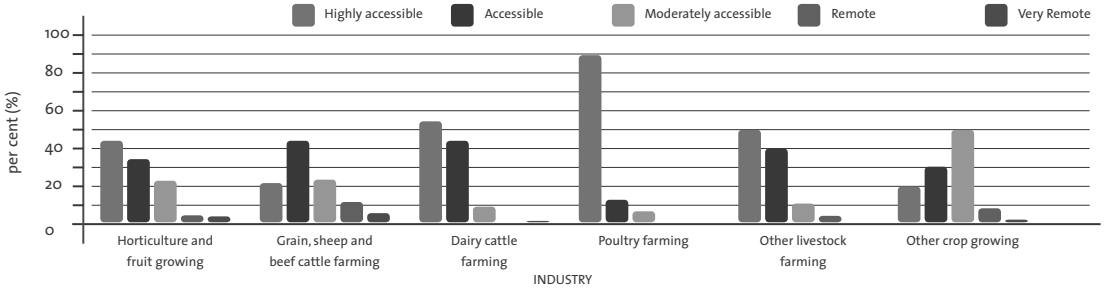
Source: AIC, National Farm Crime Survey weighted data, 2002-03 [computer file].

Farm location

For each of the three surveys the location of farms was measured by the Accessibility/Remoteness Index of Australia (ARIA) (Commonwealth Department of Health and Ageing 2001). The index (based on postcode) combines road distance to population centres of various sizes as a measure of service access. For example, farms that have the least access to service centres are classified as 'very remote' whereas farms with the most access to service centres are classified as 'highly accessible'. ARIA values range from 1-12; scores under 1.85 are considered 'highly accessible' and those over 9.08 are considered 'very remote'. Appendix 3 provides more information on the ARIA.

In terms of remoteness, the highest proportion of farms surveyed, were considered 'accessible' (38 per cent) (n = 1775) according to the ARIA classification. This has remained consistent across the three surveys. Farms that are considered accessible are those that have some restrictions on accessibility to a wide range of goods and services and opportunities for interaction (see Commonwealth Department of Health and Ageing 2001 for more information). Figure 2.1 shows farming industry by remoteness. Most farming industries surveyed were located in highly accessible or accessible areas. Other crop growing farms were more likely to be in moderately accessible areas (47 per cent).

Figure 2.1 Farm industry by accessibility by industry



Source: AIC, National Farm Crime Survey weighted data, 2002-03

Farm finances

Three questions were asked about the farm's finances relating to capital, income and debt. A number of farmers did not provide information on income (27 per cent), the size of their debt (28 per cent) nor the amount of farm capital (32 per cent). As a result the measures of farm finances should be seen as suggestive of the financial situation of farms only.

Farm incomes during the 2002-03 period ranged from nil to $76,500,000. The average farm income was $191,163 with a median income of $45,000. The average farm debt was just under a quarter of a million ($235,988). However the range was large (from zero to $40 million). The median debt was considerably lower at $30,000. Farm capital ranged from a low of $40 to a high $98 million with the average capital being $1.2 million (median = $600,000). The averages are generally higher than the median because a small number of farms with extremely high income, levels of debt or capital will pull the averages up. The median value reflects the middle of the range and is not influenced by extreme values.

Farm size

The average size of farms ranged from less than one to almost one million hectares. As would be expected there are noticeable differences across industries with the largest farms being grain, sheep and beef (4433ha) and the smallest being horticulture and fruit growing (107ha). The size of the farms surveyed in the NFCS was consistent with those that are in the ABS Agricultural Surveys (ABS 2004c).

The nature of farm crime

As mentioned in the introduction, the first two surveys were conducted through ABARE's farm surveys of broadacre and dairy farmers. The sample size for each survey was 1464 in 2000-01 and 1309 in 2001-02. The third survey in 2003 was the largest with a sample size of 4717. The first two surveys were face-to-face while the 2002-03 survey was mailed to farmers. Due to various constraints and different issues addressed by each survey in each year of the survey period, the range of crimes varied across the surveys. The 2002-03 NFCS has gathered statistical information from large samples of farmers on:

- Prevalence and incidence of crime;
- Types of crimes experienced;
- Where and when the crime occurred;
- Who was thought to be the perpetrator;
- Perceptions of factors associated with farm crime;
- Police reporting; and
- Crime prevention strategies.

Each of these issues listed above will be explored in detail throughout this section.

Prevalence of farm crime in Australia

Farm crime has been defined as property crime against farming operations for each of the three surveys. This includes theft from the farm (livestock, materials, equipment, produce, fuel, vehicles and machinery etc), and damage/vandalism to farm property. The definition of farm crime for the purposes of the surveys does not include crimes against the person, such as assault, manslaughter or family violence.

Table 2.3 Crimes included in the three National Farm Crime Surveys

	2000-2001	2001-2002	2002-2003
Livestock theft or rustling	✓	✓	✓
Theft of farm machinery and equipment	✓	✓	✓
Theft of farm vehicles	✓	✓	✓
Theft of materials	✓	✓	✓
Theft of small tools or spare parts	✓	✓	✓
Vandalism/damage	✓	✓	✓
Illegal dumping of waste	✓	✖	✓
Illegal hunting or fishing	✓	✖	✓
Trespassing on farm land	✓	✖	✖
Growing of crops by outsiders on farm land	✓	✖	✖
Livestock theft – unsure if stolen or missing	✖	✓	✓
Theft of fuel	✖	✓	✓
Theft of produce	✖	✓	✓
Deliberate sabotage	✖	✖	✓
Theft of water	✖	✖	✓
Theft of firearms	✖	✖	✓
Farm residence robbery	✖	✖	✓

Source: AIC, National Farm Crime Survey, 2000-2003

The crime types measured in the three NFCS are listed in Table 2.3. The 2002-03 survey identified 15 different crime types, six more than were identified in the 2001-02 survey. While a number of crimes formed a core for all surveys from which comparisons may be made, statistical adjustments have been made to accommodate the introduction of crimes not examined in the earlier surveys.

2001 and 2002 National Farm Crime Surveys

Prevalence

Farmers were asked whether they had experienced crime in the previous 12 months. The prevalence rate of farm crime in 2000-01 was 27 per cent (Carcach 2002). The most common types of crimes that were reported in that survey included:

- Unauthorised hunting or fishing (12 per cent);
- Trespassing (10 per cent); and
- Livestock theft (8 per cent).

Table 2.4 shows the prevalence of farm crime over the three surveys. The first part of the table lists the six common crime types that were included in each of the surveys and the subtotal indicates the prevalence rate (per cent victimised) for these crimes in total. These prevalence rates can be directly compared against each other because they include the same industry and crime types across all three surveys. Four other types of crime including unauthorised hunting/fishing, illegal dumping of waste and trespassing were asked in 2000-01 but not 2001-02. The prevalence rate in 2000-01 drops to 11 per cent when only the common crime types with 2001-02 are included (see Table 2.4). For 2001-02 the overall prevalence rate is 13 per cent of Australian broad acre and dairy farmers who experienced farm crime during that period, decreasing to 11 per cent when only the common crime types are included. Although overall prevalence rates produced by these two surveys were comparable, rates for individual

crime types were lower in 2001-02. Differences were statistically different for theft of machinery, equipment, materials, vehicles or spare tools or parts and vandalism and damage. Theft of machinery and equipment dropped in 2001-02 before rising again in 2002-03. Vandalism and damage declined in 2001-02 and again in 2002-03.

Analyses of victimisation in 2000-01 and the 2001-02 surveys found some common risk factors. Farmers with higher levels of debt, significant farm capital, employees working on the farm and a large quantity of sheep were at higher risk of experiencing crime (Carcach 2002; McCall 2003). However some additional risk factors were found in the 2001-02 survey. These were farm size and remoteness of the farm. The results showed that larger and/or more remote farms were more likely to experience different types of crimes than smaller farms or those that were easily accessible.

Repeat victimisation

From the questions asked in 2000-2001, it was not possible to determine levels of repeat victimisation. In the 2001-02 survey farmers were asked the number of times they had experienced crime. 28 per cent of victimised dairy and broad acre farmers had experienced two or more incidents in the previous 12 months. Repeat victimisation was more prevalent for farms in very remote areas, or for larger farms. These factors relate to both remote farms (which cover large areas) and larger farms having tracts of land which are not visible from farm buildings or the farm residence.

Table 2.4 Prevalence of crime, by crime type (percentages)

	Dairy and Broadacre			Total sample
	2000-01	2001-02	2002-03	2002-03
Common crime types				
Livestock theft or rustling [(a)]	7.5	6.1	6.0	4.7
Theft of farm machinery, equipment, vehicles, materials, small tools or spare parts*	5.5	3.4	5.3	6.0
Vandalism/damage*	4.3	2.8	2.1	2.3
(Subtotal)	(11)	(11)	(12)	(11)
Other crime types				
Illegal dumping of waste	3.3	N/A	2.4	2.5
Illegal hunting or fishing*	12.4	N/A	3.9	3.2
Trespassing on farm land	10.0	N/A	N/A	N/A
Growing of crops by outsiders on farm land	0.8	N/A	N/A	N/A
Theft of fuel	N/A	1.5	2.3	2.6
Theft of produce	N/A	0.5	1.0	1.1
Deliberate sabotage	N/A	N/A	1.4	1.3
Theft of water	N/A	N/A	0.2	0.2
Theft of firearms	N/A	N/A	0.0	0.1
Farm residence robbery	N/A	N/A	1.2	1.3
(Total)*	(27)	(13)	(17)	(17)

N/A = not asked

(a) Includes Livestock theft – unsure if stolen or missing which was asked in 2002 and 2003 survey.

** Statistically significant differences across the three surveys at p<0.05*

Source: AIC, National Farm Crime Survey weighted data, 2000-2003

2003 National Farm Crime Survey (NFCS)

The 2002-03 NFCS survey covered 14 crime types across all farming sectors. The sampling frame was also wider in that it covered farms with Estimated Value of Agricultural Operations (EVAO) incomes as low as $5000 while the two previous surveys only covered farms with incomes as low as $22,500 EVAO. The definition of farm crime for the 2002-03 NFCS was the broadest of all three surveys (see Table 2.4). Farmers had the opportunity to list up to two different incidents of farm crime that occurred in 2002-03 and each incident could consist of a multiple number of crimes. Seventeen per cent of farms (n = 797) experienced some type of crime between July 2002 and June 2003.

When victimisation rates are compared across the six common crime and industry (dairy and broadacre) types for all three surveys, the overall level of victimisation has remained stable with 11 in 2000-02 and 2001-02 and 12 in 2002-03 (Table 2.4).

Across the 14 crime types, 17 per cent of farmers experienced crime in the past 12 months. This is almost twice as high as rates reported to the ABS 2002 Crime and Safety Survey (ABS 2003), which surveys households across Australia in urban, rural and remote areas about their experience of crime. Property crime was found to affect nine percent of households in the previous 12 months. However small retail businesses have higher rates of property crime (Taylor & Mayhew 2002).

The most common crimes experienced in 2002-03 by farmers were:

- Theft of farm machinery, equipment vehicles, materials, tools or spare parts (6 per cent);
- Livestock theft (5 per cent of all farms);
- Illegal hunting or fishing (3 per cent);
- Illegal dumping of waste (3 per cent); and
- Theft of fuel (3 per cent).

Victimisation across industry types

The 2002-03 survey covered a more representative range of farming industries than either of the first two surveys, which were confined to dairy and broadacre farms. The range of farming activities included:

- Grain, sheep and beef cattle farming (63 per cent);
- Horticulture and fruit growing (17 per cent);
- Dairy cattle farming (10 per cent);
- Other crop growing (eg, cotton, oilseeds, sugar cane, fodder crops) (6 per cent);
- Other livestock farming (3 per cent); and
- Poultry farming (1 per cent).

Table 2.5 Victims of farm crime by crime type and industry (percentages)

	Horticulture and fruit growing	Grain sheep and cattle	Dairy	Other livestock	Other cropping	All farms[(a)]
Livestock theft (includes not sure if stolen)	0.9	6.7	1.7	3.4	0.3	4.7
Theft of machinery or equipment	4.9	2.7	3.4	5.0	4.1	3.3
Illegal hunting or fishing	1.0	4.2	2.5	1.7	1.0	3.2
Theft of fuel	3.3	2.0	3.7	2.5	5.3	2.6
Illegal dumping of waste	1.7	2.5	1.9	1.0	7.2	2.5
Theft of tools	3.4	2.0	2.6	2.7	2.9	2.4
Damage/vandalism	3.0	1.9	3.5	2.4	2.0	2.3
Farmhouse robbery	1.5	1.1	1.8	1.7	1.2	1.3
Sabotage	1.0	1.3	1.8	1.5	1.0	1.3
Theft of produce	1.9	1.0	1.5	0.0	0.7	1.1
Theft of materials	1.0	0.4	1.2	2.3	1.4	0.7
Theft of vehicles	1.5	0.5	0.7	0.3	0.6	0.7
Any crime	16	17	15	16	21	17
n	(817)	(2990)	(463)	(141)	(266)	(4717)

(a) Poultry farms are included in the Australian total, however data could not be presented individually due to a small sample size.

Source: AIC, National Farm Crime Survey weighted data, 2002-03

The farm industries most likely to experience farm crime were other crop growing (21 per cent) followed by grain, sheep and beef cattle farming (17 per cent). Analysis of type of crime experienced by industry (see Table 2.5) indicates that:

- Other livestock industries and horticulture and fruit growing industries are more likely to experience theft of farm machinery and equipment;
- Other cropping farms are more likely than others to experience illegal dumping of rubbish and theft of fuel;
- Grain, sheep and beef cattle farms experience higher levels of illegal hunting and fishing than other farming industries; and
- Grain, sheep and cattle and horticulture farmers were more likely than others to report theft of machinery and equipment.

Where crime occurred

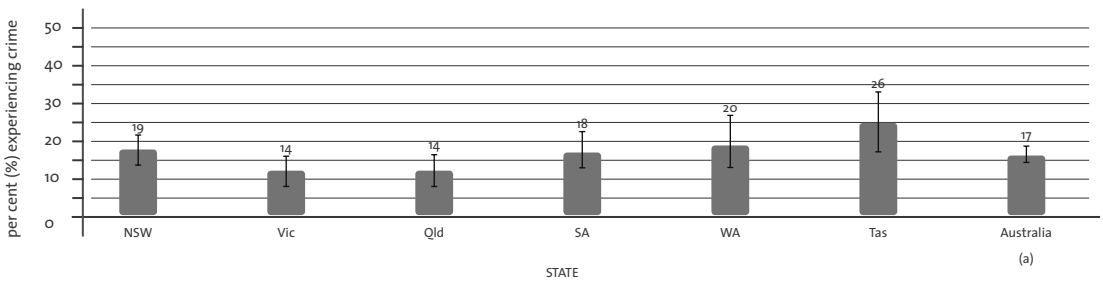
Overall, the results from the 2002-03 survey show that crime generally occurs on farms that are very remote[5] (ie not in proximity to most services), or on large farms (greater than 5000 hectares). Most farmers also stated that the crime took place within sight of a public road. The surveys identified three principal factors associated with victimisation – the jurisdiction (state/territory), remoteness and farm size.

State

Figure 2.2 indicates that the highest prevalence of crime in the past 12 months was recorded in Tasmania (26 per cent) and the lowest in Queensland and Victoria (14 per cent each). A relatively small sample in Tasmania results in large standard errors such that the estimated rate of victimisation falls between 19 and 33 per cent. This range overlaps with some other states. The prevalence of farm crime in Tasmania is significantly higher than Victoria or Queensland and the national average. Farmers in Victoria and Queensland have significantly lower rates of farm crime than other states except South Australia. Analysis of individual crime types found that:

- Queensland and Victoria also have the lowest prevalence of livestock theft (three per cent). However, livestock theft is also one of Victoria's most predominant types of farm crime (Table 2.6);
- Farmers in Tasmania, New South Wales, Western Australia, and South Australia were most likely to experience livestock theft; and
- The most common type of farm crime in Queensland is theft of machinery and equipment.

Figure 2.2 Farm crime by state (percentages and standard errors)



(a) The Northern Territory and the Australian Capital Territory were included in the Australia data, but due to small sample size these cannot be reported separately.

Source: AIC, National Farm Crime Survey weighted data, 2002-03 [computer file].

5 The complete definition of remoteness is detailed in Appendix 4.

Table 2.6 Prevalence of farm crime, by crime type and state (percentages).

	NSW	Vic.	Qld	SA	WA	Tas.	Australia (a)
Livestock theft	7.0	2.7	2.5	5.3	6.1	7.6	4.7
Theft of machinery and equipment	3.3	2.7	3.5	3.1	4.1	5.7	3.3
Illegal hunting or fishing	4.1	2.0	3.1	2.2	4.2	4.0	3.2
Theft of fuel	2.3	2.4	2.7	2.5	3.3	4.2	2.6
Illegal dumping of waste	2.2	2.2	2.4	4.3	1.9	4.1	2.5
Theft of tools or spare parts	2.3	1.7	1.5	3.7	4.5	5.0	2.4
Damage/vandalism	2.1	2.6	1.1	2.6	2.7	6.2	2.3
Deliberate sabotage	1.0	1.5	1.3	1.1	1.3	1.4	1.3
Farm residence robbery	0.7	2.0	0.7	1.4	2.1	1.7	1.3
Theft of produce	1.2	1.5	0.3	1.6	1.3	1.6	1.1
Theft of farm vehicles	0.9	0.3	0.4	0.6	1.0	2.3	0.7
Theft of farm materials	0.8	0.5	0.3	1.3	0.6	1.9	0.7
Total	18.7	14.4	13.8	18.0	19.7	25.8	16.9

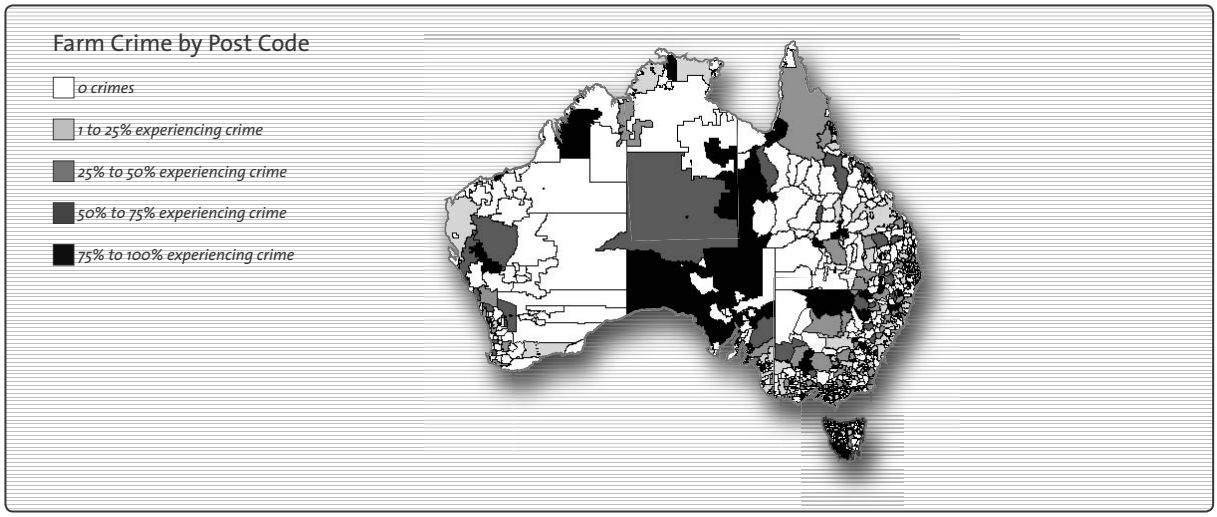
(a) The Northern Territory and the Australian Capital Territory were included in the Australia data, but due to small sample size these cannot be reported separately.

Source: AIC, National Farm Crime Survey weighted data, 2002-03 [computer file].

Figure 2.3 illustrates rates of farm crime geographically by postcode and shows that farms situated close to state borders were more likely to experience crime. This is particularly evident for properties in postcodes that adjoin the New South Wales/Victoria border, and the New South Wales/Queensland border. The network of roads crossing these borders is extensive and well used, facilitating the cross-border transportation of stolen stock or goods. Figure 2.3 also illustrates that those farms situated further inland are also more likely to experience crime. Figure 2.4 illustrates in greater detail the levels of victimisation by farmers from south-east Australia. Note in particular the state border areas that are susceptible to victimisation.

When comparing the 2002-03 rainfall map in Appendix 5 and the percentage of farms experiencing crime (Figure 2.3), similarities are seen between the areas where rainfall is below average and the areas where higher levels of crime were reported. For example, areas such as North Queensland, the southern region of the Northern Territory and the Kimberly region in Western Australia were highly affected by drought in 2002-03. Also, as shown on Figure 2.3, these areas were also had a high proportion of farm crime in 2002-03.

Figure 2.3 Percentage of farms experiencing crime, by postcode



Source: AIC, National Farm Crime Survey weighted data, 2002-2003 [computer file].

