DEAKIN UNIVERSITY
FACULTY OF EDUCATION

CANDIDATE'S STATEMENT

I certify that the Research Paper entitled:

    Lifelong Learning for Farmers - the Changing World of Agriculture

and submitted for the degree of

    Master of Professional Education and Training

is the result of my own work, except where otherwise acknowledged, and that this Research Paper (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Approval to conduct the study was granted by the Deakin University Ethics Committee through the Faculty of Education Ethics Subcommittee.

Signed… ..............................................................

Date… [New Date]
Acknowledgements

I am very grateful to those who provided assistance, time, guidance and advice which facilitated in the completing of this paper. In particular I wish to thank the following.

All the participants who, so affably, volunteered to be interviewed.
Jennifer Angwin for helping me to frame my topic; for her patience, guidance, encouragement and enthusiasm towards my topic and her encouraging critical guidance when reviewing work in progress.
Merrily Beaumont for her constructive comments on the CD and for returning from overseas in time to cheerfully complete the final proof reading.
Caroline Graham, from Spencer TAFE, for her openness and generosity of time.
Andrew Hasting for the loan of photographs.
Ken McDermott for his contribution to the proof reading process.
Brett Schulz for the compilation of footage in the accompanying CD, his willingness to take footage on demand, his patience with my editing requests and the loan of photographs.
Hedley and Roma Schulz for the loan of photographs.
Meredith and Gregory Schulz for passing on agricultural publications they thought might be of interest - they were.
Meredith Temple-Smith. I am grateful for her critical advice, her cheerful support in reading and commenting on drafts of this paper and her very welcome grammatical suggestions.

Thanks also to Debbie Roberts (Workcover) and Janice Hyett (NRE) for their helpful and patient responses to my email enquiries to their organisations.
# Table of Contents

Cover Sheet ................................................................. i
Candidate’s Statement .................................................. ii
Acknowledgements ....................................................... iii
Table of Contents ......................................................... iv
Glossary ........................................................................ v - vii
List of Plates ................................................................... viii
Abstract ........................................................................ ix
Note to the Reader ........................................................ x
Chapter One ................................................................. Introduction  page 1
Chapter Two ................................................................. Literature Review  page 8
Chapter Three ............................................................... Methodological Issues  page 19
Chapter Four ................................................................. Findings  page 25
Chapter Five ................................................................. Discussion  page 50
Chapter Six ................................................................. Conclusion  page 77
References ...................................................................... page 90
Glossary

Abbreviations
AAA Agriculture - Advancing Australia
ABARE Australian Bureau of Agricultural Resource and Economics
AFFA Agriculture, Fisheries and Forestry - Australia
BAS Business Activity Statement
Chemcert Chemical Certification
CRCSLM Cooperative Research Centre for Soil and Land Management
CWA Country Women’s Association
DNRE Department of Natural Resources and the Environment
GPS Global Positioning System
GRDC Grains Research and Development Corporation
OH & S Occupational Health and Safety
QA Quality Assurance
RTO Registered Training Organisation
SCARM Standing Committee on Agriculture and Resource Management
SES State Emergency Service
TAFE Technical and Further Education
VFF Victorian Farmer’s Federation

Terminology
Agronomist: A person employed by an organisation to offer specialist advice regarding cultivation of land, soil management and crop product. The person may have completed a tertiary course such as a Bachelor of Agricultural Science prior to employment as an agronomist.

Agronomy: The science of cultivation of land, soil management, and crop production.

Band sowing: A process by which fertiliser is laid on top or underneath the seed during the seeding process.
Broadacre farming: Farming that is carried out on many acres (i.e. not intensive).

Some examples of broadacre farming are:
- growing wheat, barley and other crops
- sheep
- beef cattle

Broadacre farming may also include combinations of the above.

Bulk Handling: Transferring grain in large, unbagged quantities.

Burning Off: The practice of controlled burning of stubble paddocks.

Chaser bin: A large, wheeled, open-topped grain bin pulled by a tractor. The chaser bin has the ability to unload grain into another bin via an auger. The chaser bin is driven beside a grain harvester while it is reaping, and the grain from the harvester is transferred to the chaser bin without the need for the harvester to stop.