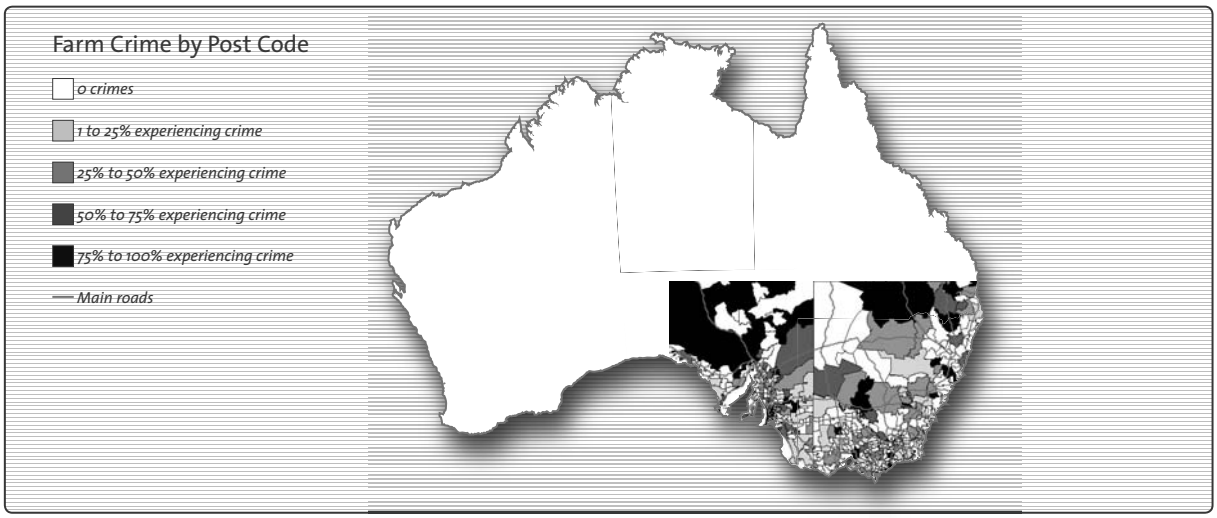
Remoteness

Farming in remote locations can have a significant impact on the likelihood of being victimised. Farms situated in very remote areas were more likely to experience crime (20 per cent) as demonstrated by the ARIA data. However the types of crimes experienced by farms varied with the accessibility of the farm. For example:

- Highly accessible farms were more likely to experience theft of farm machinery and equipment, theft of farm vehicles and damage/vandalism, theft of tools and spare parts and farm residence robbery; and
- Very remote farms, on the other hand, experienced the highest levels of livestock theft, illegal hunting and fishing, theft of materials, and illegal dumping of waste.

There is a complex relationship between farm location and experience of crime. Farms in either very remote or those in highly accessible areas were more likely to experience different types of crimes (Carcach 2000, & McCall 2003). It seems clear from previous studies (Barclay & Donnermeyer, 2001) that routine activities theory lends itself to an explanation for these apparently conflicting results. Routine activities theory maintains that farms that are accessible (very close to large rural centres/cities) are more likely to have a higher proportion of motivated offenders living nearby. Similarly, farms that are located in remote areas are likely to be larger, and are more likely not to have capable guardians to monitor the whole property. Although there may be a small number of potential offenders in the proximity of more remote farms, a reduction in the ability of farmers to oversee their entire operation at all times increases their risk of victimisation.

Figure 2.4 Percentage of farmers experiencing crime in south-eastern Australia by postcode



Source: AIC, National Farm Crime Survey weighted data, 2002-03 [computer file].

In the 2002-03 survey, farmers were asked to indicate where their farm was located. The choices were:

- Isolated area;
- Within a small cluster of other farms;
- Convenient to a small rural community; and
- Convenient to a larger rural centre.

The majority of farms (39 per cent) were convenient to a small rural community (n = 1792). The remainder were within a small group of other farms (32 per cent), convenient to a large rural centre or city (18 per cent) or isolated (11 per cent). Farms located in an isolated area reported the highest rates of criminal victimisation (24 per cent). Farms with the lowest rates were those that were located within a small group of other farms (13 per cent). From fieldwork interviews, farmers who live within a small group of other farms often operate an informal style of

neighbourhood watch/rural watch. They watch for strange vehicles on side roads or up driveways, keep an eye on a neighbour's farm during absences and are aware of their neighbours' movements around their farm. This kind of local community activity may be a significant factor in protecting against victimisation in areas where farmers are in close enough proximity to watch out for each other.

Farms in accessible areas provide opportunities for both opportunistic and organised theft. Opportunistic crime can occur when machinery, equipment or livestock have been left close to a road, and a thief drives past and takes the items. Accessible farms are more likely to locate near good roads that can facilitate organised theft of vehicles or equipment. However, farms situated in remote areas are also at risk of farm crime. Generally these farms are larger, with livestock beyond the sight of farm buildings or the farm residence. As well as not being visible to farm buildings, the livestock may also be kept adjacent to a public road. This provides an opportunity for crime to take place.

Farm size

Farms with an area greater than 5000 hectares were the most likely to experience crime (31 per cent), whereas smaller farms (less than 50 hectares) had the lowest rate (13 per cent). This finding is similar to those of the previous surveys, that is, larger farms (more than 5000 hectares) are more likely to experience crime. Like remoteness, the type of crime experienced varied by farm size:

- Farms with an area greater than 5000 hectares were more likely to experience theft of livestock, theft of materials, theft of fuel, illegal hunting and fishing and sabotage; and
- Farms smaller than 100 hectares in size were more likely to experience illegal dumping of waste.

Larger farms are more vulnerable to farm crime than smaller farms for a number of reasons. Potentially, larger farms have more equipment, stock, and/or materials to steal. Furthermore, unless a farmer is prepared to install expensive close-circuit television or other monitoring devices around the farm's perimeter, it is more difficult to carry out observation of a large farm. This is rendered more challenging if the farm is situated in two separate locations, that is, the farm's tracts of land are not contiguous. In years past, larger farms employed boundary riders or jackaroos whose time was spent continuously checking on fences and stock. However economic constraints do not make this a viable proposition for most farmers in 2004.

Predictors of experience of farm crime

A logistic regression was conducted to identify the significant predictors of farm crime victimisation. Logistic regression is a procedure that helps identify the unique effects of variables while holding constant the effects of others. Six categories of predictors were used in the model: opportunity, capable guardian, motivated offenders, farm types, financial situation and perception of crime. Opportunity is assessed by having access to crime prevention materials that might help reduce opportunities for crime. Opportunity was a non-significant predictor of victimisation net of the effects of others in the model.

The concept of farms with capable guardians was measured by:

- Farmers who have lived on the farms for more than 10 years;
- The farmer resides on the farm;
- Farms with more than 10 employees;
- Whether the farm is regularly unattended; and
- Farms larger that 1000 hectares.

Farms with capable guardians in the form of 10 or more employees were more likely to experience crime. However if there was no capable guardian (ie the farm was regularly unattended, or the farm was larger than 1000 hectares), the odds of victimisation were higher. The presence of motivated offenders was measured by:

- Location to a large rural centre or city;
- Remoteness of the farm; and
- Farms larger than 1000 hectares.

Farms that were close to a large rural centre or city and those in remote locations, were more likely to experience crime. Farms in highly accessible areas experienced different types of crimes. Those in highly accessible areas were more vulnerable to opportunistic crime such as theft of machinery and equipment or vandalism while livestock theft was more prominent in remote areas. Farms in remote areas and larger farms may also have a lower level of guardianship over their property.

Table 2.7 Logistic regression model predicting experience of crime in previous 12 months: partial odds ratios and levels of significance

	Odds ratios
Opportunity	
Is aware of published crime prevention materials	1.01
Capable guardian	
Lived on the farm for more than 10 years	0.81
Lives on farm	0.80
More than 10 employees	1.96*
Farm regularly unattended	1.29*
Motivated offenders	
Farm located close to large rural centre/city	1.43*
Farm is in remote location	1.45*
Farm larger than 1000 ha	1.76*
Farm type	
Horticulture farm	0.68*
Dairy farm	0.75
Beef, sheep or grain farm	0.73
Financial situation	
High income	1.19
High capital	1.42*
High debt	0.90
Perceptions of crime	
Perception of crime increasing in area	3.09*
Community annoyed with the level of crime in area	0.72*
Model chi square	269.11*
df	17
-2 log likelihood	3198.60
n	(4717)

** Statistically significant at p<0.05*

Source: AIC, National Farm Crime Survey weighted data, 2002-03 [computer file].

Horticulture farms were less likely to experience crime compared to other farming industries, and those farmers with high levels of capital were more likely to experience crime. This suggests that those farms with high capital levels have more equipment, livestock or machinery to steal. Perceptions of crime in the community was also an important predictor as to whether a farm experienced crime in the previous 12 months. Those farmers who thought that crime was increasing in the area were more likely to be victims of crime. Furthermore, those farmers who stated that their community was annoyed with the level of farm crime in their community were less likely to experience farm crime. As shown in Section 3, these are the farmers most likely to have taken up crime prevention strategies.

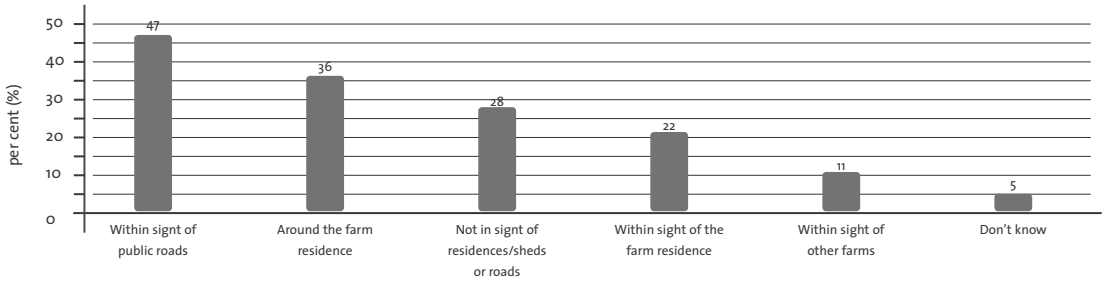
Location on the farm

Farmers were asked to indicate the location on the farm where the crime occurred. The options were:

- Around the farm residences/sheds;
- Within sight of the farm residence/sheds;
- Within sight of residences/sheds of other farms;
- Within sight of public roads; and
- Not in sight of residences/sheds or roads.

In response, most victimised farmers indicated that the crime occurred within sight of public roads (47 per cent) followed by around the farm residences/sheds (36 per cent) (Figure 2.5). Different types of crimes tended to occur on different parts of the farm. For example, Illegal dumping of waste was most likely to occur within sight of public roads (62 per cent) and theft of tools or spare parts (75 per cent) and theft of farm machinery and equipment (57 per cent) occurred more often around the farm residence or sheds.

Figure 2.5 Location on the farm where the crime occurred (percentages)



Percentages do not add up to 100 because respondents could select more than one response.

Source: AIC, National Farm Crime Survey weighted data, 2002-03 [computer file].

Repeat victimisation

The average number of incidents experienced by all farmers in 2002-03 was two and for victimised farms it was five (median two incidents). The number of incidents ranged from one to 500 over the 12-month period. Of those farmers who had experienced crime in 2002-03, 54 per cent were repeat victims. Levels of repeat victimisation varied across the states:

- Victimised farmers in Tasmania (61 per cent) and Queensland (60 per cent) recorded the highest levels of repeat victimisation;
- Farmers in New South Wales and Victoria experienced the lowest levels of repeat victimisation (49 and 54 per cent respectively);
- Dairy farmers were the most likely to experience repeat victimisation (66 per cent) followed by grain, sheep and beef cattle farmers (54 per cent) and horticultural operations (52 per cent); and
- Eighty-four per cent of very remote farms which were victims of crime (across common crime types and farming industries) experienced repeat victimisation. This compares to 59 per cent of very remote farms experiencing repeat victimisation in the 2001-02 survey.

Repeat victimisation was not addressed in the 2000-01 survey. In the 2001-02 survey the level of repeat victimisation of the same crime types was 28 per cent; in 2002-03 for the same six crime types repeat victimisation remained the same at 54 per cent.

Temporal variations in crime

Analysis by type of crime found that most crimes occurred around the middle of the year.

Farmers generally did not know the time the crime occurred (52 per cent). Thirty five percent believed the crime occurred during the night, while 14 per cent stated that the crime occurred during the day. More than half those farmers who had experienced theft of water or livestock theft did not know the time of the day that the crime occurred (84 and 75 per cent respectively). Because farmers may not know exactly when the crime occurred, a delay in reporting to police makes it difficult for the crime to be solved.

Perpetrators

Farmers who had experienced crime in the previous 12 months were asked if they could identify the offender. In the survey, farmers were given eight options to select from. In general, farmers did not know who had committed the crime (47 per cent). The remainder of victimised farmers identified:

- Town residents (23 per cent);
- Other farmers (8 per cent);
- Organised criminals (7 per cent);
- Former employee or itinerant workers (6 per cent each); and
- Employees from other farms or current employee (less than 5 per cent each).

Farmers were more likely to blame local town residents irrespective of industry, state or accessibility of the farm. The type of crime seemed to provide a clue as to who might be the offender. For example:

- A current employee or organised criminal was most commonly thought responsible for theft of farm machinery and equipment;
- A former employee or itinerant workers were more commonly accused of theft of tools and spare parts;
- Other farmers or employees from other farms were blamed for livestock theft; and
- Town residents were considered responsible for illegal hunting or fishing.

The high number of itinerant workers engaged in the fruit and vegetable growing industry led farmers to believe that itinerant workers stole farm produce (16 per cent). Findings from the fieldwork in a Queensland community, a major site for seasonal workers, supported this view. The 2001-02 survey asked a similar question and found similar results: most farmers did not know who committed the crime (37 per cent) but believed that town residents were responsible (19 per cent) despite lack of evidence to support this view.

Insurance

Farmers were also asked to identify which of five categories of insurance they subscribed to cover losses. Over 80 per cent of farmers had insurance to cover vehicles (89 per cent), the farm residence (87 per cent) and its contents (83 per cent). Just over half had insurance for farm materials, produce and equipment (56 per cent) and 24 per cent reported insurance of stock. Livestock insurance is only available to stud animals (for example, prize bulls) or valuable animals (Barclay 2003). Twenty five per cent of stockowners have insurance. Thirty seven per cent of farmers stated that they had items stolen in the last 12 months that had been covered by insurance but only 45 per cent had claimed against the insurance.

Financial cost of crime

The average cost of crime per farm (2002-03) was $5701 and the median cost was $1200 per farm. The average financial cost for farms that experienced one incident of crime was $1360 compared with $5921 for repeat victims. The average cost of crime per farm varied by farm industry, farm size and farm remoteness:

- The grain, sheep and beef cattle industries had the highest average cost per farm ($7759) while other cropping industries had the lowest average cost per farm ($847); and
- As farm size increases, the average cost of farm crime increases, with farms over 50,000 hectares in size having an average cost of crime per farm of $59,430.

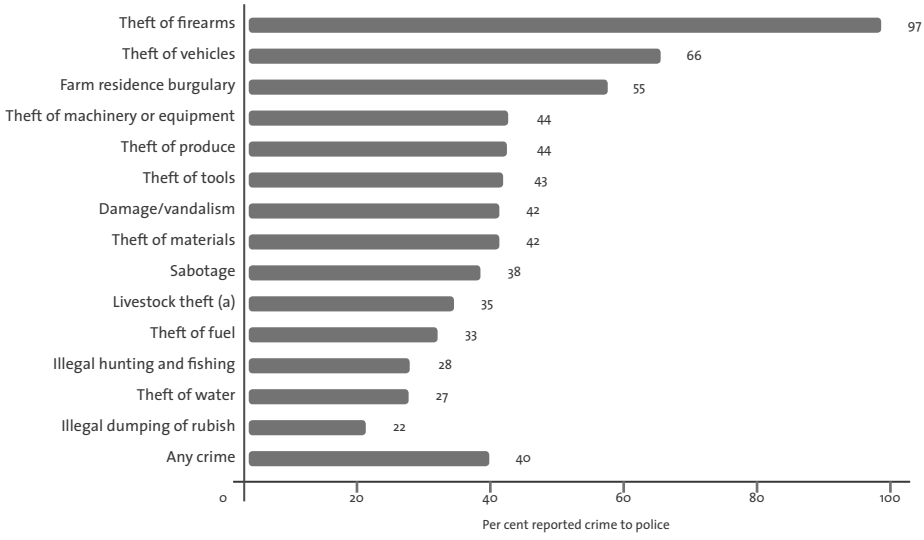
Further analysis of these farms shows that many of these farmers had been repeat victims of vehicle and farm machinery theft, and/or victims of arson. Analysis of farm remoteness shows a similar pattern to farm size. The average financial cost of crime for highly accessible farms was ($2914) whereas the average financial cost of crime for very remote farms was ($13,838).

Reporting to police

Across all crime types the 2002-03 survey found that 40 per cent of farmers had reported the crime to police (see Figure 2.6). When this figure is adjusted for common crime and industry types with the previous surveys, the levels of reporting were slightly higher (42 per cent). Compared to previous years, this was higher than 2000-01 (36 per cent) but lower than 2001-02 (50 per cent). Low levels of reporting mean that police statistics on farm-related crime are likely to underestimate the true extent of farm crime. However, reporting rates varied by the type of crime committed. For example, theft of firearms (97 per cent) and farm vehicles had the highest reporting rate (66 per cent) however this is still well below the reporting rate of 95 per cent stated in the ABS Crime and Safety Survey (ABS 2003a). Reporting rates were also high for farm residence burglary (55 per cent) but lower than for household burglaries in the Crime and Safety Survey (75 per cent). This crime is considered serious, and in order to claim on insurance the crime must be reported to police.

Crimes such as illegal dumping of rubbish, theft of water, and illegal hunting and fishing, were the crimes least likely to be reported.

Figure 2.6 Reporting to police by crime type (percentages)



(a) Includes livestock theft, not sure if stolen or missing

Source: AIC, National Farm Crime Survey weighted data, 2002-03 [computer file].

The police reporting rate varied between those farmers who had experienced one incident of crime and those who were repeat victims. Repeat victims were less likely to report any crimes to police (30 per cent) compared to those farmers who experienced one incident of crime (50 per cent). Repeat victims may not have had a successful outcome from previous reports, or may feel the crime is not serious enough.

Table 2.8 Policing reporting rates by state, percentages

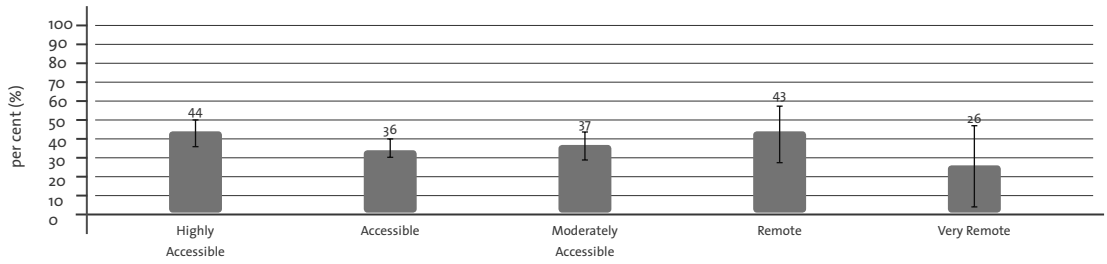
State	%	95 CI	RSE
NSW	36	31-42	8
Vic	40	32-47	9
Qld	40	32-49	10
SA	41	31-51	13
WA	43	32-53	12
Tas	47	30-64	18
Australia[a]	40	36-43	4

(a) The Northern Territory and the Australian Capital Territory were included in the Australia data, but due to small sample size these cannot be reported separately.

Source: AIC, National Farm Crime Survey weighted data, 2002-03 [computer file].

Analysis of police reporting rates by state (see Table 2.8) found that Tasmania had the highest reporting rate (47 per cent) of any state and New South Wales (36 per cent) the lowest. Farms in very remote areas reported farm crime 26 per cent of the time, while those in highly accessible areas reported crime 44 per cent of the time (Figure 2.7). However differences are not statistically significant due to large standard errors for remote and very remote farms. Any differences in reporting by remoteness may reflect the distance to the nearest police station and number of police available at the station; remote police stations may be staffed by only one police officer. The findings displayed in Figure 2.7 were similar to those from the 2001-02 survey.

Figure 2.7 Police reporting rate by accessibility (percentages) (a)



(a) In 19 cases remoteness could not be determined

Source: AIC, National Farm Crime Survey weighted data, 2002-03 [computer file].

Reasons for not reporting to police

Three out of five victims did not report these crimes to police. The most common reason offered for not reporting was that generally, because of lack of proof or detail of time or circumstance surrounding the incident, the police could do nothing (57 per cent) (see Table 2.9). This reason was most commonly given for the following crime types:

- Theft of livestock (69 per cent);
- Damage/vandalism (67 per cent);
- Theft of machinery and equipment (62 per cent);
- Theft of produce (61 per cent); and
- Theft of tools or spare parts (60 per cent).

Other reasons for not reporting to police included:

- 'Not serious enough/no loss' (32 per cent) and 'police would not do anything about it' (19 per cent);
- Illegal dumping of waste (50 per cent) and illegal hunting and fishing (40 per cent), were the crimes most commonly not reported to police because the incident was 'not serious enough/no loss';
- Farmers were more likely to state they would not report the incident to police because the 'police would not do anything about it' for theft of materials (52 per cent), damage/vandalism (30 per cent) and farm residence robbery (26 per cent);
- Eight per cent of farmers stated that they did not report the crime to police because the 'offender was known to me' and 26 per cent in cases of sabotage. In six per cent of all cases the farmer answered 'solved it myself'; and
- The reasons for not reporting varied according to a farm's accessibility. Very remote farms were more likely not to report crime because it was 'not serious enough' (51 per cent). Highly accessible farms were less likely to report because 'police could do nothing/lack of proof' (59 per cent).

Table 2.9 Reasons for not reporting to police by crime type (percentages)

	Police could do nothing/lack of proof	Not serious enough	Police would not do anything about it	Offender known to me	No insurance	Solved it myself
Livestock theft	69	12	18	7	7	4
Theft of machinery and equipment	62	32	19	4	15	-
Illegal hunting or fishing	59	40	16	7	3	9
Theft of fuel	59	21	17	10	8	8
Illegal dumping of waste	44	50	11	7	1	3
Theft of tools or spare parts	60	40	21	8	12	5
Damage/vandalism	67	30	30	13	10	7
Deliberate sabotage	47	29	20	26	-	5
Farm residence robbery	54	26	26	16	2	-
Theft of produce	61	32	18	13	15	12
Theft of farm vehicles	38	3	21	2	8	4
Theft of farm materials	57	22	52	5	10	-
Any crime	57	32	19	8	7	6

Percentages will not add up to 100 per cent as respondents can state more than one reason for not reporting crime to police.

Source: AIC, National Farm Crime Survey weighted data, 2002-03 [computer file].

Reporting rates and reasons given for not reporting to police are similar to the results of national crime victimisation surveys of the general population. In the 2002 National Crime and Safety Survey, the most common reasons given for not reporting to the police were that there was nothing the police could/would do, that the matter was not important enough to involve the police, or that nothing was stolen (ABS 2003a).

Survey respondents also had an opportunity to write open-ended viewpoints on any aspect of farm crime. Some indicated that reporting to police was complicated by the fact that the property was either too far from a police station, or there were not enough police officers in the area to deal effectively with the complaint. Farmers commented:

> *The police are helpful when possible, but there are not enough police for rural areas.*
>
> *Too isolated for police to help.*

As indicated in Table 2.9, 19 per cent of farmers who did not report the crime believed that police would not do anything about it. Specific reasons provided by farmers in open ended comments were that police would not take them seriously, the police lacked knowledge of and/or willingness to deal with agricultural crime, they were not keen to provide feedback on the report of theft, and the difficulty of gaining convictions. As mentioned previously,

the average incident of farm crime costs $5701. Many farmers believe that if an incident of crime in an urban area occurred with the same financial value as an incident of crime on a farm a higher priority would be paid to collecting evidence, and following up the initial report. As one farmer wrote:

> *The police and especially the courts don't take farm theft seriously. Stock theft can send a farmer broke very easily in today's economic climate. The courts need to be made aware of the hardship farmers go through after stock theft. They usually are not insured.*

Predictors of police reporting

A logistic regression was conducted to identify the significant predictors of reporting to police. Three categories of predictors were used in the model: socio-demographic factors, perceptions of crime, and suspected perpetrator (Table 2.10). Location and size of the farm were all statistically insignificant in predicting police reporting once the effects of other variables were held constant. However, the farmer's perception of crime in the area was an important predictor of police reporting behaviour. Those farmers who thought there was an increase in crime in their area were more likely to report crime to the police. Also, farmers who were repeat victims of farm crime were less likely to report crime to the police. Hence, police may be likely to underestimate the full extent of farm crime occurring.

Table 2.10 Logistic regression model predicting reporting crime to police: partial odds ratios and levels of significance

Variable	Odds ratios
Size and location	
Large farm more than 1000 hectares	1.00
Farm in small cluster of other farms	0.68
Farm near large rural centre	0.73
Perceptions of crime	
Increase in farm crime in area	1.70*
Farming community annoyed about crime	1.36
Farming community accepting of crime	0.84
Repeat victim	0.38*
Who is thought responsible	
Former employee	0.45*
Current employee	0.99
Other farmers	0.89
Organised criminals	3.36*
Itinerant workers	0.74
No idea	0.54*
Model chi square	91.63*
df	13
-2 log likelihood	922.68
n	(797)

**Statistically significant at p<.05*

Source: AIC, National Farm Crime Survey weighted data 2002-03 [computer file].

Whether or not the farmer had an idea of who the offender might be influenced the decision to report the incident to the police. Farmers who thought that a former employee was responsible were less likely to report the crime to the police. Interviewed farmers believed that former employees were often responsible because they knew the farm very well and could therefore carry out the crime with ease.

The odds of reporting to police were three times higher where organised criminals were thought to be involved. Organised criminals are more likely to be suspected in fairly costly incidents of crime such as theft of farm vehicles and theft of farm machinery and equipment. In addition, if the farmer did not know who had committed the crime, he/she was less likely to report the crime to the police. Farmers may think that if they could not identify the offender, the police would have difficulty solving the crime.

Perceptions of farm crime

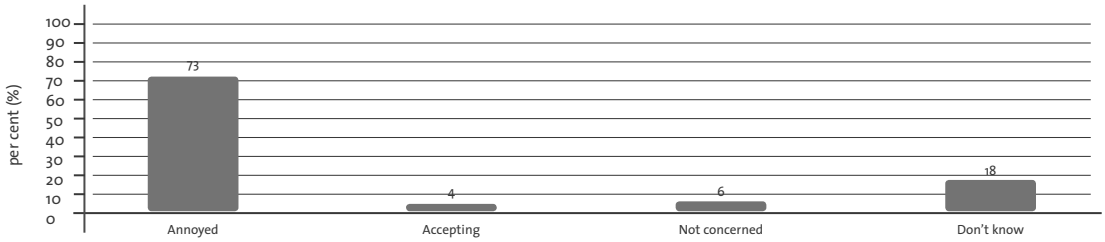
There does not appear to be a broad awareness among farmers of the prevalence of farm related crime. Most farmers were unsure if farm crime was increasing or not (44 per cent), 31 per cent thought that it was declining and 24 per cent felt that it was on the increase. Perceptions about the level of farm crime were similar by industry, state and experience of crime. Farmers in very remote locations (16 per cent) and/or on farms larger than 50,000 hectares (16 per cent) were least likely to believe that there was an increase in crime, yet they were more likely to be victims.

Community response to farm crime

Farmers were asked what their local community response was to farm crime in their area. The options consisted of 'annoyed', 'accepting', and 'not concerned':

- Seventy-three per cent of farmers stated that their local community was 'annoyed' about the extent of farm crime and its consequences in their area (see Figure 2.8);
- Eighteen per cent of farmers were not sure how their local community felt about farm crime; and
- Those farmers who had experienced any incident of crime were equally likely to state that their local community was 'annoyed' (71 per cent) about the extent of farm crime and its consequences, as compared to those who had not experienced crime (74 per cent).

Figure 2.8 Community responses to farm crime by experience of farm crime (percentages)



Source: AIC, National Farm Crime Survey weighted data 2002-03 [computer file].

Grain, sheep and beef cattle farmers were most likely to say their local community was annoyed at the levels of farm crime (76 per cent). Proprietors of very large farms (over 50,000 hectares) were the least likely to say their communities were annoyed (55 per cent) and most likely to say they were accepting of farm crime (18 per cent). Similarly, very remote farms were the least likely to be annoyed (60 per cent) despite their higher rates of victimisation (20 per cent).

Conclusion

The level of farm crime in Australia appears to have been relatively stable over the three surveys when comparing the same crime types. Livestock theft is one of the most prominent types of farm crime in Australia. This is a problem for farmers, as properties with significant livestock numbers may muster as infrequently as once a year. This makes it difficult when trying to determine whether or not livestock were stolen and when it occurred. During the recent drought conditions, a number of farmers have had to agist their livestock (long distances in some cases), making it difficult to monitor livestock. In some cases livestock theft occurs during agistment (Brown, 2003).

The rate of repeat victimisation has increased from 28 per cent of crime victims in 2001-02 to 54 per cent in 2002-03 (when comparing for same crime and industry types) and farmers on remote properties still experience the highest levels of repeat victimisation. Reasons for not reporting are consistently aligned with the belief that police would not be able to help or that there is no proof that a crime occurred. Repeat victims of farm crime were also less likely to report crime to the police than single incident victims. The farmer's view of who might be responsible for the crime also influenced whether crime was reported to the police.

Certain types of crimes such as vehicle theft and farm house robbery are more likely to be reported to the police, whereas farmers experiencing illegal dumping of rubbish were less likely to report to police. This probably reflects perceptions of seriousness as well as the need for documentation to claim on insurance.

During fieldwork interviews, police stressed their limited resources when investigating farm crime. However, it is only through the reporting of farm crime incidents that the police are able to target their limited resources to those specific locations where crime is occurring. Furthermore accurate crime statistics may also enable police to argue for greater resources in the fight against farm crime.

Section 3: Crime prevention

There are three kinds of crime prevention: primary, secondary and tertiary (Cameron & Laycock 2002). Primary prevention is directed at preventing the problem before it occurs while secondary prevention is focused on activity that will reduce the likelihood of repeat victimisation or offending. Tertiary prevention focuses on the operation of the criminal justice system and deals with offending after it has happened. This section focuses on primary as well as some secondary prevention activity. Farmers were asked whether they currently had in place crime prevention measures (primary prevention) and whether they had implemented measures following an incident of crime victimisation (secondary prevention).

Farm crime prevention strategies – primary prevention

Farmers in the 2002-03 NFCS were asked about 16 different crime prevention measures. These included things such as locks, livestock security, neighbourhood watch, alarms and guard dogs (see Table 3.1 for full list of crime prevention measures). Farmers were asked to indicate what types of crime prevention strategies they currently had in place on their farm. The following section will explore the types of crime prevention strategies used on farms.

Measures to reduce theft of stock

Although farmers use measures to identify stock for a variety of reasons, such measures also serve a crime prevention purpose. One of these was the National Livestock Identification Scheme (NLIS). The NLIS involves permanently identifying cattle from birth to the abattoirs for food safety, product integrity, and market access purposes, as well as to reduce theft (Meat and Livestock Australia 2003). The farming industry is dominated by stock and in total 76 per cent of all farmers ran some stock. Of these, 20 per cent reported that they used the NLIS while 49 per cent said they used some other form of livestock identification. In terms of those who had cattle, 20 per cent reported using the NLIS and 60 per cent of these were located in Victoria, where the system became compulsory in 2003.

General crime prevention measures

Farmers were also asked about 14 other measures. The most common method was the use of locks. Sixty-seven per cent of farmers indicated they had locks on farm residences, 41 per cent had locks on barns/sheds and 38 per cent had locks on fuel and chemical tanks. The least common was the use of CCTV with only 19 farmers (less than one per cent), reporting the use of this measure (see Table 3.1). Farms with CCTV in place were more likely to be horticulture and fruit growing industries (54 per cent) and/or located in New South Wales (35 per cent).

A factor analysis of these methods showed commonalities in the types of measures implemented. The analysis identified four clusters of crime prevention measures. The first cluster was comprised of farmers who employed locks. If farmers locked the farm residence they were also more likely to lock tanks and barns and sheds. The second cluster was comprised of those farmers who used registers for equipment, vehicles and house contents.
The third cluster consisted of farmers who had implemented situational crime prevention measures such as alarms, security lighting, no trespassing signs and use of guard dogs/geese. The fourth was comprised of participation in neighbourhood/rural watch, UHF radio and regular meetings with local police. The latter cluster reflects community participation as a crime prevention measure.

Table 3.1 Crime prevention strategies employed by farmers

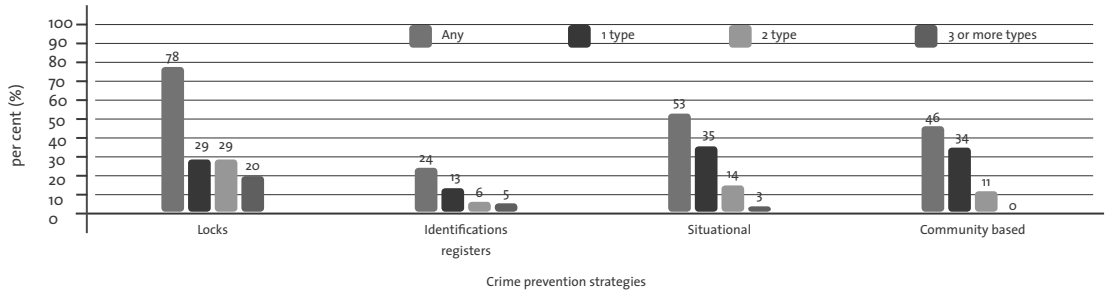
	Per cent	(N)
Crime prevention measures specific to stock[(a)]		
National Livestock Identification system (NLIS)	20	(728)
Other livestock security	49	(1739)
General crime prevention measures		
Locks on farm residence	67	(3170)
Locks on barns/sheds	41	(1912)
Guard dog/geese	39	(1840)
Locks on fuel tanks	38	(1775)
UHF radio	34	(1619)
Security lighting	21	(992)
Neighbourhood watch	20	(924)
Id register for farm vehicles	19	(889)
Id register for equipment	11	(512)
Id register for house contents	10	(479)
No trespassing sign	8	(396)
Alarms	6	(257)
Meetings with local police	5	(220)
Closed Circuit TV (CCTV)	.4	(19)

(a)Those who don't have stock are excluded.

Source: AIC, National Farm Crime Survey weighted data 2002-03 [computer file].

Seventy-eight per cent of farmers reported that they had locks on one or more of the farm residence, tanks and barn/sheds (see Figure 3.1). A miscellany of other security measures included situational crime prevention measures (53 per cent), community based crime prevention measures (46 per cent) and identification registers (24 per cent).

Figure 3.1 Crime prevention strategies implemented by farmers (percentages)

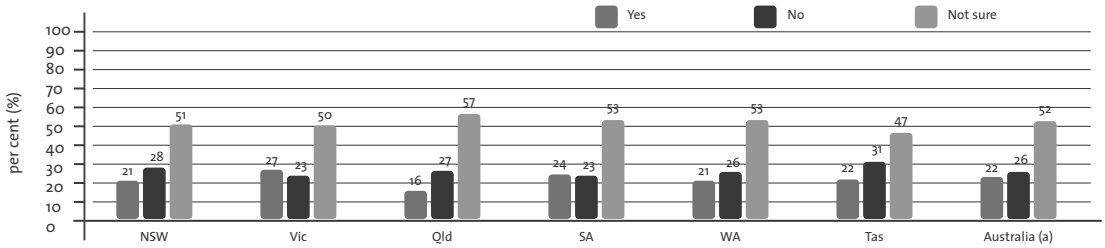


Source: AIC, National Farm Crime Survey weighted data, 2002-03 [computer file].

Crime prevention materials

A small percentage of farmers were aware of crime prevention kits and other publications. Most farmers were not sure if published farm crime prevention materials were readily available in their community (52 per cent) (see Figure 3.2). Queensland recorded the lowest level of knowledge of farm crime prevention material (16 per cent) where as Victorian farmers were the most knowledgeable about farm crime prevention material (27 per cent). This suggests that there is a need for more effective delivery and advertising of crime prevention material.

Figure 3.2 Farmers who knew of farm crime prevention material available in their area (percentages)



(a) The Northern Territory and the Australian Capital Territory were included in the Australia data, but due to small sample size these cannot be reported separately.

Source: AIC, National Farm Crime Survey weighted data 2002-03 [computer file].

Farmers were asked what other sources they rely on for crime prevention information. As shown in Table 3.2, the majority of farmers rely heavily on neighbours (69 per cent) or local friends and family (67 per cent). It could be argued that farmers evaluate the advantage of different crime prevention methods to suit their circumstances. Farmers will listen to friends, family or neighbours because they can see and hear the benefits of the crime prevention method – and not all crime prevention methods suit all types of farms.

Table 3.2 Sources of crime prevention advice (percentages)

	Rely on a lot	Rely on a little	Don't rely on at all
Neighbours	69	27	5
Local friends and family	67	27	6
Local Police	33	39	29
Television and radio	27	45	28
Local newspapers	46	41	13
Other publications	11	29	60
Other sources	7	7	86

Source: AIC, National Farm Crime Survey weighted data, 2002-03 [computer file].

Farm crime prevention strategies – secondary prevention

Farmers were asked whether they had implemented any additional security measures following illegal activity on the farm during the last 12 months. In total 34 per cent of farmers who reported being victims of one or more of the crimes included in this survey had introduced crime prevention strategies following the incident. The most common responses were that farmers increased the use of locks on the property (57 per cent), upgraded fences or gates (30 per cent), or were more vigilant in watching over the property (15 per cent). Further strategies included relocating items such as fuel tanks or machinery to a safer place (11 per cent), putting up signs (six per cent), installing security lights (five per cent) or alarm systems (four per cent).

Who uses crime prevention strategies?

The survey examined a number of factors in farmers' use of crime prevention measures. For example, does the type of industry, prior victimisation, size of industry, location of industry affect the take up of crime prevention measures? Does a farmer's perception of crime and his/her actual experience of victimisation affect take up? To test for these factors, a logistic regression model was estimated for the four clusters of crime prevention measures along with the stock measures. In order not to confuse the study of crime prevention measures undertaken as a reaction to crime with those routinely in place, this model is for farmers who had put in place crime prevention measures but not as a result of experiencing crime (secondary crime prevention). The introduction of secondary prevention measures is examined later in this section.

The factors included in the model were generally grouped based on the elements of routine activity theory (suitable target, capable guardian and motivated offender). Other categories that were used included type of farm, financial situation and perceptions of crime in the area.

There was only one factor associated with the use of stock identification amongst farmers. Those who had reduced capable guardians because of long periods when their farms were regularly unattended were significantly less likely to use stock identification. Farms that were regularly unattended and located in remote areas were the least likely to use some type of stock identification (44 per cent).

Perceptions of crime are an important factor in determining whether or not farmers use other crime prevention measures on their farms. Farmers who thought there was an increase in crime in their area were significantly more likely to have locks, registers and situational crime prevention measures. In particular, odds of using locks were 40 per cent higher and 50 per cent higher in the use of situational crime prevention measures if farmers believed that crime had increased in their local area. Similarly if farmers believed that the local community was annoyed with the level of crime, they were significantly more likely to have in place all four crime preventions clusters.

Farmers who were aware of crime prevention materials that might help reduce the opportunity for crime were more likely to use community crime prevention strategies (such as neighbourhood watch) and identification registers. A range of factors significantly reduced the likelihood of installing locks. Remote farms or large farms that are not situated close to a large number of motivated offenders were less likely to use locks, in comparison with those farms located close to a large rural centre or city. Interestingly, farmers in remote areas are the least likely to believe farm crime is on the increase (21 per cent) despite a prevalence rate of farm crime in remote areas being the same as the national average at 17 per cent. Hence farmers in remote locations may not feel the need to use locks.

Furthermore, larger farms and those with a capable guardian (ie live on the farm or have more than 10 employees) had higher odds of using community crime prevention measures. Farmers with high capital levels were more likely to use locks and registers, while high debt farms had reduced likelihood of using locks, but increased likelihood of engaging in community prevention activities.

Farmers who lived on the farm and those who believed the community was annoyed with the levels of crime in the area were more likely to have implemented situational crime prevention measures (alarms, guard dogs/geese, security lighting and no trespassing signs). These types of farms were generally poultry, or other cropping farms (75 per cent). Factors that reduced the likelihood of implementing situational crime prevention measures were generally related to the absence of a capable guardian or the type of farm such as:

- Farms that were regularly unattended;
- Farm greater than 1000 hectares;
- Dairy farms; and
- Beef, sheep or cattle farms.

Table 3.3 Use of primary crime prevention strategies by farmers, logistic regression models (a)

	Locks[b]	Registers[c]	Community[d]	Situational[e]	Stock identification devices[f]
Opportunity					
Is aware of published crime prevention materials	1.01	1.87*	1.98*	1.07	1.14
Capable guardian					
Lived on the farm for more than 10 years	0.71*	1.25	1.57*	0.83	1.00
Lives on farm	1.67*	1.72*	1.80*	3.76*	1.08
More than 10 employees	1.30	2.21*	1.56*	1.26	1.54
Farm regularly unattended	0.87	0.83	0.86	0.86*	0.81*
Motivated offenders					
Farm located close to large rural centre/city	1.05	1.14	0.63*	1.03	1.16
Farm is in remote location	0.61*	0.69*	1.15	0.93	1.01
Farm larger than 1000 ha	0.44*	0.86	4.78*	0.72*	1.14
Farm type					
Horticulture farm	1.11	0.68*	0.60*	0.97	
Dairy farm	0.55*	0.63*	0.44	0.40*	
Beef, sheep or grain farm	0.62*	0.69*	1.02	0.38*	0.85
Financial situation					
High income	1.01	1.09	1.31*	1.01	0.87
High capital	1.26*	1.22*	0.88	0.92	1.04
High debt	0.82*	0.88	1.21*	0.98	0.96
Perceptions of crime					
Perception of crime increasing in area	1.36*	1.24*	1.18	1.48*	0.93
Community annoyed with the level of crime in area	1.41*	1.41*	1.56*	1.22*	1.21
Model chi square	212.66*	154.61*	677.90*	318.86*	26.16*
df	17	17	17	17	15
-2 log likelihood	3420.93	3695.93	4151.53	4503.19	3473.70
n	(4345)	(4345)	(4345)	(4345)	(3217)

(a) Excludes those farmers who had recently added extra security as a result of an incident of crime in the last 12 months

(b) Farmer uses locks on house residence, fuel tanks or barns/sheds

(c) Farmer uses equipment, vehicle or house or contents registers

(d) Includes neighbourhood watch, regular meetings with police or the use of a UHF radio

(e) Includes guard dogs/geese, security lighting, alarms or no trespassing signs (g) Includes only those farms which have stock

(f) Includes National Livestock Identification Scheme (NLIS) and other livestock security.

**Statistically significant at p<0.05*

Source: AIC, National Farm Crime Survey weighted data 2002-03 [computer file].

Factors associated with a reduced likelihood of engaging in community crime prevention activities include the type of farm such as:

- Horticulture farms; and
- Those located close to a large rural centre/city.

Who initiates crime prevention measures?