Conventional Tillage: Full soil disturbance, a number of times, to kill weeds prior to sowing crop seed.

Fallowing: The practice of leaving ploughed land unseeded.

Legume: A category of plants that create nodules of nitrogen on their root systems which subsequently release the nitrogen into the soil.

Minimum Tillage: Reduced conventional tillage prior to sowing crop seed. Chemicals are used for weed control.

On farm Activities or business carried out on the farm, relating to the core business of farming.

Off farm Activities or business carried out away from the farm, not related to the core business of farming.

Pulse: A legume grown for human consumption.

Share farming: An agreement between the owner of land and a second party who provides both the machinery and the labour for farming the land. The resultant income is shared on an agreed basis.

Stubble: The remaining stalk residue after a crop has been harvested of grain.
Super phosphate: The name given to a phosphorus rich soil which is used as a fertilizer.

The Waite: An agricultural research institute located in South Australia
List of Plates

Cover Sheet

Starting from top left corner in clockwise direction:

John Deere tractor pulling slasher - circa 2000. (Photograph taken by B.G. Schulz)
Self propelled harvester - circa 1940s. (Photograph supplied from the collection of A. Hasting)
Aerial Spraying of weeds - circa 2000. (Photograph taken by B.G. Schulz)
Crawler tractor pulling combine seeder - circa 1950s. (Photograph supplied from the collection of A. Hasting)

Chapter One

1.1 Horse pulled harvester from the 1940s. (Reproduced from the ‘Family History of J.W. Helbig 1830-1979’)
1.2 John Deere harvester - 2000. (Photograph taken by C.R. Schulz)
1.3 Shearing - 2000. (Photograph taken by C.R. Schulz)

Chapter Two

2.1 Australian Agricultural Zones. (Reproduced from ABARE farmstats September 2000)

Chapter Five

5.1 Diversification on farms provides unusual visual juxtapositions. (Photograph taken by C.R. Schulz)
5.2 Burning off stubble. (Photograph taken by C.R. Schulz)
5.3 Snails ruin and contaminate crops. (Photograph taken by C.R. Schulz)
5.4 Removing snails from grain is an intensive process. (Photograph taken by C.R. Schulz)
5.5 Country isolation doesn’t mean isolated from learning. (Photograph taken by C.R. Schulz)
5.6 Field days provide a great source of communal information. (Photograph taken by B.G. Schulz)
5.7 Carting bagged grain to a grain stack (late 1940s). (Photograph from the collection of A. Hasting)
5.8 Trucks with bulk bins now cart to large silos. (Photograph taken by C.R. Schulz)
Abstract

Farmers are often perceived as ill educated and portrayed as bumbling, unskilled, labourers. That farmers are business managers is a fact often overlooked and ignored. Agriculture is a major industry in Australia with roughly a fifth of exports in the 1999-2000 period being attributable to the rural sector. Farming is a business and the farmer is a manager of that business. Like managers of all businesses, farmers need to embrace new technology and review their business practices to remain competitive. Any change to business practices requires adaptation of previously learnt skills, education in new technology and training in new systems. Farmers manage unique businesses, which must react swiftly to economic down turns or up swings to stay viable. Not only does the Australian economy have an impact on farming, economies of overseas nations, who either provide markets for Australian agricultural products or are sources from whom we buy agricultural equipment, are also significant. Farmers must understand the intricacies of export markets, futures trading, share markets and global politics. Farmers are often living and working in isolated locations where the opportunities for professional development are limited. Yet they seem able to acquire knowledge and successfully apply it, with the result that agriculture is a growing and vigorous industry. In this paper I wish to acknowledge the unique learning environment of farmers by exploring their relationship with lifelong learning.
Note to the reader

According to McTaggart (1998) context is an important part of interpreting research and McLaren (1989 p. ix) says that events 'never speak for themselves'. We must consider the eddies of culture, emotion, personality, environment and related issues that either create events or are needed as a reference point to decipher them.

To assist the reader in understanding the context of my paper, I asked a nephew to make a short movie of some farming activities. The movie has been transferred onto the CD accompanying this paper. The footage used in the movie was taken by various family members over the last fifty or so years. The aims of the CD are to familiarise the viewer with some of the machinery and situations that might be found on a broadacre farm and to highlight the changes in machinery that have taken place over the last half of the 20th century. I recommend that you view the CD prior to reading the paper.