Of 797 victimised farms, a total of 272 farmers (34 per cent) implemented crime prevention strategies as a result of experiencing crime in the past 12 months and 525 (66 per cent) did not. Logistic regression analysis shows that farmers who were more likely to implement crime prevention strategies after experiencing crime were those who:

- Were aware of published crime prevention materials; and
- Had a perception that crime was on the increase in their area (Table 3.4)

Table 3.4 Implementing secondary crime prevention measures (after experiencing crime in past 12 months), logistic regression model

	Odds ratio
Opportunity	
Is aware of published crime prevention materials	1.72*
Capable guardian	
Lived on the farm for more than 10 years	0.76
Lives on farm	1.15
More than 10 employees	0.32*
Farm regularly unattended	1.26
Motivated offenders	
Farm located close to large rural centre/city	0.82
Farm is in remote location	1.03
Farm larger than 1000 ha	0.98
Farm type	
Horticulture farm	1.65
Dairy farm	1.25
Beef, sheep or grain farm	0.88
Financial situation	
High income	1.03
High capital	1.24
High debt	1.26
Perception of crime	
Perception of crime increasing in area	1.80*
Annoyed with the level of crime in area	1.16
Model chi square	44.78.*
df	17
-2 log likelihood	794.53
n	(797)

**Statistically significant at p<0.05*

Source: AIC, National Farm Crime Survey, weighted data 2002-03 [computer file].

The results suggest that farmers may be inclined to seek out crime prevention information and implement measures after experiencing crime. Furthermore, the perception that crime is increasing in the area together with his/her own personal experience of crime may increase a farmer's motivation to implement crime prevention strategies. Farmers who were less likely to implement crime prevention strategies after experiencing crime in the past 12 months were those who had a number of capable guardians to help patrol the property (more than 10 employees). In this case, farmers with high numbers of paid staff may not always introduce specific crime prevention strategies but train staff to be more vigilant.

Conclusion

Analysis of crime prevention strategies on farms has shown that farmers use a wide range of techniques. These techniques can be grouped into five categories of crime prevention strategies:

- Stock identification;
- The use of locks;
- Identification registers;
- Situational (guard dogs/geese, alarms, security lighting, no trespassing signs); and
- Community (Neighbourhood watch, regular meetings with police, UHF radio).

There are a number of factors associated with the take up of different forms of crime prevention. Risk, in terms of perception that crime is increasing locally, is a significant factor for most of the crime prevention measures. Another important factor is the farmer's knowledge of published crime prevention material. Farmers who are aware of published material on farm crime prevention are more likely to adopt stock security, identification registers and community crime prevention measures. Furthermore, farmers who have capable guardians (such as those who reside on the farm, have 10 or more employees) and/or have a very large farm are significantly more likely to take up the use of locks, registers, situational and community crime prevention measures. Those not in close proximity to motivated offenders were less likely to engage in crime prevention activities with the exception of community based measures. High capital farms had increased odds of using locks and registers.

Thirty-four per cent of victimised farmers implemented farm crime prevention measures as a result of experiencing crime in the past 12 months. Farmers with a knowledge of published farm crime prevention materials and those that thought that crime is on the increase are more likely to implement prevention techniques directly after victimisation. Those less likely are farmers with 10 or more employees or guardians on the property.

The results from regression analyses have shown that a farmer's knowledge of published crime prevention material is an important factor in implementing crime prevention strategies on farms. However, a significant percentage of farmers are not aware of the availability of farm crime prevention material. This finding has implications Australia-wide. The survey results show that there is a need to increase the distribution of crime prevention material to help reduce the risk of farm crime.

Section 4: Rural policing and community

Introduction

Romanticized notions about bucolic hamlets free of crime are naïve in the 21st century (Jobes 2003: 5)

Rather than the anonymity often associated with policing in urban areas, police in small rural communities know the residents very well: their spouses could work or socialise together, their children could attend the same school, and for the most part their lives are intricately bound with those people in the town and the outlying farming community. This section explores the difficulties of policing in such an environment through the results of interviews held with police in Queensland and Western Australia. The first part examines rural policing and the second part explores issues relating to life in a rural/farming community.

Rural policing

Over the last few decades the style of rural policing has changed for both the police and the community from a generally proactive model to one which is more crisis driven and reactive. For example, members of the public no longer visit the local police station to undertake a driving test or renew their driver's licence.[6] Likewise, the police used to undertake regular checks of shearers' quarters, racecourses and even count the number of chickens people kept, using such opportunities to develop and discuss crime prevention measures. Rural police interviewed for this study commented that the only time they see members of the public is in a time of crisis.

This apparent lack of engagement by police in policing farming communities is compounded by the unwillingness by some officers to serve in the bush, particularly in small local police stations. Some police who do undertake a rotation in country areas are keen to get back to the city or larger rural towns. However research has also found that some police working in the rural environment wished to stay there (Jobes 2003) but rotation policies reduce the likelihood of this occurring. These changes in the style of rural policing, as discussed, could potentially have a negative influence on the level of cohesion and stability within the community and on the level of formal and informal interactions with police.

Police stock squads

The qualitative interviews undertaken for this study in Queensland and Western Australia were designed to contribute to current knowledge about farm crime in more depth than is possible in highly structural quantitative surveys. These interviews were open-ended but followed loosely the structure of the mail back questionnaire. The two states have different models for providing policing to farmers. Queensland has a dedicated stock squad with 32 police officers, highly trained in agricultural crime, spread between five police regions around the state. They are equipped with four-wheel drive motor vehicles, horse transporters, motorcycles, radios, mobile phones, cameras and lap top computers (Jarred 2002). Furthermore, they are able to access the registrar of brands via their lap top computers. The stock squad is active in each of its regions travelling around the area with their horses and swags: conducting musters with farmers; undertaking roadblocks; and being seen regularly at saleyards and abattoirs. Western Australia has a centralised stock investigation unit, based in Perth, also highly trained in agricultural crime.

6 While rural police talk about a decrease in the level of community orientation and the fact that fewer people come into the station, the design of new rural police stations does not encourage this, because public reception areas are closed off and separated from the uniformed or CIB police officers.

In both states, the specialised stock squad/unit focuses on livestock-related crimes. The local police/CIB investigate other farm-related crime. As local police will not have the specialist knowledge of the dedicated squads, various strategies are implemented to assist local police. For example, in Western Australia a CD-Rom to aid livestock investigations by local police has been distributed to all police stations in the state. The CD-Rom contains information on breeds, brands, contacts and step-by-step investigation techniques. Rural police officers interviewed for this study reported favourably on the CD-Rom (Fieldwork interviews 2003).

There are rural crime investigators operating in two other states, New South Wales and Victoria, and stock squad officers operating in Tasmania.[7]

- In New South Wales, for example, the rural crime investigators have been supplied with extra vehicles and specialist equipment, including laptop computers, satellite navigation, digital cameras and wool clippers;
- New South Wales has special laws targeting trespass and illegal hunting (NSW Hansard 2003);
- Victoria has 13 regionally-based rural crime investigators (personal communication, David Short, Victoria Police 27.02.04); and
- Tasmania has two specialist full time stock officers, one operating in the north of the state and the other in the south. There is also a part-time stock officer who works in the North-west of Tasmania (personal communication, John Mikulski, Tasmanian Police 25.02.04).

Three themes emerged from interviews with rural police/stock squad officers to explain farm crime. The first was that perpetrators were likely to be neighbours: 'Good neighbours give livestock back, bad neighbours don't'. Within this general view was the problem of reporting to police when the perpetrator was from within the community: 'Some farmers do not report livestock crime because of fear of reprisal'. This was complicated by those farmers who did not advise the police if they found their livestock, after previously reporting them as stolen.

The second theme largely derived from identifying problems with farmers in terms of 'poor management practice'. Police commented that often when livestock was reported as stolen, '25 per cent are merely lost or have strayed, making 75 per cent stolen'. Poor management was identified in terms of maintenance of fences ('bad fences make bad neighbours'), lags in reporting times to police, and general complacency by farmers.

The third theme centred on the weak penalties and the leniency of sentences for farm crime. Police commented that the 'penalties are so weak and infrequent that farmers are discouraged from helping or advising police about crimes being committed'; and 'courts are too lenient and the effort required to prosecute people discourages farmers from coming forward'. This is substantiated by the statistical data:

- Among farmers included in the 2003 survey who had been victimised, only 40 per cent had reported to police; and
- When asked why they had not reported, 57 per cent stated their belief that the police could do nothing about it/no proof, and 19 per cent felt the police would not do anything about it.

Farmers' perceptions of policing in a farming environment

Five key themes regarding farmers' perceptions of the stock squads or police emerged from the qualitative interviews. It should be noted that the majority of these views came from victimised farmers. Farmers who had not been victimised tended not to comment, critical or otherwise, either about the stock squad or local police. The comments are in no particular order and do not reflect the views of all farmers.

7 The Northern Territory's Stock Squad was disbanded in 1995 (Barclay 2001) and there is no specialist stock squad in South Australia (personal communication Jennifer Head, South Australia Police 19.04.2004).

Theme 1: Police/Stock Squad lack necessary resources

- The stock squad was 'doing a great job', but needed more resources. [There were many farmers interviewed who supported the need for more resources for police];
- 'There weren't enough people in the stock squad and it was difficult to get in touch with them';
- The stock squad 'needs extra men';
- 'We found a calling card on our front door and when we rang the police to enquire why, we were told it was a routine visit. It was our first in six years';
- 'The police do not have the resources and it is a low priority'; and
- 'I think there should be more stock squad members, better police training and more people from a farming background should be hired'.

Theme 2: Farmers felt as though they were under suspicion or at fault

- 'The stock squad assumed that because I was reporting, that I was also stealing';
- 'A neighbour said it was foolish for us to report livestock loss when it was bad management on our part';
- 'Police give me the cold shoulder when reporting a stolen beast'; and
- 'After telling the police about a problem, I ended up solving it myself'.

Theme 3: Farmers felt the police don't care about farm crime

- 'I won't report crime to the stock squad because I don't think it would help';
- 'It took me 1 ½ hours – 2 hours to fill out a trespassing report at the police station and I never heard back';
- 'I told the stock squad who I thought had stolen the cattle and the information got back to the individual, who threatened to sue me';
- 'We are getting sick of reporting to the police';
- 'We know that other farmers are having problems, but we would prefer to look after it ourselves, rather than report it';
- 'The squad should be led by a more senior person who has the authority to make decisions on the spot';
- 'The stock squad don't check on us nor do they help with musters';
- 'I found out the perpetrator, gave the police the details, including the registration number, but the police did nothing';
- 'A motor was smashed with an axe – the police came out to see us one month later. By this time, the crime scene was no more'; and
- 'My wife has faxed the police every time there has been a kill, but I have to have an argument with them to get them to come out'.

Theme 4: Farmers believed that the police lacked knowledge or understanding about livestock investigation

- 'Police don't know livestock, they only check what is on the Waybill'; and
- 'We need police who know more about livestock'.

Theme 5: Farmers are suspicious about some police

- 'I think that people being pulled over by the police for speeding are unlikely then to tell the police if they have heard of missing livestock or farm property'; and
- 'I don't think that a local person should be in the local stock squad'.

The rural/farming community

The cohesiveness of rural/farming communities around Australia is dependent on many factors some as diverse as weather conditions and financial considerations (see Appendix 5). Movements of people in and out of communities also affect levels of social cohesion and might contribute to social disorganisation. Other research has suggested that communities with high in and out migration, indicated by either the growth rate of a community or more people moving into an area, experience higher crime rates. These extraneous factors can affect a farmer's perceptions of the community in which he/she lives, particularly at times when he/she is being hit by farm crime.

The qualitative interviews conducted for this study included diverse communities (Jobes et al 2004). This discussion primarily focuses on two, distinctly different communities that were surveyed in Queensland:

- Low farm crime area in South-west Queensland is a thriving rural centre with a fairly stable population – thus there are few transient and migrant workers. Officially, it has a low level of farm or town-related crime. For the purposes of this discussion, this location is considered a homogenous community.; and
- High farm crime area, a coastal market garden town in North Queensland is also home to an important cattle industry. It is a community with a fluctuating population. During the picking season, the population rises with transient pickers, backpackers and contracted pickers moving into town. At the height of the season, it is not unusual for the pickers to be camped at the show grounds. The pickers are diverse: native Australian, migrant Pacific Islanders, Vietnamese and Turkish transient workers as well as Australian and international backpackers. Officially, it has a high level of farm and town-related crime. For the purposes of this discussion, this location is considered a heterogeneous community.

Interviews with farmers in these two locations highlighted differences as to their sense of belonging to or separation from their local town. While farmers in both locations believed their farming communities were close-knit, farmers in the high farm crime (heterogenous) community were more likely to feel a sense of separation, a divide, between themselves and the local town. Unlike the low farm crime (homogenous) community, even long-term farmers and town residents of the heterogenous community felt they were not considered local if they were not born there. Farmers in the homogenous community, for the most part, did not feel a sense of separation from the town, but there was a view that as newer people were coming into the region, it was slowly losing that sense of being a cohesive and united community. Within both these communities farm crime does occur.

Research on highly cohesive rural communities has noted the pressure applied to farmers not to report incidents of farm crime for fear of upsetting the balance of a unified community, to avoid being alienated, or isolated, from their close-knit environment (Barclay & Donnermeyer 2002). Often they are portrayed as bad managers who deserve to be victimised. This analogy applies to the homogenous community, a seemingly cohesive, close-knit community with low levels of reported farm crime. In the homogenous community:

- Non-victimised farmers believed that farmers who had experienced crime were bad managers, that they were unable to keep track of stock, or check their fences and who may have been absent from their farms doing other work; and
- The victimised group of farmers believed that they must be bad managers.

Such polarised views were not expressed during the interviews with the heterogenous community, where non-victimised farmers commented that even good managers were still experiencing crime. This suggests that subtler explanations and pressures may affect reporting of crime to police.

Transient workers

Transient workers can often be a focus of blame in relation to crime in a rural community. As part of a research project, interviews were conducted with police officers at a wide range of police stations throughout New South Wales (Jobes 2003: 11). It was found that officers identified migrants, such as seasonal workers, people in transit and visitors as individuals who 'disproportionately accounted for local law enforcement problems'.

Several farmers and industry officials interviewed in the heterogenous high farm crime community claimed transient workers were responsible for most of the crime, either farm or town related. Others interviewed in that community (farmers, industry and community groups) conceded that locals could seize the opportunity afforded by the presence of transient workers to commit crimes for which the non-locals would be blamed. While people believed that transient workers were essential to the local economy, their presence was also perceived as a threat to their community.

In-migration

In-migration of urban families/individuals to rural communities was raised by police as having a detrimental effect on the finely tuned balance of the rural environment. In some smaller country areas of New South Wales, the demographic changes are perceived to be significant. There are several reasons advanced to account for this in-migration:

- Individuals and families with low incomes have moved to country areas because of the availability of cheaper housing;
- As farmers buy up other farms, empty farm residences are rented out cheaply, potentially posing a security risk;
- Other cheap housing is available in and around small country towns, or on land that has been sold for sub-division and housing developments; and
- Some individuals may want to get beyond the reach of child support agencies, unemployment requirements, or other regulatory irritants (Fieldwork interview 2004).

Analysis of an in-migration survey of New South Wales country areas found that two per cent of farmers and police officers believed that 'the availability of cheap rental accommodation on farms [attracted] an unsavoury element from the cities' (Barclay & Donnermeyer, 2002). Some of these individuals are perceived as not being averse to participating in illegal activities being undertaken by professional criminals in the rural area (2004 fieldwork interview). Such individuals are the motivated offenders identified by routine activities theory that facilitates criminal activity. As mentioned previously, routine activities theory argues that in order for crime to occur, there must be a suitable target, lack of a capable guardian and a motivated offender present.

The fieldwork uncovered one experience of in-migration that went against the common view. One of the communities visited in Western Australia, has been a focus of in-migration for more than 20 years. It started with migrants from Christmas Island who settled into the community quickly, providing a steady and reliable long-term workforce for the local abattoir. The community, given the positive experience of the Christmas Islanders, has welcomed more recent in-migration by groups from Iraq and Iran. Perceptions among those interviewed were that this type of in-migration has enhanced, rather than fragmented, community cohesiveness and stability.

The police environment

The rural environment presents a number of challenges for police. Job specific pressures revolve around heavy workloads, lack of training specific to the role, and family pressures. Changes in the community involve fluctuations in the rural community because of transient workers and increased population because of in-migration.

The most commonly expressed difficulty is the 'strain between the roles as law enforcer and local resident' (Jobes 2003: 15). Jobes also found that a further strain could occur in a town where police officers are 'representative[s] of the white institutional society in juxtaposition with the Indigenous social system'. For example, during qualitative interviews in a remote community in Western Australia police stated that the majority of policing activity is concerned with alcohol affected offenders, and behaviours associated with the negative consequences of low socio-economic factors. Youth suicide was also cited as influencing the level of stress within the community (Fieldwork interview 2004).

Heavy workloads

The workloads for rural police are different in each of the two jurisdictions where the detailed qualitative work was undertaken because slightly different models are in place. Queensland has a decentralised stock squad system and Western Australia has a centralised stock investigation unit system. However the day-to-day responses to farm crime generally remain with the local police. Heavy workloads were cited as one reason why local police did not get out and about around farms in the district. During interviews local police said that work in and around the town took up most of their time, leaving little time to make farm calls.

Farmers indicated that the local police rarely called by the farm on routine or courtesy visits and believed that the police were too busy to see them. This primary crime prevention activity relies on resources of people and time. In an area like the interview site in Northern Western Australia, for example, local police do not have the capacity to make routine calls, given the other demands on their time in and around town. Likewise, in Queensland, there was a general consensus among the farmers and the stock squad that the squad needed more resources with which to combat farm crime. Farmers interviewed in Western Australia believed that the state's specialist stock investigation unit should follow the Queensland stock squad model and be regionally based.

Lack of training

Many farmers were critical of the lack of knowledge local police had about livestock and other farm-related business. This criticism was not raised in relation to the stock squad in Queensland, or the stock investigation unit in Western Australia but of the local police. While the unit in Western Australia does conduct training around the state for the local police, unless the trained police are actively pursuing farm crime on a regular basis, it is difficult to maintain a working knowledge of, for example, livestock breeds or brands.

Family pressures

One police officer commented during an interview about the difficulty of filling posts at small rural police stations. It is not just the isolation of the station that causes the difficulty, but other factors that compound that isolation. For example:

- If the officer is married, it can often be difficult for the spouse to obtain work in those locations;
- Some police officers feel the educational opportunities for their children in those locations are limited; and
- Some police officers and their spouses perceive the lack of resources, infrastructure or support in those locations as being negative inducements.

These are also factors that may affect an officer's willingness to extend a rotation in an isolated rural location.

Conclusion

Dedicated stock squad/investigation units have a significant role to play in farm crime prevention and farm victimisation, and many farmers would like to see such squads as an essential element of rural policing.

At the local level police work in a rural environment can be challenging. Heavy workloads, lack of training or family pressures can all affect the morale of officers working in isolated communities. Police no longer undertake many of those tasks that previously served to maintain regular contact between members of the general public and themselves. Police tend to see people only in a time of crisis which reflects some of the changes within rural policing. A more proactive policing style could have positive implications for primary crime prevention strategies.

The interviews with communities in Western Australia and Queensland identified perceptions by farmers of the police, largely based on their experiences of victimisation. Many farmers believed policing levels were too low in their communities for the police to do an effective job. There was also a general view expressed by farmers that local police did not take their concerns seriously, and were not prepared to act on their advice. Alternatively, there were some police who dismissed farmers' experiences of crime as the result of poor management or complacency.

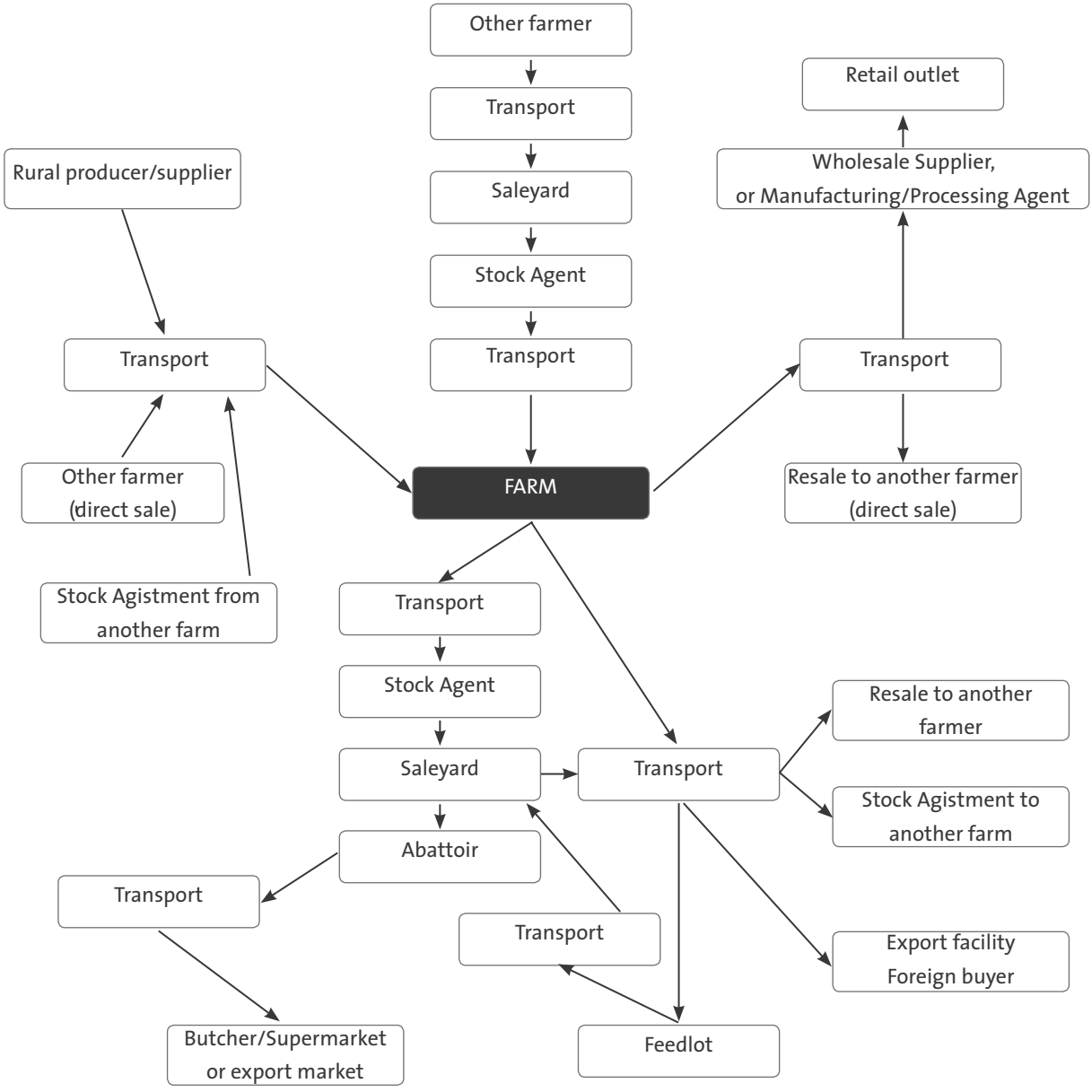
External factors can also affect the balance and cohesion that exists within a rural community. Fieldwork interviews with a range of police, farmers and industry representatives demonstrated that transient or migrant groups could upset this balance, leading to higher crime levels and less confidence by the farming community about the security and stability that they had previously enjoyed. The erosion of community cohesion and stability can provide an environment that is conducive to crime. However, this is not always the case. The fieldwork identified a community with high inward migration that had not experienced reduced community cohesion or stability.

Section 5: The farm business network

Introduction

A wide range of illegal activity may be associated with the farming industry apart from the types of property theft covered in the NFCS reported in sections two and three of this report. Understanding the farm business network allows for an examination of what might constitute weak links or gaps that may permit the incidence of fraudulent or other illegal activity. The following section examines the role of key stakeholders, such as livestock agents, transporters, rural suppliers, feedlots, saleyards, abattoirs as well as farmers themselves. It should be noted that the network could apply equally to a farmer acquiring/selling stolen livestock or a farmer legally acquiring/selling livestock.[8]

Figure 5.1 The farm business network



8 We are grateful for the comments of Dr Pat Jobes, CRC Research Fellow, in relation to the Farm Business Network.

Stock agents

The typical Australasian concept of the stock and station agent industry has been providing services to farmers since the early days of Australia's pastoral growth in the 1830s and 1840s. These services were undertaken initially through general mercantile houses assisting, for example, with wool consignments, farm finance and livestock sales. The agents were, historically, held in high regard by the farming community, and exercised influence in any business decisions made by farmers (Ville 2000). Trust was an important part of the relationship between the farmer and the stock agent. According to an online employment site (www.myfuture.edu.au), in 2004 the range of activities undertaken by stock agents includes:

- Observing market trends and prices;
- Facilitating transportation of livestock to saleyards;
- Accompanying prospective buyers to inspect properties for sale;
- Helping to select livestock;
- Valuing livestock;
- Penning and auctioning livestock;
- Machinery and plant equipment clearance sales;
- Advising and assisting clients in the management of agricultural/pastoral or farming problems;
- On behalf of clients, conducting sales of wool on a commission basis;
- Selling a wide range of agricultural products, including chemicals;
- Writing business transaction reports;
- Arranging finance for the buying of livestock or property;
- Acting as agents for insurance companies; and
- Arranging private sales between sellers and buyers.

The above range of activities highlights the opportunities that may exist for fraudulent behaviour. This is confirmed by anecdotal evidence from interviews with farmers during qualitative interviews. Some farmers placed great trust in their stock agents, while other farmers treated them with suspicion and checked every transaction.
Some Indigenous station managers/owners were wary of them because:

> *Stock agents sting the Indigenous managers with bad prices. For example, they were told a certain price per kg per animal, however, when the stock arrived, only a few were calculated at that higher price, the rest were calculated at a below average price. (Interview, non-Indigenous cattle industry observer, fieldwork 2003)*

The stock agents can re-sell animals at a significantly higher price than the original price. Or, at the saleyard itself fraudulent bids on behalf of stock agents by friendly farmers result in lower prices being paid for particular livestock whose attributes were devalued during the bidding process. Further to this:

> *At the saleyards, they thought dodgy stock get pushed through because that is the only way that stock agents get paid – if there is a sale. (Interview, farmer, fieldwork 2003)*

Stock agents work long hours and have a relatively low earning capacity. For example:

- Long hours are spent on the road driving between rural clients;
- They can work up to 60 hours a week in and around the saleyards;

- 34 per cent of stock agents earn between $700-$999 per week;
- 25 per cent of stock agents earn between $500-$699 per week; and
- 25 percent of stock agents earn $1,000 or more per week.

(Source: ABC 2003c; My Future 2003).

During fieldwork interviews these working conditions were considered to be contributing factors to account for illegal activity by some stock agents. Over recent years, there has been a growing trend for stock agents to work within larger companies, with fewer small operators. Observers believe this trend may decrease the opportunity for fraudulent or other illegal behaviour.

Transportation

Fast and efficient transportation of livestock and produce is a key component of Australia's rural economy. In general, road transport is utilised by farmers for:

- Transporting livestock to/from saleyards;
- Transporting livestock directly to/from other farmers;
- Transporting livestock to/from feedlots;
- Receiving goods from rural producers or suppliers; and
- Supplying goods to wholesale supplier or manufacturing/processing agents.

As with the stock agents, an integral part of a truck driver's relationship with a farmer has been trust. Anecdotal evidence from farmers suggests that discrepancies in stock haulage numbers can cause friction, hostility and distrust:

> *Theft from saleyard deliveries seems to be more common. I regularly experience 5-10 sheep per load delivered to saleyards for auction that are not accounted for. Neither the transport operators nor the agents can explain the difference between consignment numbers and sale numbers. (Comments made by an anonymous participant in the 2002-03 National Farm Crime Survey questionnaire.)*

These discrepancies are not restricted to the movement of livestock. In a discussion with police during the fieldwork, the falsification of grain haulage weights was also discussed:

> *We had a case where a producer employed carriers to carry his grain to the silo. The carrier came, did a diversion en-route to the silo, where he unloaded a portion of the load. That would be pretty common. (Interview, fieldwork 2003)*

These comments are also relevant to the above discussion on stock agents. It is interesting to note that in fieldwork discussions, stock agents and saleyard officials, commented that some farmers could not provide an accurate account of the livestock numbers transported to the saleyards. There may be cases where either stock agents/ saleyards or farmers do get confused over livestock numbers for transportation. One farming family thought:

> *... the Waybills and tags were not checked enough and that the transporters don't count the stock – their only job is to drive the truck. (Interview, fieldwork 2003)*

Stock transportation within and between Australian states/territories requires state specific documentation:

- Western Australia: Waybill[9] – containing details of the owner, the number and type of livestock, details of the brand and earmarks, tail tag numbers, date of movement, details of consignee and destination. A National Vendor Declaration form (NVD)[10] is also required;
- South Australia: No system of Waybills or other stock movement forms. Nearly 100 per cent of livestock that are sent to a saleyard or abattoir are accompanied by an NVD. The state is also developing a requirement that all sheep movements require an Animal Health Statement (to assist in the control of the ovine Johne's disease);
- Victoria: No system of Waybills, however an NVD must be completed prior to sale, which notes the purchaser and exposure/treatment to any chemicals;
- New South Wales: Transported Stock Statements (TSS)[11] are used whenever cattle, sheep, goats or horses are transported by vehicle, whether by road, rail, water or air. An NVD is also required, either instead of the TSS or in conjunction with the TSS. Transporters consignment notes can still be used as a TSS;
- Queensland: A Waybill is required for all movement of cattle and buffalo within the state. An NVD is also required;
- Tasmania: No Waybill system or livestock movement documentation. An NVD is required;
- Northern Territory: Waybill required with livestock movement; cattle being moved may have to be tagged. No NVD is required; and
- Australian Capital Territory: a Permit to Travel Stock is required, as well as an NVD for livestock travelling into New South Wales.

Having such documentation does not guarantee legitimacy. During the 2003 fieldwork discussions it transpired that a truckload of livestock had arrived at a local saleyard with the usual documentation. The livestock were on-sold through the saleyard. The documentation was false:

> *Usually by the time it happens it is too late. In all the years I have carted sheep only one time was I asked for a waybill. (Comments made by an anonymous participant in the 2002-03 National Farm Crime Survey questionnaire.)*

There have been recent changes to the NVDs, which will make it harder to commit fraud or theft at this stage of the farm business network. Before being able to purchase a revamped book of NVDs, producers will have to register their details (name, address, phone number and property identification code [tail tag number or PIC]) with the red meat industry's new on-farm food safety program. Unless producers are registered, they will be unable to purchase the new NVDs. The new forms will be compulsory from July 2004 (Kelly 2004). However, as eight per cent of farmers believe that other farmers are committing the crimes, this will not alleviate the incidence of livestock theft.

Truck drivers do not have as frequent opportunities to commit stock theft as do stock agents, saleyards or abattoirs, unless they realise that a farmer has under-estimated stock numbers for transportation. Similarly, when assigned stock leave the saleyards they are usually counted, although this does not always occur. In those cases, it is easier for the truck driver to perpetrate a fraud.[12] For example, in April 2003, New South Wales rural crime investigators,

9 A Waybill is a form that the farmer completes to accompany any livestock being transported from the property.

10 Meat and Livestock Australia charges producers $25 for a book of 20 National Vendor Declaration forms (The Weekly Times 2004b).

11 One farmer commented 'NLIS will assist in stock security. The current NSW Transported Stock Statement is useless as it does not provide any data base and NSW police are incapable of checking stock against the statement.' (Comments made by an anonymous participant in the 2002-03 National Farm Crime Survey questionnaire.).

12 See discussion on saleyards and the recent organised theft of livestock from the departure pens.

together with staff from the Department of Agriculture examined 434 trucks in northern New South Wales to check the requirements of the new TSS. They discovered:

- The overall compliance rate was 55 per cent;
- 240 trucks were carrying the relevant transported stock statements (out of a total of 434 trucks);
- Thirty-two per cent of owners and drivers had incorrect or outdated paperwork; and
- Thirteen per cent had no stock statements and, as a consequence, police issued 57 cautions to the drivers of those trucks (NSW Hansard Articles 5 May 2003).

Unless livestock are electronically counted on and off the truck, the opportunity for illegal behaviour will remain at this point of the farm business network.

Rural suppliers

Rural suppliers/services to farmers cover a wide range of activities. For example, a larger rural service supplier may provide:

- Insurance;
- Stock agents;
- Merchandise (fertilisers, chemicals, drench testing, animal husbandry and animal nutrition advice);
- Real estate;
- Finance;
- Wool marketing;
- Livestock/broadacre/dairy market services;
- Genetics;
- Technical services;
- Banking;
- Risk management; and
- Wealth management.

Larger companies employ their own stock agents, which, as mentioned above, may help to reduce the opportunity for illegal activities.

Farmers may be supplied faulty equipment or 'shoddy' farming goods. In many instances isolated farmers need to order their goods out-of-district. There is an increased likelihood that those goods could be of poor quality, for example, mouldy hay (Barclay 2001). There are many opportunities for fraudulent or other illegal activity to occur in this sector of the farm network. There is also the failure of recipients to pay for farm produce, other goods or services supplied by the farmer (Barclay 2001).

Table 5.1 sets out the most common types of insurance taken out by farmers who participated in the NFCS. While some farmers may insure livestock, particularly prize bulls, generally they are not covered for theft. There seems to be a laissez-faire attitude by those farmers in relation to the need to insure stock or farm materials. Farmers who were recently victimised were slightly less likely to report having insurance coverage, with the exception of stock insurance.

Table 5.1 Types of farm insurance coverage (percentages)

Insurance Type	Crime	No crime	Total
Vehicle insurance	82	90	89
Farm residence insurance	81	88	87
Farm residence contents insurance	79	84	83
Stock Insurance	25	24	24
Farm materials, produce, equipment insurance	48	57	56

Source: AIC, National Farm Crime Survey, 2002-03 [computer file].

In the NFCS, 37 per cent of farmers who experienced theft had insurance to cover their loss. Of those farmers, only 45 per cent claimed on their insurance. This suggests that for the majority of the crimes committed, the farmers had no specific insurance for the type of loss; or they considered the crime not serious enough to lose their no claims bonus status; or they lacked proof of the loss.

In the matter of rural suppliers, one participant in the pilot study for the 2003 survey wrote of a long-term business relationship and friendship with the district's fuel supplier, which dated back more than 25 years. It transpired that the supplier had been systematically under-providing the district's farmers with fuel while at the same time over-charging them for the fuel supplied. The farmer noted that the relationships between the farmers in the district and their other service providers had become less trustful. This reflects the more formal and business-orientated outlook that is now being demanded of the farming sector. In addition, as farmers take up computers and other electronic aids, their interaction with the farm business network will become more technologically driven and opportunities for fraud of the kinds described above may reduce; the possibility of internet fraud notwithstanding.

While the opportunity for rural suppliers to participate in illegal activity may exist, there is also the opportunity for individuals to commit crimes against individual rural suppliers. One rural supplier noted during the fieldwork interviews that fertilisers and chemicals were stolen for resale or drug manufacture. When purchasers bought in small quantities and paid cash, no identification was required.

Legislation surrounding the supply of fertilisers and chemicals

The purchase or theft of chemicals and fertilisers has become a topic of concern worldwide, given the ease with which explosives can be made with these ingredients. In December 2003, the Minister for Justice and Customs, Senator the Hon. Chris Ellison discussed several national security initiatives. One of these, the Explosive Precursor Project, undertaken by the National Institute of Forensic Scientists (NIFS), aims for a 'clear understanding of chemicals that can be used as explosive precursors'. This will lead to new management practices designed to thwart 'their use by terrorists in the manufacture of explosives.' (www.crimeprevention.gov.au 3 December 2003). The Council of Australian Government is also reviewing hazardous materials under the Council of Australian Government Ammonium Nitrate Initiative.

In an examination of road transport security, the Australian Trucking Association has also raised issues surrounding transportation security of fertilisers and chemicals (Althaus 2003). Farmers are required to store fertilisers and chemicals in a secure environment, but they can still experience theft of these items. One farmer wrote that 'a farmer has lost 110 litres of chemicals and pesticides on two separate occasions.' (Comments made by an anonymous participant in the 2002-03 National Farm Crime survey questionnaire).

The National Farmers' Federation (NFF) supports 'a licensing and permit system requiring individuals purchasing ammonium nitrate to demonstrate a legitimate need, secure storage facilities and to comply with an ASIO background check.' However, the NFF believes that time should be taken to consider carefully all the ramifications of introducing such a system. This reflects the importance of ammonium nitrate as an efficient fertiliser for horticultural crops, vines and tree crops (www.farmonline.com.au 05.04.04).[13]

13 On 21 April 2004, the Attorney-General, the Hon. Philip Ruddock announced that he had written to his state-counterparts requesting their support for a unanimous approach to the regulation of ammonium nitrate (http://www.ag.gov.au/www/MinisterRuddockHome.nsf/).

Saleyards

Depending on the level and type of security, livestock theft can occur in and around saleyards. There are weak links at saleyards:

- Counting of livestock when they arrive at the yard;
- Level of scrutiny of their documentation;
- Process of locking gates after livestock are herded into pre-sale holding pens;
- Use of electronic scanners for processing through the yard;
- Level of security of post-sale holding pens, including locks; and
- Nature of counting and checking of livestock on to trucks.

At present, the following range of security measures are utilised by some saleyards, but not all:

- Locks and minimal, signed access to keys;
- Security guards;
- Security lighting;
- Careful vetting of employees;
- Electronic scanning of tags/rumen boluses;
- Vetting of trucks and other vehicles carting livestock from the saleyard;
- Rigorous counting and checking of livestock at various stages through the saleyard process; and
- Comprehensive, tracked documentation.

Apart from the security measures within the saleyard which can have an impact on the incidence of theft, there is also the design of the saleyard itself, which may lend itself to ease of illegal access. For example, arrival and departure pens could be made more secure and less likely targets for theft by the use of closed circuit television (CCTV). Operating a CCTV may also be useful if livestock are required to be left overnight or at the weekend. The saleyard is liable for any livestock loss that occurs at the yard.

There are many anecdotal accounts of livestock theft at saleyards. One reported recent example of organised livestock theft involved the use of a Kenwood double-deck truck. The driver of the truck had stolen livestock worth an estimated $150,000 from saleyards in Victoria and New South Wales (Arnel 2004; McNair 2004 & Sexton 2004). Security cameras, swipe cards and individual keys may provide the only safeguards to organised livestock theft from saleyards (Arnel 2004). There is an increased likelihood of organised crime occurring within the saleyard environment, with criminally minded yard employees linking up with criminal networks (Police interview, fieldwork 2004).

Abattoirs

From the research and fieldwork interviews, abattoirs are viewed as a potentially weak link in the farm business network, as they allow opportunity for illegal activity. This activity can take different forms, for example:

- It is not unusual for workers of an abattoir to steal meat. This can occur in spite of management providing free or cheaper access to slaughtered meat; and
- There are abattoirs that accept livestock for slaughter without any documentation or with limited or false documentation. The slaughtered livestock are then sold to compliant butchers, small supermarkets or other contacts within the community.

Nevertheless:

- Some abattoirs employ security officers who undertake random body checks and car inspections; and
- Some abattoir managers are vigilant in watching for 'dodgy' livestock. For example, one manager regularly informs Queensland's stock squad officers when 'dodgy' livestock arrive at the abattoir without complete or legitimate documentation.

Certain essential procedures for caring for livestock, such as drenching, place them at risk. In one incident, the livestock were held in the yards overnight to complete drenching the next day. The livestock were stolen overnight and were never recovered. The ramifications could be widespread. If slaughtered and sold domestically, chemical-filled stock could result in health problems in Australia's domestic market. Had the slaughtered animals been destined for one of Australia's export markets, Australia's credibility in this matter could have been damaged and future meat trade with that market affected (Barclay et al 2001: 58).

Greater vigilance would bring about transparency and accountability in this sector of the farm business network. The new requirements surrounding the National Vendor Declaration forms (NVD) may be one way to implement a more rigorous delivery system of livestock to the abattoir (see Kelly 2004).

Feedlots

The demand for grain-fed beef by export markets, such as Japan, led to the development of feedlots in Australia from the mid-1960s, particularly in southern Queensland and areas of New South Wales. The 1980s represented a period of high growth in feedlots and currently there are 598 accredited feedlots with a total capacity of 862,083 cattle (Australian Lot Feeders' Association [ALFA]: 2002).[14] As at 31 December 2003, there were 652,094 cattle on feed (ALFA 05.02.04). Cattle can remain at a feedlot for as little as 60 days (Grain Fed – Young Beef, females), or up to 360 days (Grain Fed) to meet the stringent specifications of Japan's high quality marbled meat market. Observers argue that feedlots:

> *... are an outlet for stolen stock as they are generally not open to the public, stock are turned over in a short period of time and held in feedlots, which have the capacity to hold up to 120,000 head at a time. (Barclay et al 2001: 21)*

The last recorded theft at a feedlot took place in Western Australia in 2002. It has been suggested that a risk factor for theft is the proximity of a feedlot to a road and loading ramp. According to ALFA:

- When cattle arrive at a feedlot they must be accompanied by a National Vendor Declaration (NVD), which details animal health procedures (for example, the use of hormonal growth promotants), chemical residue concerns, quality assurance program participation and the property of birth of the animals concerned; and
- When feedlot cattle are sold, they must also be accompanied by a completed NVD and additional information in the form of a delivery docket (Wilson 2004).

There are other security issues for feedlots, including agro-terrorism. For example, security has recently been increased at feedlots because of an incident of sabotage at a sheep feedlot in Victoria. Activists were able to access the feed bins and contaminate them by adding shredded ham. This made the sheep unacceptable to Middle East export markets (Miller 2003). The ease with which this occurred on a paddock containing 1800 sheep demonstrates how easy it would be to steal livestock held at feedlots.

14 In the main, sheep feedlots prepare them for live export over a period of 3-7 days (www.mla.com.au date accessed 12.02.04).

Farmers

Criminological research has demonstrated that it is not uncommon for victims to be perpetrators of crime. There are various ways in which this may occur:

- A farmer may report the loss of five head of cattle, only to find they had wandered and have since returned to the herd. The farmer omits to notify the authorities that the livestock had returned;
- A farmer may, knowingly, take the opportunity to steal livestock from an adjoining property;[15]
- A farmer may, knowingly or unknowingly, include clean-skins as part of his/her own herd when in fact the clean-skins belong to his/her neighbour (See below for a discussion on boundary musters);[16]
- In 2004, a racehorse owner admitted involvement in a multi-million dollar fraud used to raise money to buy horses (Herald Sun 2004);
- Farmers may cultivate illegal cannabis plantations on their properties. Some of these are very elaborate. One farmer is accused of running a $60 million cannabis plantation (Canberra Times 2004); and
- A farmer may knowingly steal water for irrigation purposes. In 2002-03 there were 73 reports of water theft reported to the Goulburn-Murray Water authorities. At least 57 went to court and 52 irrigators were found guilty of stealing water. A further four cases are pending (Sellars 2004).

Many farmers have been affected negatively by Australia's long-standing drought conditions. Current farming conditions have resulted in desperate actions by some farmers, for example, theft of water. Government initiatives and community support may help to ease some of the difficulties being faced by Australian farmers at this time.