The CD runs for just over 12 minutes. It can be played using MS Windows media player or equivalent. It is best viewed at ‘100%’ resolution, any bigger and some quality of viewing may be lost. However, depending on the size and speed of your computer it may work well in a larger viewing mode. I hope you enjoy it.

The video is submitted as background information and is not for examination. It remains my personal property.
Chapter One

Prologue

'My back is buggered' says the old man, as he looks for somewhere out of the way to sit. His bones are wearied by years of physical work. He smokes a cigarette and watches his son skillfully manoeuvring a tractor around the shed floor, picking up huge and heavy bales of wool with the fork lift. His grandson, using a bale hook, positions the bales, using the smooth floor to spin them into position so the fork lift can lift them and move them onto the waiting semi-trailer. The carrier bloke is moving lithely about the top of bales already loaded on the truck, positioning the bales so that weight and load are safely distributed. The old man remembers the carrier's parents, both gone at a relatively young age, one to a stroke, one to cancer; the carrier and his brother turning into men quickly and taking over the carrier business. The old man remembers a different, smaller, tractor whizzing around the shed floor pulling a bag of grain over a layer of kerosene, sawdust and candle wax; laughing kids and determined adults hanging on to the bag of grain, as it polished the same floor in readiness for barn dances long over. The shed floor has held dusty machinery waiting for its season of use, sheep ready to be shorn, workmen camping down, kids playing, a wedding reception, 21sts, business meetings and arguments. More recently, a generation of laughing school children have travelled to this farm from their city school to partake in a tree growing project with the current farming family; a tree growing project that replaces the trees that previous generations so laboriously cleared to enable the land to be cropped.

Introduction

Farming has traditionally been a generational process, a handing down of knowledge from father to son. Learning has occurred by either word of mouth or observation. Farmers have learnt and got on with the business of farming, with or without formal agricultural training, or even education, for many years. They live and work in isolation from capital city facilities. How do they learn? Is the passing of information from father to son enough? Are daughters choosing or being allowed to choose a life on the land? Have new technologies changed the way that farmers run their farms? Do farmers access formal agricultural training? Where and how do they access this training? Is the way 'that Dad did it' good enough for the current generation of farmers? This paper addresses some of these issues.

In this paper I propose to explore and discuss the relationship between farmers and lifelong learning in the changing world of agriculture. The basis for the discussion will

---

1 This narrative draws on information gathered from formal and informal discussions while researching my paper.
be the viewpoints and observations from representatives of three different generations of farmers.

This paper has the following aims:

• to explore the development and change in farming practices during the past sixty years,
• to determine how farmers learn given their rural isolation,
• to examine the relationship between the principles of adult learning and farmers’ lifelong learning,
• to determine the impact of technology on lifelong learning for farmers,
• to investigate farmers’ access to and acceptance of accredited training, and
• to explore the changing role of women on farms.

Background

The last sixty years or so has seen a huge change in the technology that farmers use to assist them in the farming process. In the 1940s much farm equipment was still being pulled by horses, although tractors were not unknown on farms in the 1920s (Heinrich 1972). The number of horses a farmer owned depended on the prosperity of the farmer and they were diligently cared for as they represented the backbone of the farmer’s livelihood.

PHOTO 1.1 Horse pulled harvester. (Taken during the 1940s).

Farmers are now able to purchase state-of-the-art machinery fitted with air conditioned cabins that contain computers that control and monitor the performance of the equipment. The driver is able to access read outs on information such as the depth and
rate of seed-sowing or the quantity of grain harvested per hectare. Equipment might range in price from $100,000 for a tractor, to somewhere over $300,000 for a grain harvester. Farmers maximise returns on such large capital outlays by sub-contracting themselves and their equipment when not required for their own usage.

While high technology equipment may facilitate the process of farming, the soil is still the foundation of agricultural farming. Sustainable agricultural practices have become an important focus, with farmers seeking information about environmental issues, caring for the soil, and learning about plant health (Cooperative Research Centre for Soil & Land Management n.d.). Although farmers may be adapting to new technologies, the perception of farming and farmers by non farmers is still often a caricature. A recent survey by the Victorian Farmers Federation (VFF) reported that when drawing pictures of farmers, school children drew men in wide brimmed hats, wearing overalls with wisps of straw between their teeth (Cardile 2000). In the preface to Milliken (1992, p. vi) Les Murray writes that as 'one moves into the up-market media, the caricatures become coarser and more antiquated, stylised into the hero-and-bogeyman figures of ideology'. We rely on farmers for the production of many foodstuffs which provide the foundation for our diet, such as meat and flour. Yet there tends to be an ignorance of the people within the agricultural industries who produce these commodities and a disregard of the knowledge that must be employed for production to take place. Not all successful business managers wear suits and ties, this paper intends to enhance the profile of farmers by showing that they are business professionals, well informed about available
Lifelong Learning for Farmers - the Changing World of Agriculture

technology. The paper will also discuss how technology has impacted on farming practices.

Farmers have traditionally been male, with farms being handed down from father to son. (Gibson, Baxter & Kingston 1990; Alston 1990; Dempsey 1992). There was a time when potential farmers were deemed not to need formal education or to even have performed well at school (Lake 1987). Farming was learnt from the previous generation by working side by side with them. Regardless of geographical location, there are now many opportunities for education and training, and farmers are encouraged to undertake learning opportunities. Rural schools might provide agricultural courses in their curriculum. Tertiary agricultural institutions offer courses both to school leavers wishing to pursue a career in agriculture and to adults who may have already been farming for some years. TAFE institutes offer on and off farm training. Agricultural organisations support farmers by providing training in the use and application of information technology, producing such initiatives as ‘AgSA 2000’. Federal and State governments have joined to provide farmers with financial support to assist in learning activities by establishing programs such as ‘FarmBis’. Commercial organisations have developed Internet sites such as ‘The Farmshed’ which provide both information and commercial services. This paper intends to explore the relationship between farmers as adult learners and their attitudes to formal and informal training.

Women have always been involved in agriculture although, in the past, the importance of their contribution has not generally been acknowledged (Gibson, Baxter & Kingston 1990; Gooday 1995; Alston 1990; Williams 1992; Lake 1987). It is not just women from farming families who remain unacknowledged. During World War II young women volunteered to work in a rural labour force known as the Australian Women’s Land Army so that men could be released to fight overseas. The Land Army contributed to keeping rural Australia functioning during the war years, enabling vital food supplies to be available to feed overseas troops as well as the civilian populations of Britain and Australia. However there remains a perception by those involved that this remains historically unrecognised (Hardisty 1990). In the past the role of women on farms has been to complete domestic duties, raise children, maintain vegetable gardens and tend
poultry, cows and pigs; this being deemed 'women's work'. The role of women in
agriculture is changing. While women in agriculture might be seeking qualifications,
expanding their roles and demanding recognition of their contribution, there is also a
social perception and expectation that puts increasing pressure on the women to modify
their roles whether or not they choose to. This will be further discussed in Chapters Two
and Five.

On the other hand some things don't change very much. I overheard in a shearing shed
one shearer comment ruefully, 'no matter what they do to the [shearing] hand piece
you've still got to push the damn thing'. Shearing has experienced minimal change.
Wider combs, the introduction of a ball bearing joint instead of an oil joint in the shearing
arm (which requires less maintenance) and a shearing harness to relieve the pressure on
shearers' backs are some of the few ways in which shearing has been upgraded.
However, it remains a very physical task.

PHOTO 1.3 Shearing (2000). Although, as little has changed, this image could easily
reflect shearing in previous decades.