Boundary musters

In the Kimberley region of Western Australia, musters may occur as infrequently as once a year. Cattle stations can cover a large area (300,000 hectares is not uncommon)[17] and can run large numbers of cattle (up to 25,000 head running on a single station). The logistics of undertaking a boundary muster should not, therefore, be under-estimated:

- It is considered neighbourly to advise bordering stations in advance of undertaking a boundary muster. It is not yet law in Western Australia to do so;
- In a combined operation, helicopters and/or horses round up the livestock within the perimeter of the station's boundaries;
- Helicopters can fly across station boundaries while doing the muster. Because of this, rounding up a neighbour's livestock (clean-skin or otherwise) is not uncommon;
- The mustering station is supposed to separate any of the neighbour's livestock, yard them, advise that neighbour that his/her livestock has been mustered by mistake and make arrangements for the livestock to be returned; and
- All station owners/managers interviewed as part of the Kimberley region fieldwork said they advised their neighbours when they were about to do a muster, they always returned a neighbour's livestock after mustering and they always lost livestock when neighbours did a muster.

15 A recent book written by Frances Boyle details her family's persistent victimisation by a neighbour. When purchasing the property initially, the family's solicitor remarked that 'They tell me you have to nail the cattle's feet to the ground to keep them out there' (2003: 65).

16 Clean-skins are cows/bulls that are yet to be branded or ear marked.

17 Four adjoining stations in the Kimberley region, (Springvale, Alice, Mabel and Texas Downs), with a total area of 585,000 hectares (or 5850 km^2) were recently purchased by Jack Burton, a local businessman and cattle farmer. At present, there are approximately 32,000 cattle running on the four stations (Rothwell 07.02.04).

The boundary muster has been a time-honoured way Kimberley cattlemen/women sort out their disputes over livestock. Local stockmen/women believe that making it law to inform a neighbour of undertaking a boundary muster will not change things. Farmers commented that the $1000 fine is about the value of two head of cattle.

Conclusion

The above discussion highlighted areas of weakness within the farm business network that can provide the opportunity for illegal activities. The issues discussed in this section are ways in which violations could occur. Tightening security measures, for example as outlined in the discussion on saleyards, or insisting on legitimate documentation, can block opportunities for crime.

However, the fieldwork has identified the complex inter-dependence within the farming network that presents challenges to deal effectively with farm crime. Trust remains a central element of a farmer's relationship with others within the network although as farmers take up computers and other electronic aids, the farm business network will become more technologically driven. This will result in greater transparency and accountability within the network but it may also open up new avenues through which crimes against farmers will occur.

Section 6: Options for crime prevention

Introduction

The report to this point has identified a range of issues that offer possibilities for enhanced crime prevention activity on farms. This final section explores these issues in greater detail.

National Livestock Identification Scheme

Source: MLA 2004

Many farmers and rural industry representatives interviewed for this study believe that the National Livestock Identification Scheme (NLIS) provides one of the most effective ways to protect cattle against theft. The NLIS is an electronic system, which tracks an individual beast from birth to slaughter. It consists of an electronic ear-tag and/or a rumen bolus.[18]

A variety of electronic scanning devices is used by farmers or at points of sale, such as saleyards. These devices can be linked to computers, which relay the information to the Meat and Livestock Association (MLA). A centralised database at the MLA maintains up-to-date records of each beast, with data being electronically transmitted at all points of sale. Individual farmers use hand-held or mobile scanners for use on the farm. It has been particularly useful for dairy farmers wishing to track and monitor an individual beast's records/statistics. Observers argue that the scheme will provide an accurate method of identifying stolen livestock:

> *Implementation of the NLIS in all states will greatly assist police in tracing stolen stock across state borders, and will transcend the problem of varying state laws. The use of the rumen bolus will provide permanent unalterable identification, which will provide proof of ownership in any legal dispute. (Barclay et al 2001: 24)*

18 A rumen bolus is a small cylinder which a three month or older beast swallows and, given its weight, remains in the gut (reticulum) until being removed at the abattoir. It contains an electronic transponder.

Similar schemes have been or are being implemented in the European Union, the United States, Japan, Uruguay, Brazil and Canada. In addition to reducing the likelihood of theft of cattle it will also provide for an effective trace back system in the event of an agro terrorist attack on the food chain (MLA 2003). The impact of the latter on the industry and the national economy could be very significant. In the United States when a Washington State cow was discovered with Mad Cow disease (BSE)[19] in December 2003 the immediate result was the halting, by 30 countries, of the $US1.3 billion annual export market of United States beef. Other cases include:

- A similar BSE case in Canada was estimated to have cost the country $1 billion dollars overall (Clancy 2003), or $25 million a day (MLA 2004a);
- The outbreak of Foot and Mouth Disease (FMD) in the United Kingdom cost Europe approximately 100 billion Euros (equivalent to $A152 billion, exchange rate 0.6600 at 29.03.04); and
- It has been estimated that an FMD outbreak in Australia would cost the economy between $2-$13 billion (MLA 2004a).

At present, Victoria is the only Australian state which has mandatory NLIS requirements covering beef and dairy cattle. These requirements came into effect on 1 January 2004. South Australia, New South Wales, Queensland and Western Australia are committed to implementing mandatory NLIS requirements.[20] These states are two years behind Victoria in their implementation of the scheme. Some farmers argue that the NLIS will not stop cattle theft and that the scheme is financially prohibitive.

The NLIS may not stop cattle theft by another farmer. For example, a neighbour, who has registered his Property Identification Code (PIC) with the Livestock Production Assurance (LPA), can purchase the new National Vendor Declaration (NVD) forms that are required for any movement of livestock off the farm. Once these are obtained the farmer could simply cut off that part of the ear where the animal's electronic ear identification tag is located and replace it with one of his/her own electronic ear-tags, or a rumen bolus (Kelly 2004). Obviously it is far more difficult to extract the rumen bolus and this is the more secure NLIS method in terms of reducing theft. However the rumen bolus is more costly.

Source: MLA 2004

19 Bovine Spongiform Encephalopathy (BSE).

20 Appendix 5 provides the current status, by state, of the NLIS.

There are differing prices for the ear-tags and rumen bolus pellets. For example,

- Electronic ear tag costs from $2.50;
- Visual ear tag applicator costs from $25.00;
- NLIS approved rumen bolus pellet, which come with a matching electronic ear tag costs $5.80, for both devices; or from $3.10, for the bolus alone;
- Rumen pellet applicator costs from $85; and
- Electronic reader is available from $934, for a hand-held device.[21]

(MLA 2004b)

The Victorian Government subsidised the costs involved for farmers to introduce the system. For example, subsidised NLIS tags in Victoria cost two dollars fifty or three dollars fifty, compared to approximately four dollars in the northern states (Savage 2003). To date, various scanning systems have been installed in Victoria's saleyards, with cost and labour efficiency high on the order of priority. Occupational Health and Safety (OH&S) issues have also been targeted. To offset the extra costs associated with the NLIS at Victorian saleyards,[22] the proposal to introduce scanning fees has caused intense debate between buyers, agents and saleyards (Kelly 2003).

Neighbourhood watch/rural watch

One of the most common responses by farmers as to why they had not been targeted for farm crime was that they operated an informal neighbourhood watch system.

The informal nature of the neighbourhood watch system has several components:

- Staying on good terms with neighbouring farmers;
- Keeping an eye out for strange vehicles on the road, and observing the make and registration number;
- Observing the movements of strangers (including shooters) on the home farm or a neighbour's farm;
- Being aware of vehicles coming and going from a neighbour's farm, and if possible observing the make and registration number; and
- Advising neighbours of any absences and requesting them to keep a watch over the farm.

Dogs/geese

The 2002-03 survey uncovered some interesting findings in relation to guard dogs/geese. The 2002-03 survey found that those farmers with guard dogs/geese were also more likely to have alarms, security lighting or no trespassing signs. This group of farmers was less likely to have experienced crime during the survey period.

An alternative to dogs/geese is the alpaca (or llama). The guarding or security aspects of having geese are better known than for alpacas. It has been demonstrated, however, that a same-sex alpaca pair or single alpaca will protect sheep as they have a strong herd protective nature. They can live comfortably with sheep in the same paddock, eat the same diet and watch out for predators, such as foxes and dogs. They can become aggressive with intruders and make a lot of noise (www.alpacaheritage.com/ 2004 among other sources).

21 All prices quoted exclude GST.

22 These costs include the 'extra work involved, capital costs, computer and softwear [sic] costs and the fact that technology has a short life and we will be constantly upgrading equipment' (Ross Svenson, operator of Sale saleyards, quoted in The Weekly Times 19.11.03).

Hot spots and targeted crime prevention strategies

As part of the project, analysis was undertaken of questionnaire postcodes. From that analysis, hot spot postcodes were identified. There are some postcodes that have an unusually high predominance of victimised farmers (see Figure 2.3 and 2.4).

Some plausible reasons can be advanced to understand the hot spot locations. For example, there are border areas of Victoria, New South Wales, Queensland, the ACT, South Australia and the Northern Territory, which may be vulnerable merely because they are convenient to cross-border road infrastructure. This raises interesting challenges for inter-jurisdictional co-operation in dealing with cross border criminal activity. However, more research at the local level in hot spot locations is required to further understand the levels of victimisation. An attempt to do this has been undertaken in New South Wales (Jobes et al 2004) where Local Government Areas (LGAs) have been matched to postcodes with high rates of criminal activity to identify similarities.

Police resources

There was strong support for rural stock squads by farmers. However farmers interviewed during the fieldwork often said there were not enough police available locally and they lacked the necessary resources or knowledge about farm crime related issues. It was evident that there were more lukewarm views of rural policing in the Western Australia model where there is a centralised unit in Perth that deals with major incidents of farm crime, leaving local police to deal with minor farm-related matters. This is not surprising. Studies of policing consistently demonstrate that if police are not visible, communities feel that they are not being adequately policed, regardless of whether this is true or not. It is further compounded by the nature of policing in one of the fieldwork sites in Western Australia. In this site there are significant crime problems in the town centre that consume police resources leading to the perception of a police lack of interest in the surrounding regional areas. Primary crime prevention activity requires resources and time, both of which are in short supply in rural environments.

Police resources are limited. Efforts to strengthen primary prevention activities by farmers would clearly assist in reducing crime. There are other options available which may help to alleviate farm crime and the reporting of crime to police. It became clear during fieldwork that there are retired farm managers/owners, as well as retired rural police officers who would like to remain useful in the community. Providing opportunities or partnerships to utilise these resources could assist local police in their work. There are various primary and secondary crime prevention strategies that could be employed to enhance positive perceptions of policing which could be undertaken by 'civilians'. These include:

- Regular visits to farms;
- Greater encouragement to farmers to report theft or damage;
- Feedback to victims about investigations on matters reported to the police; and
- Publicising incidents of farm crime through local media outlets.

During the fieldwork we came across a variety of farmers who could benefit from having an 'old hand' visit the property and help out with, for example, unfamiliar information technology, mustering, repairs and maintenance, and useful crime prevention strategies. These would not be the only benefits of such a scheme. Such a service would give the farmer:

- A sense of belonging in the wider community;
- Provide him/her with up-to-date information relating to technology and other farm business network practices; and
- Provide him/her with practical support around the farm.

In turn, such a service would give the rural community and Australia, more broadly:

- The possibility of a reduction in the level of farm crime victimisation;
- A stronger rural community; and
- The benefits of using skilled people beyond retirement age.

Conclusion

Estimates of farm crime rely on the information supplied by farmers of the specific crimes that were included in the survey. The estimated value of farm crime remained consistent in 2001-02 and 2002-03. In the most recent year the estimate was $70 million. This under estimates the true cost of farm crime due to high non-response to this question, and may represent as little as one quarter of the actual cost to farmers. It also does not factor in the costs associated with crime that occur throughout the rest of the farm business network. On average the cost of crime per farmer was $5701.

Over the three-year period of the study, a substantial number of farmers were victimised. This was higher than the percentage who reported an incident of crime to a national victimisation survey that included a wider range of crimes. In the 2002-03 survey, 17 per cent of all farmers reported being a victim of crime during that twelve-month period. Of those who had been victims, 54 per cent had experienced repeat victimisation. Although not strictly comparable, nine per cent of people in the 2002 ABS National Crime and Safety Survey reported being a victim of property crime in the past 12 months (ABS 2003a).

There was a range of risk factors associated with being a victim. These included:

- Remoteness;
- Farm size;
- Farm wealth; and
- Proximity to state borders.

Based on the data supplied in the farm crime survey, a number of hotspots have been identified across the country. Some occur in proximity to state borders where there is good road and rail access to move livestock. However cross border activity poses significant challenges for police. In addition there were reports of some forms of farm crime being highly organised and involving networks that link rural and major urban centres. Changes in the social and demographic profile of rural communities may be facilitating more organised criminal activity.

Most farmers perceived that police are under resourced and that more policing is required. This is a not uncommon perception, with communities believing that they are not being adequately policed unless policing is highly visible. In turn, only half of those who had been victims of crime had reported it to the police. In this report a number of supplementary strategies have been highlighted that could potentially assist police.

The analysis of the farm business network emphasises that there are various points along the network where criminal activity does occur. There are a range of measures that can be employed to reduce this activity including:

- Better record keeping by all participants in the network;
- Greater vigilance; and
- Increased reporting to police of activities.

The NLIS has been highlighted as a possible strategy to reduce the likelihood of theft. The data shows that farmers from Victoria (as well as Queensland) report the lowest rates of cattle theft in the country (three per cent).

In terms of crime prevention activity farmers reported a range of strategies that were clustered into four groups – locks, registers, situational crime prevention strategies and community participation. Half of all farmers did not know whether crime prevention materials were readily available and many relied on their neighbours and local friends for advice. Those who were aware of crime prevention materials were more likely to implement some crime prevention measures following victimisation.

Appendix 1: Methodology

To obtain a more complete understanding of the prevalence and dynamics of farm crime in Australia, the 2002-03 National Farm Crime Survey included both quantitative and qualitative data. A questionnaire was developed to gather statistical information on farm crime from a large representative sample of Australia's farming population. In addition, researchers conducted interviews with farmers, industry and community groups, law enforcement officers and local government officials across four states. This section describes the two components in detail.

Sample design

The 2002-03 NFCS was the third conducted in Australia. The first two surveys were conducted in 2000-01 and 2001-02 as a supplementary questionnaire to the Australian Bureau of Agriculture Resource Economics (ABARE) yearly farm surveys. This restricted the number of questions that could be asked and focused only on broad acre and dairy farmers (75 per cent of all farms) and those with an Estimate Value of Agricultural Operations (EVAO) of $22,500. One aim of the 2002-03 NFCS was to expand the sampling frame from that of the previous surveys. A sampling frame is a list of all members (eg farms) of the target population for the survey. The sampling frame was sourced from the ABS 2002-03 Agricultural Survey. The units on the frame were approximately 151,000 farming businesses with agricultural activity and an Estimated Value of Agriculture Operations (EVAO) greater than $5000.

The sampling frame was then stratified into three groups. Stratification is a method of splitting the sample population into discrete subgroups with similar characteristics. By grouping similar units together, one can sample from each of the subgroups separately, increasing the accuracy of the estimates produced from the subgroups. A stratified sample is one where the sample is selected independently from within each stratum. The stratification variables used in the NFCS were state, farming industry and size (EVAO).

Design assumptions

The design of a sample is, by necessity, based on several assumptions. The design of any sample is an attempt to predict the outcome of the collection before it is conducted. In designing the NFCS, two assumptions were made. The first assumption was the 'death rate' of the survey, which is the number of farms that have ceased operating by the time at the survey form reaches the farms. Dead units in the sample reduce its efficiency, leading to higher sampling errors. A death rate of 15 per cent for the smaller sized groups and five per cent for the medium and larger size groups was assumed for the 2002-03 NFCS.

The second assumption was that the survey would produce a response rate of 50 per cent. The response rate of a collection is the number of units that respond to the survey out of initial selections. The lower the response rate the fewer units there are available to produce estimates. Of greater concern is the amount of non-response bias that occurs. Non-response bias occurs when the farms that respond to the collection have different characteristics to those that do not respond. It was expected that only 50 per cent of the live sample would respond and the calculation of design standard errors were based on this figure. The actual response rate for the 2002-03 NFCS was 61 per cent.

In designing the NFCS, two constraints were imposed. The constraints were to ensure that:

- The sample size would not exceed 10,000; and
- The standard error of an estimate of 0.05 (five per cent) would not exceed 0.01 at the state level and slightly higher for NT and the ACT.

In order to meet the assumptions described above, the NFCS sample size was set at 8670 at the Australian level. Table A2.1 presents the sample size at the state level. The majority of the sample came from the larger states of New South Wales, Victoria and Queensland. However, a higher proportion of farms in the Northern Territory and the Australian Capital Territory were selected than would have been the case through a simple random selection in order to make accurate estimates for the Territories.

The sample was allocated across the strata in a way that conformed to the constraints set for the standard errors (ie not to exceed 0.01 at the state level for an estimate of five per cent). Simple random samples were taken within strata within each jurisdiction with a minimum sample size of six within strata.

Table A1.1 NFCS 2002-03 sample size by state

State	Sample size
NSW	1426
Vic.	1408
Qld.	1407
SA	1356
WA	1335
Tas.	1211
NT	423
ACT	104
Total	8670

Source: AIC, National Farm Crime Survey, 2002-03 [computer file].

Questionnaire

The surveys conducted in 2000-01 and 2001-02 were two pages in length and contained questions relating to victimisation and reporting to police. The 2002-03 questionnaire was eight pages in length and comprised 37 questions about farm crime, crime prevention strategies as well as socio-demographic details about the farm. Its development was based on the types of questions that were asked in the first two questionnaires. Additional questions were asked about crime prevention measures employed by farmers. The questions specifically focused on:

- Whether the farm had experienced crime in 2002-03 (Section 2, Table 2.3 provides a list of crimes that were measured in the questionnaire);
- How many incidents of crime had occurred in 2002-03 period;
- When and where the crime occurred and who was thought to have been responsible for the crime;
- Whether the crime was reported to police and if not reported, why not;
- Crime prevention – security measures employed on the farm (as well as insurance coverage), and what sources the farmer uses to obtain crime prevention information; and
- Demographic characteristics of the farm (such as postcode, topography, age, gender, farm size, and income etc).

The pilot phase

The pilot phase of the survey focused on eight farmers in three states and one territory (Tasmania, Victoria, New South Wales and the ACT) and included dairy, crops, sheep, poppy and mixed farm operations. The farmers were asked to complete the questionnaire in draft format. Once the questionnaires had been returned, the participating farmers were contacted by telephone or in person to ascertain whether they had experienced any difficulties completing the questionnaire, for example, with respect to style, layout or question wording. Feedback from the farmers necessitated minor adjustments to some questions.

Data collection process for the 2002-03 survey

The mail out of the NFCS was conducted between October and December 2003. The ABS made initial contact with survey respondents by sending introductory letters to those farmers selected from the sample frame inviting them to participate in the voluntary survey. An outline of the objectives of the survey, an assurance of the anonymity of the questionnaire, its voluntary nature, and the extent of the involvement of the ABS and AIC were included in the letter. The survey questionnaire, an accompanying letter and pre-stamped self-addressed envelope (to the AIC) were mailed out by the ABS one week following the introductory letter. Three weeks later a follow-up survey questionnaire, letter and envelope were sent out by the ABS to those farmers who had not responded to the survey. A further three weeks after that a second reminder survey questionnaire, letter and envelope were despatched by the ABS to the remaining farms who had not responded to the survey. The final cut off date for the returned completed questionnaires was 19 December 2003.

A hotline number was established to provide support to participating farmers. This number was recorded on the first page of the questionnaire and in each of the letters. Approximately 700 farmers contacted the researchers via the hotline. Their calls covered a range of issues and concerns:

- They were concerned about the anonymity of the questionnaire;
- Some farmers felt the questionnaire might be used to feed into particular industries, for example, insurance;
- Several farmers had strong negative views about the inclusion of financial questions;
- Some had questions about whether to include crime that had been experienced outside the timeframe of the survey;
- A number of callers wanted to advise that they were no longer farming (for example, retirement), that they had sold the property, or that the farmer in question had passed away;
- There were many who just wanted to talk to someone about farm crime generally and their concerns; and
- Some farmers rang to say how appreciative they were that someone was taking an interest in researching the extent of farm crime.

To retain the anonymity of the questionnaire, each one was coded with a unique 15-digit number which identified the farmer only to the ABS. Questionnaires were returned to the AIC in the envelopes provided. At that time they were opened and batches of the unique 15-digit numbers were sent to the ABS so that those farms could be removed from its mailing list before the subsequent follow-up and reminder questionnaires were dispatched. Individuals who did not wish to participate, who had sold the farm, who had retired or who wished to advise that the farmer had passed away, also returned questionnaires. These numbers and details were also passed to the ABS for the necessary changes to be made to the database.

An administrative assistant was employed to undertake basic coding and cleaning of the completed questionnaires. Text from the questionnaires was also keyed into a word file. Query resolution took place after all the questionnaires had been keyed in. Further cleaning of the file was undertaken once the query resolution process had been concluded.

There were 8670 farming businesses included in the sample frame. From the 8670 questionnaires sent out, 977 were return to sender and were excluded from the sample, hence leaving a reduced sample frame of 7693 farming businesses. In total 4717 questionnaires were completed and returned resulting in an effective response rate of 61 per cent. The ABS provided weights to be applied to the survey data to help ensure the results would be representative of all farms in Australia. To weight up to the population, the data were weighted to represent the estimated number of farming businesses nationally. The weights were calculated by the ABS based on state, farming industry and farm size. The data in this report has been weighted up to the population for greater representativeness, but so as not to inflate statistical significance in many of the analyses, an effective sample size weighting was applied.