There are many types of agriculture, for example sugar cane, market gardening, fruit,
poultry, dairy farming etc. This paper does not attempt to represent the entire farming
community. The participants in this study were predominantly involved in the broadacre
farming of sheep and/or grain crops. Most of them live in an area about two and a half
hours away from a major city, on land that is regarded as good farming country. The isolation factor is therefore not as extreme as those farmers living thousands of miles from capital cities and dealing with demanding, unreliable weather conditions. To protect the identity of the participants, I am unable to specify the area or even offer detailed historical data which may subsequently identify the area, suffice to say that the area was settled about one hundred and fifty years ago. It was not only settled for the purpose of farming, there was also interest in the area’s potential for mining. European settlement and the subsequent activities of mining and farming greatly disrupted the aboriginal population who were the original residents of the area. Various church bodies eventually arranged that the aboriginal population reside in a fixed settlement. The land designated for the aboriginal settlement was neither vast nor did it consist of prime land, the white settlers being careful to keep the best land for themselves. While at first the white population used the land predominantly for grazing purposes, gradually sheep farmers had to make way for farmers wishing to grow crops such as wheat and barley. For those who wished to commence cereal farming in the area, the first task was to clear the land of trees and other vegetation, which they may have done using bullock teams. They dug dams as the area did not have any natural and permanent water supply. Rainfall was an ongoing concern. It was many years before pipelines brought a constant supply of water to the area. The settlers fenced the land and dealt with introduced pests such as rabbits and foxes and also with damage from native animals such as kangaroos. They cropped, in the manner of their time, without regard to putting back nutrients taken from the soil. Gradually communities were established, towns grew and the area prospered. By the time the oldest of the participants in this study was born, it was an established, reliable farming community (Reference withheld).

This paper uses the viewpoints of members of three generations as a basis for discussion. The first generation was born around the 1920s, the second in the 1950s and the third roughly during the 1980s. The first generation especially has experienced a huge change during their life times in the way that things are done. Profiling these three generations provides a wonderful opportunity for insight into a profession that is so very important to Australia’s economy. Significantly, the majority of farming knowledge has traditionally been passed informally between generations by word of mouth, as opposed
to being obtained formally in institutions. This paper intends to explore and discuss the uniqueness of lifelong learning for farmers.

A literature review of associated topics and issues is given in Chapter Two. The research process is explained in Chapter Three. Chapter Four contains profiles on the participants and extracts from conversations. Chapter Five provides discussion on the data and concluding statements are to be found in Chapter Six.

**Scope of this paper**

I recognise the limitations of this research paper. The limitations of both the paper and the findings are discussed further in Chapter Six. However, it should be noted here that this paper is concerned with the relationship between farmers and learning. It makes no attempt to deal with some of the tough issues that face rural communities such as the relationship between new technology and rural suicide, the impact of marriage break-up on the future of generational farmers, or why farmers leave agriculture. It does not deal with the financial aspects of farming, the complexities of multi-generational farming families or the impact of technology on local demographics and subsequent social implications. Neither does it explore what is happening to those farmers who are unable to cope with the introduction of new technology or who are unable to understand global marketing, shares, commodities and forward selling in relationship to their businesses. This paper does not claim to be exhaustive in discussion of issues specified in the aims as it is, of necessity, limited by the recommended word length.
Chapter Two

I love a sunburnt country,
A land of sweeping plains,
Of ragged mountain ranges,
Of droughts and flooding rains;
I love her far horizons,
I love her jewel-sea,
Her beauty and her terror -
The wide brown land for me.

(From 'My Country' by Dorothea Mackellar)

Literature review

Introduction

In this chapter I intend to briefly discuss literature related to the following topics:

- Generation and Gender
- Adult Learning
- Technology
- Geographical Isolation of Farmers
- Farmers and Training
- Farming Practices
- Women on the Land

These topics will provide a contextual framework for the study as well as to lay the foundations for discussion (see Chapter Five) that explores and examines the data.

There was much literature available recognising the rural face of Australia. Many authors had self published so that oral histories would not be lost with the passing generations. Government organisations such as the Australian Bureau of Agricultural Resource Economics (ABARE) publish the results of ongoing research projects that collect facts and figures from farmers on various facets of agriculture. There was also literature pertaining to research into agricultural development, however little literature examined the relationship between farmers and learning.

Generation and Gender

Historically, some employment roles have changed in relation to both the perception of
the gender that should perform them and the status the role might claim. For example, early this century insurance clerical work was seen as a job of high status for males. A transition occurred whereby women took over the same tasks and subsequently the perceived status was lowered. The introduction of the typewriter was seen as a contributing factor as its operation was viewed as women's work (Collison and Knights 1986). During the 1980s there was another shift in perception when computer studies, the operation of which requires keyboard skills, were seen in schools as male subjects (Bostock, Seifert & McArdle 1987). During war time a shortage of men resulted in women being trained and employed in previously male dominated occupations, although this was done reluctantly, as there existed a perception that males would be precluded from returning to areas of work previously dominated by them (Cockburn 1983). Fraser (1938) writes of a situation in 1838 when male shearers were scarce in South Australia. Immigrants were contracted for the work. Young German women, using awkward hand shears, shore the sheep which were caught and brought to them by men. Nowadays there are few women shearing and it is still regarded as a physically demanding job; many men balk at undertaking it.

**Adult Learning**

Adult education has been intrinsic to all civilisations for passing on of traditional information, however, the establishment of the first adult school only occurred as recently as 1798 at Nottingham, England as a venue for teaching adults to read the Bible (Peers 1958). Research and documentation about the relationship between adults and learning has also only been fairly recent with information being gleaned from work that took place in the first half of the twentieth century by firstly, educational psychologists and subsequently, developmental psychologists (Merriam 1993).

Adults cannot help but learn throughout their lives. Marsick and Watkins (1990) write of three types of learning: formal, informal and incidental. Formal learning is normally structured and directed by an institution. Informal learning (which can include incidental learning) is normally directed by the learner themselves. Informal learning sources may, but not necessarily, include institutions. Other sources might include magazines, conversations with subject matter experts, videos, or self-help groups (Caffarella 1993).
Incidental learning is a by-product of informal learning, normally taking place in everyday experience, although the adult is not always aware they have absorbed information and learning (Marsick and Watkins 1990).

Caffarella (1993, p.30) cites four variables that affect whether adults may choose to be self directed in a learning context. These are: ‘their level of technical skills, their familiarity with the subject matter, their sense of personal competence as learners, and the context of the learning event’. If adults feel confident and already partly knowledgeable, they will be more inclined to take initiative in the education process than if they feel overwhelmed by the subject or topic. Their past academic success (or lack of this) will also have a bearing on their confidence in their ability to direct the learning experience. The circumstances of the learning event are also important. If they are similar to a previous learning experience, e.g. same institution, as long as the previous experience was positive or comfortable, the learner should gain confidence from that. If the previous experience was negative or traumatic, the learner could lack confidence and be more inclined to seek help in directing the learning experience (Caffarella 1993).

When adults choose to undertake formal or informal learning it normally reflects they are open to learning and receiving information. Adult learning is then processed with reference to the adult’s own experience, observations and self-concepts. Lindemann (1926, p 171) writes that the learning experience is very important in adult education by saying ‘our lives are successive valuations of experience’. Experience is a result of both informal and incidental learning taking place. Once adults have chosen to learn they become self directed rather than teacher directed learners (Merriam 1993; Knowles 1980; Darkenwald and Merriam 1982). However, often adults require teacher directed learning until they have enough knowledge about the topic to commence directing their own learning (Merriam 1993). Even though adults are naturally self directed there are situations and times in their lives when they do not initiate the learning process or when they require to be dependent in the learning process and need support, guidance or direction from an adult educator (Caffarella 1993).
The elements of the adult learning process described by Knowles (1984) include the following:

- that individuals should be involved in the planning of their learning,
- the right climate is required for learning to flourish,
- that participants diagnose their own needs from the process,
- that individuals formulate their own goals and plans to reach those goals, and
- that individuals carry out the learning plan and subsequently follow up with self evaluation.

Utilising an adult's inclination towards self directed learning has become incorporated into formal learning situations to more effectively support the learning process (Caffarella 1993).

**Technology**

For discussion of the impact of technology on farming it is useful to consider the perspective of Franklin (1992, p.13) who says that technology is 'an agent of power and control' and also of 'change'. Mackay (1999) also believes that technology controls us rather than us controlling technology and this is reflected in changing work practices in all industries, not only on farms.

Ginnivan and Lees (1991, p.1) argue that

> Australian farmers are faced with continual pressures to improve their management, technology use and economics of scale in order to maintain a viable farming business and an acceptable standard of living.

This statement reinforces Franklin's perception of technology as a control agent and makes her argument applicable to the rural sector.