Table A1.2 shows the unweighted and weighted distribution of the respondents to the survey by state, industry and size. Because of over sampling in the Territories, the unweighted percentage of respondents by state was fairly even, with the exception of the Northern Territory and the Australian Capital Territory. However, when the data were weighted, the proportion of respondents from the larger states such as New South Wales, Victoria and Queensland were weighted up and smaller jurisdictions were weighted down. The weighted data are a better reflection of the profile of the farming population.

Table A1.2 Respondents by state, industry and farm size – weighted and unweighted

	NFCS Sample	
	Unweighted Data	Weighted Data (a)
State	%	%
NSW	16	30
Vic.	16	25
Qld.	16	21
SA	17	11
WA	16	10
Tas.	14	3
NT	4	0
ACT	1	0
Industry		
Horticulture and Fruit Growing	19	17
Grain, Sheep and Beef Cattle Farming	59	63
Dairy Cattle Farming	8	10
Poultry Farming	3	1
Other Livestock Farming	4	3
Other Crop Growing	6	6
Size (EVAO)		
Less than $125,000	51	57
Between $125,000 and $500,000	34	33
Between $500,000 and $5,000,000	12	9
More than or equal to $5,000,000	3	0

(a) The data from the sample is weighted to be representative of all farms in the ABS Agricultural database

Source: AIC, National Farm Crime Survey, weighted and unweighted data 2002-03 [computer file].

Qualitative interviews

In the main, the qualitative interview component of the survey concentrated on two states; Queensland and Western Australia. These states were chosen because:

- Neither state had been the focus of previous research in this area;
- Both states had significant agricultural enterprises; and
- Both states had specialist stock squads.

Telephone and email discussions took place with both the stock squad in Queensland and the stock investigation unit in Western Australia to decide which two sites in each state would be chosen for the fieldwork. The requirement for each state was one high farm crime area and one low farm crime area. In addition, a short fieldwork trip was made to saleyards in Victoria and New South Wales.

The interviews were open-ended, but followed loosely the structure of the survey questionnaire. Interviews were conducted with farmers, industry, and community groups, and questions were asked about:

- Their farm victimisation experiences (or knowledge of it occurring in the district);
- Their crime prevention strategies (this also applied to industry and community groups, such as Neighbourhood Watch/rural watch, etc);
- Their knowledge of crime in the community (including drug crimes);

- Their feelings about the community;
- Their level of participation in the community, for example, sporting, school, church or community organisations; and
- Their feelings about the visibility of the police in the community and whether the police did a good job.

Queensland

The 32-strong Queensland stock squad members are based at rural police stations throughout Queensland. As a stock squad management tool, Queensland is split into two regions: Northern and Southern Region. One site was chosen from each region to conduct qualitative interviews. The characteristics of the northern site include:

- A coastal town;
- Surrounding district has a significant cattle industry;
- Extensive market gardens including: tomatoes, capsicum, melons, pumpkins, beans and mangoes;
- Fluctuating population because of the high level of seasonal workers, (transient, migrant, and backpackers); and
- Farm crime incidents of the cattle industry sector and the market gardeners.

As part of the interview process, the researchers visited cattle stations and market gardens to understand the difficulties of enforcing/implementing crime prevention strategies. Industry interviews included rural suppliers, insurance companies, the abattoir, Agforce representatives, Centrelink, a national bank, and a local employment agency. Community groups interviewed included the local newspaper, the local council and the police.

The characteristics of the southern site in Queensland are as follows:

- An inland regional centre;
- Few migrant or transient workers;
- Significant cattle, grain (wheat and sorghum) and wool growing industries; and
- Home to one of the largest store cattle selling yards in Australia.

As well as visiting local cattle stations, the researchers spent considerable time at the saleyards on store cattle day. A saleyard official provided a thorough briefing and tour of the saleyard. This was important, given that the saleyard had previously been known for criminal activities, but was now considered very security-conscious. Industry interviews included a national bank, insurance, stock agents, saleyard officials and Agforce. Community groups included the local newspaper, the police and the local council.

Western Australia

Unlike Queensland, Western Australia's stock investigation unit is based in Perth and there is no division of the state into regions. Instead, local police are given training in stock identification and related issues and manage farm crime as part of their regular duties. Interviews were conducted in Perth with the stock investigation unit, the Pastoralists and Graziers Association, the Western Australia Farmers Federation and the Crime Prevention Unit of the Premier's Department.

The stock investigation unit provided two sites to conduct qualitative interviews, one in the south and one in the north of the state. The two sites chosen were markedly different, both geographically and because of their agricultural industries. The southern site was considered by the Stock Investigation Unit as a high farm crime site. The second site in the north was situated in the Kimberley Region and was considered to be a low farm crime site. The same interview style as that used in Queensland was employed during the November/December 2003 Western Australia fieldwork.

The characteristics of the southern site include:

- An inland regional centre;
- A growing and significant migrant population;
- Aboriginal communities nearby;
- An important sheep and wheat growing district;
- Central to a good road network connecting all of the south-west of the state; and
- Operates one of the largest sheep-selling saleyards in Western Australia.

As part of the interview process the researchers spent some time at the saleyards where they were able to interview farmers in a group session. A saleyard official also provided a comprehensive briefing of the saleyards. It was unfortunate that at the time of the fieldwork, grain farmers were busy harvesting wheat and were not available for interview. Apart from interviews with sheep farmers, industry and community groups were also interviewed. Industry groups included a national bank, Centrelink, rural suppliers, stock agents, a saleyard official, and an insurance company. Community groups included the local Council, the police, a local employment agency, and the leader of the growing local Islamic community.

The characteristics of the northern site in Western Australia were as follows:

- An isolated inland town which can be cut off during the wet season;
- A significant cattle industry;
- Two main community groups: Indigenous and non-Indigenous; and
- Considered to be an area of high unemployment and low socio-economic standard.

Given the distances the researchers needed to travel to cattle stations, it was not possible to conduct interviews with all those who were interested in talking to the fieldwork team. Nevertheless, eight station owners/managers were interviewed (one by telephone). A local Council representative accompanied the researchers to all of the cattle stations. While this provided a good opportunity to obtain a broad perspective and understanding of the Council's work and life in the Kimberley generally, it limited the capacity of the researchers to pose candid questions to farmers during the interviews. Apart from an interview with staff from the local Centrelink office, discussions were held with community groups such as the police and the local Council. A telephone interview was held with the local official from the Pastoralists and Graziers Association. Informal discussions also took place with other local members of the community.

Victoria

A short field trip was undertaken in January 2004 to a saleyard and abattoir in Northern Victoria. At the saleyard, interviews were conducted with saleyard management, a rural crime investigator, stock agents and farmers. The visit focused on the recent implementation of the National Livestock Identification scheme (NLIS) and the scanning operation in place at the saleyard. The researchers were also interested in learning about the abattoir's research into the recycling of the rumen bolus pellet used for the NLIS.

New South Wales

As part of the fieldwork trip to Victoria, researchers visited a saleyard in southern NSW. Interviews and discussions were held with saleyard management, stock agents and rural crime investigators. Of particular importance during the interviews were the differing perspectives provided on the NLIS and its projected implementation in New South Wales.

Appendix 2: Literature review

The body of Australian literature on farm crime is not extensive. This may seem surprising, but as O'Connor and Gray (1989) point out, Australia's population is largely urban and one which holds mythological ideas about the bush and its notions of a crime-free, 'arcadian' environment. Apart from the Scottish Farm Crime Survey (the only other national survey to focus on farm crime), overseas literature has tended to focus on state-based/region based rural crime, rather than provide a national focus on the extent and implications of farm/rural crime. Listed below are the major literature sources used in this research. This is followed by a short discussion on other sources, such as newspapers and the Internet.

Title of study	The study	Findings
Crime and the farming community: The Scottish Farm Crime Survey 1998 (Scotland)	On behalf of The Scottish Office, George Street Research, a Scottish-based independent research agency, undertook the research for that Survey, the only other national survey of farm crime. The objectives were to explore the extent and prevalence of farm crime, farmers' crime prevention measures, their knowledge of crime prevention measures; their willingness to involve the Police; and to measure the cost of such crime on farmers and their businesses. Excluding inactive or ineligible contacts, the telephone survey achieved a response rate of 55 per cent.	During 1997, 18 per cent of farmers experienced some type of farm crime, with accessibility and remoteness singled out as indicators of vulnerability to crime, as well as access to good road links. While most farms had a range of security measures, the research found little knowledge among farmers of different strategies and schemes to combat farm crime. Approximately 50 per cent of crimes were reported to the Police, with a low level of reporting amongst repeat victims.
Property Crime Victimisation and Crime Prevention on Farms (Australia)	The Institute for Rural Futures, University of New England, conducted a mailout survey of 1100 farmers New South Wales-wide in 1999-2000. The Survey asked the type of farming undertaken, geographical and topographical information, crime prevention strategies, whether they had been victims of farm crime (theft of livestock, seed, grain, wool, timber, machinery, tools, small equipment, fuel, farm chemicals, fencing materials, vandalism, arson, fraud, burglary, trespassers, illegal hunters (shooters) dumping of rubbish and drug cultivation). The overall response rate was 62 per cent.	69 per cent had experienced some type of farm crime. Theft of tools was the most common type of crime (33 per cent), followed by livestock theft (23 per cent). Thirty per cent of farmers had experienced illegal trespassers and 25 per cent had had illegal hunters on their farms. More densely covered mountainous hinterland areas of New South Wales experienced more livestock theft. Forty-nine percent of victims had reported the crime to the Police. Fifty-seven percent had not reported the crime because of lack of proof. Small farms more diligent about security measures than larger farms. There is a lack of association between security measures and crime.
Community Cohesiveness and Rural Crime, Parts 1 and 2 (Australia)	Examination of the possible associations between the economic and social characteristics of Australian rural communities. These include such characteristics as ethnicity, gender and age, as well as population size, family structure, economic characteristics and migration. Applying social disorganisation theory, six different rural communities were studied: large urban centre; coastal communities; satellite communities; medium stable communities; medium declining communities; small farming communities.	Challenges the idea that larger urban centres experience more crime than small communities. Small farming communities experience the highest rates of livestock theft, but lowest rates of crime across all crime types. High rates of crime are linked to communities with high family instability and negatively linked to communities with low family instability. Smaller more cohesive communities are more likely to have lower crime rates.

Crime in a rural community (Australia)	Examines the findings of criminological research in Walcha, a New South Wales rural community. By examining the little-researched area of crime, policing and crime related activities and beliefs in a rural community the authors dispel some of the notions regarding rural areas being free of crime. Rather, they are complex and contradictory.	Apart from Sydney, there is very little difference in crime rates between urban and rural areas. Though the Walcha residents believed they lived in a fairly crime-free environment, their crime rate was not dissimilar to that of the national average. Residents believed the situation may change in the future. This belief made them undertake wide-ranging crime prevention strategies.
The Kelly Outbreak 1878-1880: The geographical dimension of social banditry (Australia)	An historical discussion on the geographical and social background that encouraged the emergence of social bandits, such as Ned Kelly, a selector's son. The selectors' attitudes were blamed for the large-scale livestock theft that was taking place in rural Victoria by the 1870s. The Outbreak was linked to widespread discontent against the wealth and power of squatters, the rural Police and the colonial administration.	There are some elements of contemporary farm crime that owe their existence to the light-fingered activities of many during colonial Australia. There remains a belief in rural Australia that stealing one or two head of sheep/cattle from wealthier farmers is acceptable. Wealthier farmers are resigned to losing one or two head because of this belief.
A Review of the Literature on Agricultural Crime (Australia)	Sets out the background of Australia's agricultural sector. This includes the range of rural industries, types of property crimes on farms, a study of State and Territory legislation regarding livestock and a review of the available literature on agricultural crime worldwide.	There is a shortage of available literature on agricultural crime. Studies from around the world highlight the fact that illegal trespassing and hunting are common to all countries. A further common issue is non-reporting of crime and the belief of farmers that farm crime is part of their lives. Of specific concern is the Australian farmer's reluctance to report crime for fear of being ostracised from the community. A common finding was that farmers are complacent about security.
Crime and Policing in Rural and Small-Town America (United States)	Discusses crimes that are peculiar to the rural environment, eg, poaching and agricultural crime.	There is a relationship between the size of the farm and the chance of victimisation. Increasing urbanisation of rural areas will lead to increased crime levels. The author discusses migrant workers and their work within a rural community, which still renders them as outsiders as regards the rural justice process. Furthermore, they can suffer from abuse and in some cases, slavery.
Property Crime and Crime Prevention on Farms in Australia (Australia)	Provides an historical examination of farm crime in Australia and provides an informed analysis of the results of a recent New South Wales farm victimisation survey.	Farm crime is a serious matter for Australia and other Western states; ecological factors and visibility of farm buildings were contributors to farm crime; social change has increased the number of 'motivated offenders' working in rural areas; an increase in organised criminal elements operating in rural areas; as well as seasonal workers; and the need for farmers to be more proactive as regards crime prevention strategies.
Cattle duffers of the outback	A non-fictional account of one family's fight against farm victimisation in north Queensland.	Ms Boyle relates the family's experiences with cattle theft, harassment, victimisation (including sabotage), arson, and official corruption. The family went public with their story. They had to sell the property

Farm Crime: Out of Sight, Out of Mind: A Study of Crime on Farms in the County of Rutland, England	A farm survey was undertaken which incorporated in-depth interviews of 40 farmers from the Rutland County.	The survey found high levels of crime which were unsuspected by the farmers themselves. 33 of 40 farms had experienced theft in the last two financial years including main residences, farm buildings, workshop theft, gates, electric fencing, fuel and a tractor battery. 38 of 40 farmers had been criminal damage victims during the two years, with damage to crops being prevalent. Trespassers and poaching were also common, as was dumping of rubbish (fly tipping).
The Dark Side of Gemeinschaft: Criminality within rural communities (Australia)	The paper notes that small farming communities are typified by high levels of social cohesion, strong social ties and low crime rates. The paper explores the findings of crime to support this claim.	The paper argues that there are certain types of crime in rural communities that are allowed to persist, for example, farm crime and sexual assault. The victims are pressured to remain silent, on fear of ostracism or exclusion from the community
Rural Crime in Australia: Contemporary concerns, recent research and future directions (Australia)	The study puts contemporary findings of rural crime into historical perspective.	The authors present a history of Australian farm crime research from three standpoints: Australia's 'autocratic dominant state control', 'a concern with the miscarriage of justice'; and 'concern with violence and, more subtly: an interpretation of rural areas as mundane'. The authors believe that in-depth ethnographies, case studies and historical analyses are required to analyse the reasons for crime and other social problems in rural areas.
Comparative Frontiers: Australia and the United States (Australia)	The study looks comparatively at the histories of frontier expansion in Australia and the United States. The author is looking for differences and similarities in these histories.	Expansion in the United States was more violent. Both had different forms of resistance: Australia's took the form of social banditry; the United States' was vigilantism. The author accounts for these differences because of differing structures of law enforcement – Victoria's was centralised, and Wyoming was localised. Both expansions were lawless, with livestock theft, social friction and divided societies in both case studies resulting in major outbreaks of lawlessness.
A Structural Analysis of Social Disorganisation and Crime in Rural Communities in Australia (Australia)	The study has a two-pronged approach. First, the empirical purpose is to ascertain and quantify how differences in types of communities are linked to crime in rural Australia. The theoretical purpose is to test whether Social Disorganisation Theory fits within the empirical study.	The authors found there were six different types of community in non-metropolitan New South Wales. The six communities have different types and prevalence of crime that can be largely explained by Social Disorganisation Theory.
Effective officer and good neighbour: problems and perceptions among Police in rural Australia (Australia)	This paper explores the views and experiences of Police working within their rural communities.	The paper identifies a range of issues that can affect an officer's accuracy, for example, age, links within the town and its demographic characteristics, which are then linked to show how Police culture may influence their decisions. The author argues that effective policing in a rural environment requires the officer become a trusted member of the community.

Residential stability and crime in small rural agricultural and recreational towns (United States)	The paper examines how migration, population size and economic base can help to explain crime in small rural towns.	The lack of legitimate local interaction increases the possibility of criminal violations by newer residents, as compared to established ones. In towns with small migratory numbers, the visibility of outsiders gives them a greater chance of being arrested. Residents of small towns are observant, they are therefore more aware of illegal activities and this leads to conviction of the suspect. This is particularly the case in cohesive farming communities.
Concern about crime among Montana farmers and ranchers (United States)	The author estimates the effects of previous victimization, relative isolation from policing authorities and fear of crime.	Those larger livestock operations were more likely to experience victimisation than crop farmers. Three factors are directly related to fear of crime: previous victimisation; distance from law enforcement offices and farmers' views as to the extent of Police patrols.
Human Ecology and Rural Policing: a grounded theoretical analysis of how personal constraints and community characteristics influence strategies of law enforcement in rural New South Wales, Australia (Australia)	To describe the factors that can influence Police officers and techniques of policing in rural Australia.	The study shows that effective Police officers employ traditional community policing strategies. Police officers noted the tensions between the requirements of a centralised Police service and the specifics of policing a small rural town. Police were able to carry out their duties effectively only when they were integrated into the various community structures and used their discretion in relation to local law and order standards.

Those Australian newspapers reporting on farm crime have, in the main, focused on livestock theft, the work of the stock squads or rural crime investigators. Rural Australian newspapers have reported on incidences of cattle duffing or other farm crimes, highlighted practical issues in relation to, for example, the introduction of the National Livestock Identification scheme (NLIS) and its impact (usually financial) on farmers and other rural industry groups. Given the recent controversy regarding live sheep exports, there has been some newspaper coverage on agro or eco-terrorism and its implications for Australia's domestic and foreign livestock trade. There has also been some reporting on water theft, an emotive issue during periods of drought.

The internet provides a wide range of information in the public domain relating to Australia's farming sector. Information regarding stock agents, saleyards, feedlots, transportation, abattoirs, rural suppliers and the guarding qualities of alpacas can be disseminated, as can some relevant on-line journal articles. Sites of state and federal government departments also provide useful material, such as Hansard, the police and agricultural departments.

The internet is also a useful source for overseas newspaper sites and other on-line information sites, such as police and agricultural departments with articles relating to criminal behaviour in the farming sector. Many internet sites provide contact email addresses of staff members who are able to assist with specialist enquiries. This proved to be a very important source of information, particularly with agriculture or police departments and other various agricultural organisations.

Appendix 3: Accessibility/Remoteness Index of Australia (ARIA)

The three surveys used the Accessibility/Remoteness Index of Australia (ARIA) in order to classify the remoteness of farms. The Commonwealth Department of Health and Aged Care and the National Centre developed the ARIA index for Social Applications of Geographical Information Systems. The aim was to develop a remoteness index based on road, locality and service information. As a result, the ARIA classification system was:

> *...designed to be comprehensive, sufficiently detailed, as simple as possible, transparent, defensible, and stable over time – and to ... make sense on the ground. (Commonwealth Department of Health and Aged Care 2001: 3)*

ARIA's definition is based on geographical features and excludes socio-economic and urban/rural population sizes. The ARIA index calculates remoteness based on road distances to 201 identified service areas. The ARIA values range from 0-12 and are grouped into five categories of remoteness and are outlined below:

1. Highly Accessible (ARIA score 0 to 1.84) – relatively unrestricted accessibility to a wide range of goods and services and opportunities for social interaction;
2. Accessible (ARIA score>1.84 to 3.51) – some restrictions to accessibility of some goods, services and opportunities for social interaction;
3. Moderately Accessible (ARIA score >3.51 to 5.80) – significantly restricted accessibility of goods, services and opportunities for social interaction;
4. Remote (ARIA score >5.80 to 9.08) – very restricted accessibility of goods, services and opportunities for social interaction; and
5. Very Remote (ARIA score >9.08 to 12) – very little accessibility of goods, services and opportunities for social interaction.

Further information about ARIA is available from the Australian Government Department of Health and Ageing website:http://www.health.gov.au/pubs/hfsocc/ocpanew14a.htm.

Appendix 4: Status, by state, of the National Livestock Identification Scheme

State	Current position	Funding	Exemption from electronic identification
New South Wales	• March 8, submissions close on draft regulations. • July 1, 2004, all calves identified. • July 1, 2005, all cattle sold from any property to be identified. • July 1, 2006, all cattle movements scanned and reported to national database.	• $5.4 million for saleyard, feedlot and abattoir infrastructure. • Tag subsidy for dairy cows only, capping tag cost at $2.50.	• Bobby calves.
Victoria	• Mandatory identification of all cattle sold (since Jan. 2003). • Stock scanned at saleyards and abattoirs and transferred on national database since Jan 2004). • Operating under code of practice in saleyards.	• $1/tag subsidy. • $1.25 million for infrastructure and $350,000 communications funding in 2003.	• Bobby calves.
Queensland	• Implementation plan due by July 2004. • Implementation to start by 2005.	• No funding announced.	• Bobby calves. • Cattle sold from property of birth to slaughter or live export.
South Australia	• January 1, 2004, all calves must be identified. • July 1, 2004, saleyards and abattoirs must scan all identified cattle. • January 1, 2005, all cattle leaving any property must be identified.	• $0.70/tag during implementation. • $400,000 to $450,000 for saleyards and abattoirs.	• Bobby calves. • Until 2010 lines of 20 or more breeders (cows or bulls) to slaughter.
Western Australia	• July 1, 2004, calves must be identified and scanned and transferred at saleyards and abattoirs. • July 1, 2005, all cattle leaving any property must be identified, scanned and transferred.	• Tag subsidy of $1 per device up to $1.2 million. • $1.05 million in abattoir and saleyard funding.	• Cattle sold direct to slaughter or live export.

Source: State agriculture departments, as published in The Land 26.02.04.

Appendix 5: Australia's farms

Introduction

Australia's farming sector contributed three per cent to Gross Domestic Product (GDP) in 2002-03, and is an integral sector of the nation's economy. The trends in Australian farming such as drought, employment, turnover and other related issues, can assist in determining the motivation and impact of farm crime. For example, farmers may be more likely to steal another farmer's feed because he/she cannot afford to purchase enough for his/her cattle because of harsh drought conditions. This Appendix will examine trends in Australian farming, which includes the weather, farm size, employment, income, and production levels. Where possible, figures for the 2002-03 financial year will be stated, however in some cases data are only available for 2001-02.

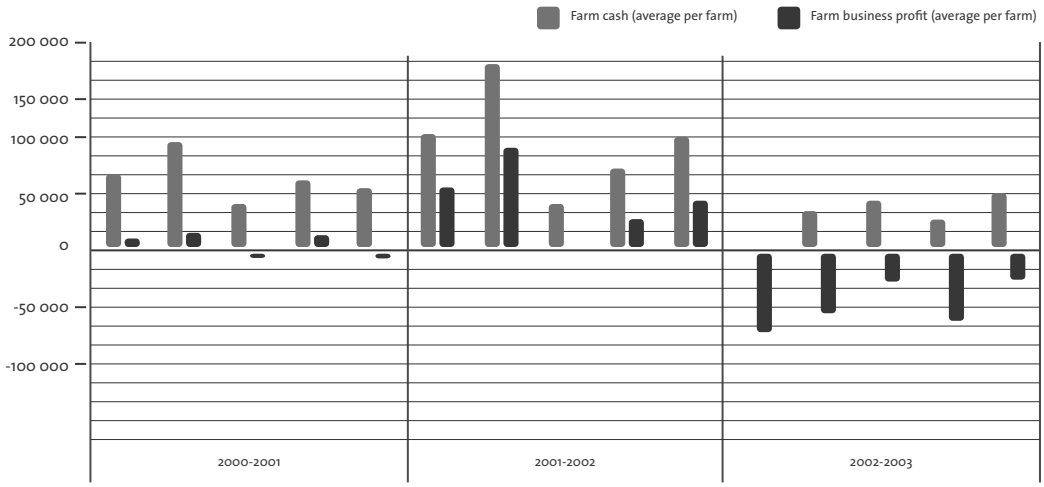
The Australian farm

The number of Australian farms decreased by two per cent in 2002-03, down by 2000 farms to 133,000 farms (ABS 2004c). The number of farming families has also decreased over time, from 150,000 farming families in 1986, to less than 135,000 in 2001-02 (ABS 2003b). Smaller farms decreased at the highest rate, while the number of larger farms increased. These figures are supported by remarks made by farmers during the fieldwork interviews. Some farmers commented that they owned more than one farm, and that the farms had tracts of land that were not necessarily contiguous. In particular, discussions focused on the difficulty of farm security in these situations and the concern that some farm residences were unoccupied.

The majority of farms in Australia (22,349 or 17 per cent) had an Estimated Value of Agricultural Operations (EVAO) of more than $22,500 or an EVAO of between $50,000 and $99,000 (21,990 or 17 per cent) (ABS 2004c). The significance of the agricultural industry on GDP has declined. While it contributed 30 per cent of Australia's GDP over 100 years ago, it now contributes only three per cent of Australia's GDP.

As indicated in Figure A5.1 below, 2002-03 was the first year in which the average dairy and broadacre farmer did not make a profit. This was due to the reduction of herd and flock sizes, the consumption of grain and fodder, and the sale of wool stocks. The drought has been a factor in this outcome. The agricultural sector has seen a gradual decline in employment. In 2002-03 the industry employed 322,000 Australians and contributed three per cent to Australia's employment, the lowest figure recorded from available data (ABARE 2003a).

Figure A6.1 Financial performance by farm industry[a]



a Includes only farms that had an Estimated Value of Agricultural Output (EVAO) of $22,500 or more.

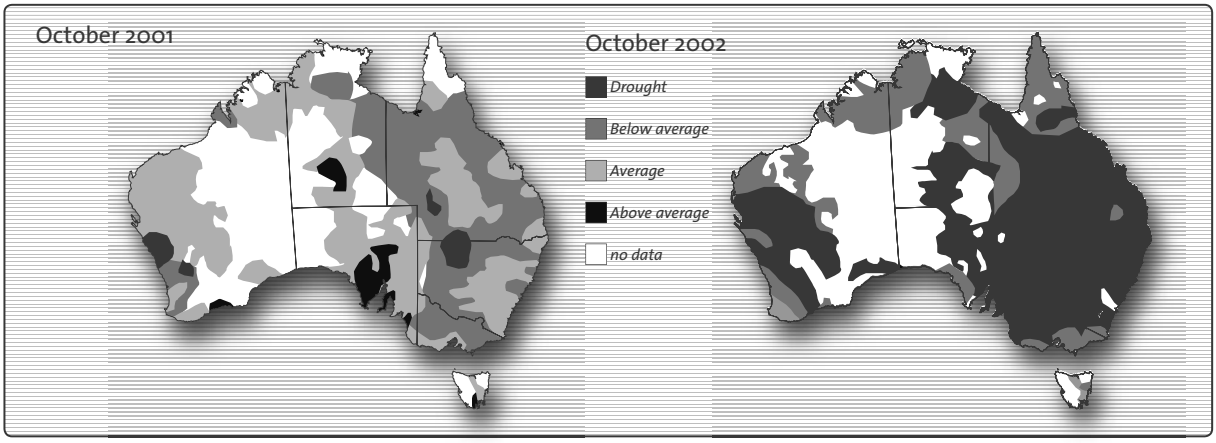
** Mixed farms are classified as mixed livestock and crop farms.*

Source: ABARE 2003, Australian Farm Surveys Report 2003, Canberra.

Drought

In 2002-03, Australia experienced its most widespread drought since 1982-83. The extent of the drought is indicated in Figure A6.2.

Figure A6.2 Drought conditions Australia, October 2001 and 2002



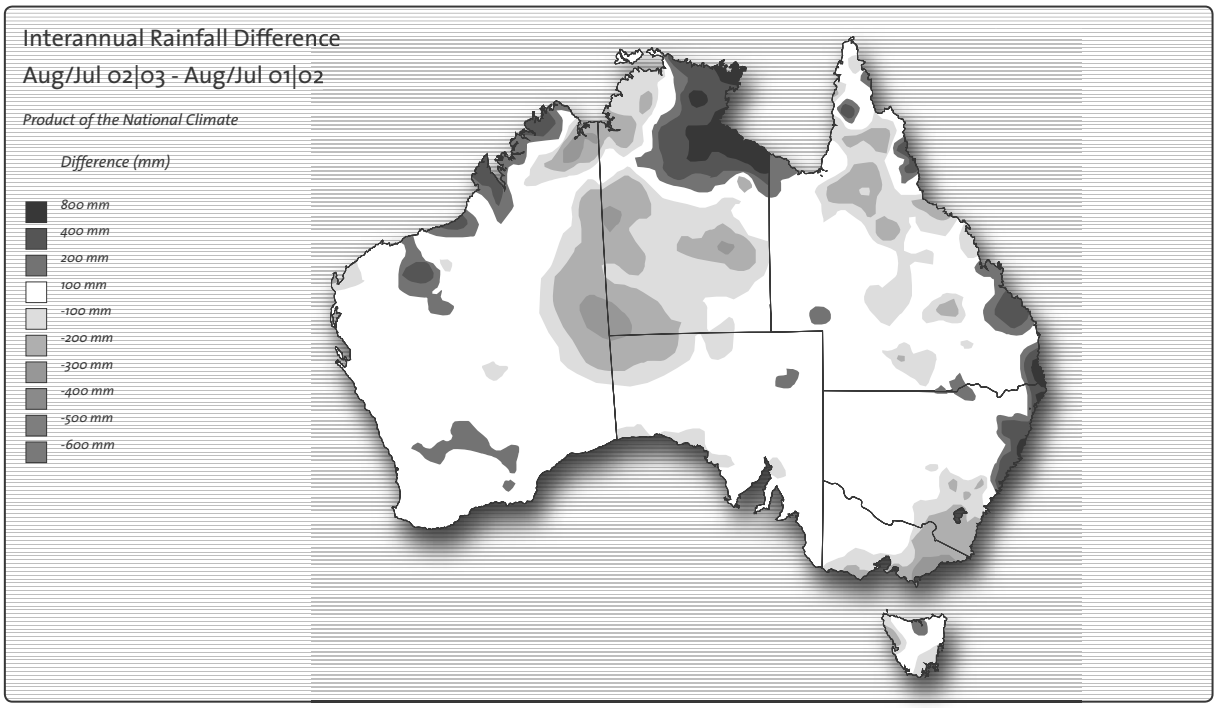
Source: ABARE 2003, Australian Farm Surveys Report 2003, Canberra

The effects of the drought were combined with the low availability of irrigation water in several key storage areas. The increase in irrigation use and declining rainfall over a number of years were key factors in the low irrigation water levels. As a result of the drought, the price of stock feed increased which made it more expensive to maintain large numbers of livestock. A proportion of farmers entered the drought with high levels of farm income from several years of good farming conditions and commodity prices (ABARE 2003b).

The drought has had a significant impact on the farming industry in recent years. In 2002-03 the production of winter grains has declined by 60 per cent from the 2001-02 levels (ABARE 2003b). The drought is estimated to have caused the decrease in the rate of Australia's 2002-03 economic growth by $7.0 billion (or one percentage point) from what would have been expected. At the local level, drought has resulted in a farmer's average farm cash income falling from a record of $73,200 in 2001-02 to $24,300 in 2002-03 (Allan 08.08.03).

Figure A6.3 shows the difference between the average rainfall in 2001-02 and 2002-03. Most of Australia has seen no change in average rainfall during the period measured. Areas in the south east of New South Wales and eastern Victoria experienced lower levels of rainfall than the previous year. A similar trend was experienced in North Queensland and most of the southern area of the Northern Territory. South-eastern Queensland and north-eastern New South Wales experienced higher levels of rainfall over the one-year period. Higher rainfall was also experienced in the coastal areas of the Kimberly and Arnhem Land in the Northern Territory.

Figure A6.3 Differences in rainfall from 2001-02 to 2002-03



Source: Commonwealth Bureau of Meteorology, 2004

Farming industries

Dairy industry

There are 11,135 dairy farms in Australia, the majority of which are located in Victoria (6696 farms or 60 per cent of all Australian dairy farms) (ABARE 2003c). The extensive drought conditions experienced in Australia's dairy regions was a major factor in the decline of over 80 per cent of this industry, the largest decrease in more than 25 years (ABARE 2003c). The number of dairy farms has fallen over the last decade by 20 per cent, yet milk production has increased by 60 per cent during this period. Furthermore, the number of milk cattle in Australia in 2001-02 has also decreased by 86,000 or three per cent from the previous year.

The number of milk cattle farms has also decreased by 14 per cent in the period 2001-02. The gradual decline in dairy numbers followed deregulation of the industry in 2000 and was combined with the dry conditions in some areas. Proportionally, Queensland saw the largest decrease in the number of dairy farms (down by 20 per cent), followed by New South Wales (down by 19 per cent) and Victoria (down by 11 per cent).

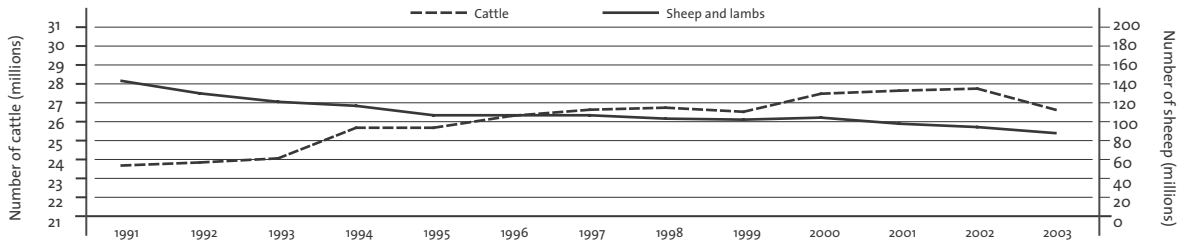
Cattle industry

According to the ABS, the number of beef cattle and calves in Australia has decreased slightly in 2002-03 to 23.6 million head (ABS 2004c). This is demonstrated in Figure A6.4:

- Queensland has the largest cattle stocks with 10.5 million head in 2002-03, a decrease of nine per cent from 2001-02;
- New South Wales had 5.4 million head of cattle in 2002-03, down four per cent from 2001-02;
- Victoria has 2.5 million head of cattle and South Australia with 1.2 million head of cattle, both states remaining stable from stock levels in 2001-02;

- The Northern Territory decreased its cattle levels to 1.7 million in 2002-03, down by six per cent; and
- The number of meat-cattle farms Australia-wide increased by six per cent in 2002-03.

Figure A6.4 Number of cattle and sheep in Australia, 1991-2003



Source: ABARE Farm Surveys, 2003 (1991-2002) & ABS Principal Agricultural Commodities Aust, 2004 Cat No. 7121.0 (2003)

Sheep industry

- The number of sheep farms in 2002-03 was 13,250. This is a decrease from 13,911 in 2001-02 (ABS 2004c);
- The majority of sheep farms are located in NSW (41 per cent or 5462 farms);
- The highest proportion of sheep farms in 2002-03 had an EVAO of $22,500 or less (18 per cent). Only four per cent of sheep farms recorded an EVAO of over $500,000 (ABS 2004c);
- Because of drought conditions, the average sheep farmer's cash income fell from $81,500 in 2001-02 to approximately $41,000 in 2002-03 (ABARE 2003d);
- Just over half of all sheep farms fall within the range of 500 hectares or less (51 per cent) (ABS 2004c); and
- As indicated in Figure A6.4, the number of sheep in Australia decreased by 40 per cent between 1991-2003. The current flock levels (99.3 million) are the lowest since 1946 (Hooper et al 2003).

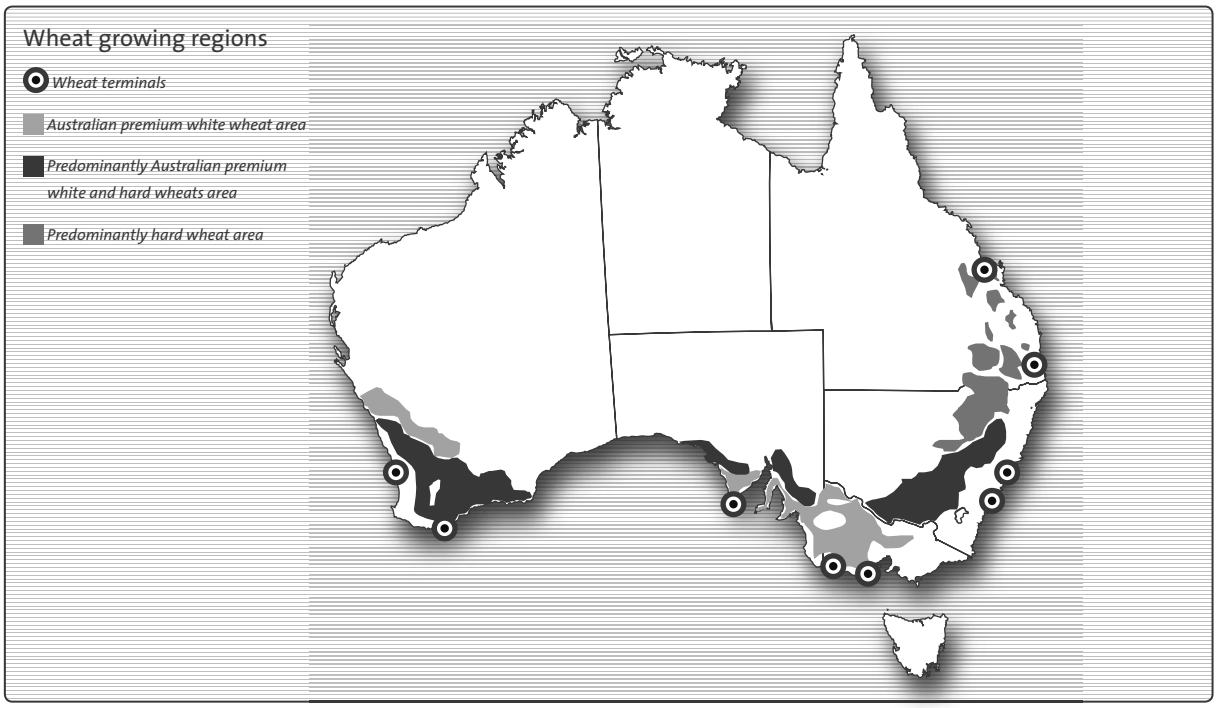
Crop industry

- According to ABARE, the 2002-03 cropping season was one of the worst recorded. Crop production decreased to 17 million tonnes, down from 39.3 million in 2001-02 (ABARE 2004). This was a result of the drought, as similar figures were recorded during the 1982-83 drought.

Wheat

- The total area of wheat planted has decreased five per cent in 2002-03 to 11 million hectares (Connell & Hogan 2003). Wheat production has also declined with 10.1 million tonnes being produced in 2002-03, down from 24.3 million tonne in the previous year. Wheat growing regions are indicated on Figure A6.5.

Figure A6.5 Australia's wheat growing regions



Source: ABARE 2004 Australian Crop Report.

Barley

- The area of barley planted in 2002-03 has remained stable. Planting increased in Western Australia, Victoria and South Australia, however it decreased in the remaining states. Barley production decreased by 55 per cent to 3.7 million tonnes in 2002-03 (Connell & Hogan 2003).

Oats

- The area dedicated the growing of oats increased in 2002-03 by 16 per cent to 906,000 hectares (Connell & Hogan 2003). However, oats production was down 33 per cent to 926,000 tonnes.

Rice

- In 2002-03, rice-growing areas in Australia decreased by 74 per cent from the previous year (Connell & Hogan 2003). Rice production also saw a marked decrease during 2002-2003, down 67 per cent to 391,000 tonnes. This significant decrease in rice growing areas and production is due to the limited availability of water during the year.

Canola

- Canola growing areas decreased by eight per cent to 1.2 million hectares in 2002-03 from the previous year (Connell & Hogan 2003). Canola cropping areas decreased in Western Australia, but increased slightly in all other states. Canola production in 2002-03 decreased by 53 per cent on the previous year. Production decreased in all states, with the highest decrease recorded in New South Wales.

Cotton lint

- The farming area dedicated to cotton has decreased by 51 per cent to 224,000 hectares in 2002-03 (Connell & Hogan 2003). Additionally, cotton lint production decreased by 43 per cent to 386,000 tonnes.

Horticulture

Oranges

- There was an increase in orange production of 33 per cent in 2002-03 compared to the previous year (ABS 2004c). Increases were reported in all regions and were largest in New South Wales, South Australia, Victoria the main growing states.

Apples

- In 2002-03, the number of apple trees in Australia was 10 million, a decrease of two per cent (ABS 2003c). The largest decreases were recorded in New South Wales and Victoria.
- Apple production decreased by two per cent in 2002-03 from the previous year to 314,000 tonnes. Apple production increased for Victoria and South Australia, however decreases were recorded in New South Wales.

Pears

- The total number of pear trees in Australia increased by eight per cent to two million (ABS 2003c). Victoria recorded an increase of 1.6 million trees, the highest pear tree growth recorded of any State (13 per cent). However, pear production decreased during 2002-03 by five per cent (or 139,600 tonnes).

Grapes

- In 2002-03, the total vine area decreased slightly to 157,492 hectares (0.4 per cent) from the previous year (ABS 2004b). The number of grapes harvested in 2002-03 decreased by 15 per cent to 1,496,939 tonnes.

Potatoes

- There was a decrease in the total area dedicated to potato growing (a decrease of five per cent or 2000 hectares) to 35,900 hectares (ABS 2004c). Decreases were seen in New South Wales, Tasmania and Victoria.
- Potato production was 1.2 million tonnes in 2002-03, a decrease of six per cent on the previous year (ABS 2004c). All states except Queensland saw decreases in potato production. Tasmania, New South Wales and Victoria were the main states with decreases in production.

Onions

- In 2002-03, the area dedicated to onion production was 5300 hectares, a decrease of five per cent on the previous year (ABS 2004c). Onion production decreased by 19 per cent during 2002-03 over the previous year to 229,000 tonnes. The reason for the decrease in production was due to lower prices and oversupply in the world market (ABS 2004c).

Tomatoes

- There was a decrease in 2002-03 (down 14 per cent to 7300 hectares) in the area allocated to tomato plants (2004c). The three main tomato growing states of Victoria, Queensland and New South Wales all recorded decreases in tomato growing areas. Total production decreased by 14 per cent (to 364,000 tonnes), with the largest decrease recorded in Victoria.

Conclusion

The number of farms in Australia is decreasing, with fewer smaller farms and an increase in larger farms. Fewer people are entering the farming sector, and the average farmer is getting older. There are fewer Australian farms and farm employees than at any other time. The current state of the farming industry and the impact of the recent drought have adversely affected many farmers. Farming production and area has decreased for most industries, placing a significant financial strain on farmers. All of these factors influence a farm's resistance to victimisation. For example, farmers may not be able to afford to repair damaged gates or fences, or implement livestock identification devices. This potentially leaves these farms vulnerable to crime.

On the other hand, farms that are not as badly affected by drought conditions or financial hardship may also be targeted because of the farm's capital (such as farming equipment, supplies, vehicles etc). For example, farms that can afford feed for cattle in drought areas may be targeted by other farmers who cannot. Previous research has found that the socio-economic make up of farms has been a significant predictor of farm crime (McCall 2003).

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