In her discussion Franklin (1992) distinguishes between holistic and prescriptive technologies. Craftsmen e.g. potters are representative of those involved in holistic technologies as they are involved in the creative process from beginning to end and make decisions as they are required (sensed). Prescriptive technology, on the other hand, specifies production methods. The discipline, planning and organisation are all predetermined by others. The positive aspect of prescriptive technology is that it enhances efficiency and effectiveness, the negative aspect is we have become conditioned to 'accept that there is only one way of doing 'it’' (Franklin 1992, p.24).
Salmon (1981) using the work of Jones (1970) as a comparison draws an analogy between a craftsman and a farmer, including among his reasons for doing so that farmers often are unable to articulate exactly why they have done something, and that farming is a constant process of experimentation. This makes for an interesting juxtaposition of the holistic and prescriptive aspects of farming.

Technology controls us, whether we know it or not (Franklin 1992; Mackay 1999). The changes in technology cause us to behave in different ways, we might email when we could have written and posted a letter. Just because technology exists should not mean that we have to use it. In fact Franklin (1992, p.76) questions whether technology is designed for people. She sees technology as being designed for itself, not for the interest of human development. Her perspective of the relationship between people and technology is that ‘People are seen as sources of problems while technology is seen as a source of solutions’.

Franklin (1992) believes technology not only includes the equipment we have developed, but also the practices which result from the equipment that we use. Both of these factors have contributed to a need for more vocational training to compensate for the reduced availability of unskilled job opportunities. This employment situation is itself due to the increase in the complexities of work skills resulting from the utilisation of new or changed technologies (Harris et al. 1995).

**Geographical Isolation of Farmers**

I found no literature that discussed the challenges of learning in isolation. However it should be considered that not only are farmers sometimes geographically isolated, they are often isolated from institutions or others from whom they could learn. Isolation can also occur to minorities. According to Stayner and Lees (1995) in 1990/1991 there were about 82,000 broadacre farm households in Australia. By 1994/1995 this number had declined to 70,550 (Garnaut and Lim-Applegate 1998). This discussion predominantly focuses on the wheat/sheep zone, shown in the diagram below as a grey shaded area. There are 54,000 farms in this area.
The decrease from 1990/92 to 1994/95 in the number of farm households is due to the number of farmers leaving agriculture. Land is often bought by neighbours thus further decreasing the number of farms although maintaining the land area being farmed (Garnaut and Lim-Applegate 1998). To have so few farms in such a large area means that there is an increased distance between farming businesses and a reduced pool of others from whom to learn. Only a small percentage of the population of Australia is represented in what might be seen as a large area and thus, numerically, farmers become isolated. Farmers are a group of people on whom we depend to contribute to the food production and exports of this country and, although a minority, they represent a significant financial sector of the overall Australian economy.

Farmers and Training

In 1981 Salmon (1981, p.26) wrote that there was a 'hostility of present farmers to farm management training'. He suggested two reasons for this, one being that farmers may believe they are already doing the best they can and the other being that farmers did not recognise that a period of great management systems change necessitated the learning of new skills to adapt to the change. He placed the onus on educators to 'salvage existing knowledge and integrate it with modern technology and financial knowledge which will be so necessary for farm management of the future'. However he did predict that while older farmers saw experience as the best teacher, 'younger farmers see a vital role for management training in order to cope with the highly mechanised, large multi-enterprise type farming of the future' (Salmon 1981, p.25). Salmon also wrote that current trends indicated that farmers were rejecting specialist advice. I located no literature that
reflected farmers' current attitudes to management training or specialist advice, however
discussion in Chapter Five includes the opinions from participants regarding such training
and advice. I have also included the content of a conversation with a Manager of Primary
Industries Training at a rural TAFE institute. Many opportunities currently exist to
participate in management training, using such initiatives as the Federal Government
funded ‘Agriculture - Advancing Australia (AAA) (Agriculture, Fisheries and Forestry -
Australia 2000).

Training institutions
Women were excluded from most agricultural education facilities until about 20 years
ago (Williams 1992). Now, ‘about 24 institutions provide agricultural and related
education at over 30 campuses across Australia’ (Review of Agricultural and Related
Education 1990, p.21) and provide formal training for both male and female farmers with
flexible delivery options available. Agricultural training may commence during high
school at establishments such as Urrbrae Agricultural High School (SA) or be
undertaken at post secondary institutions such as Roseworthy Agricultural College (SA)
and Marcus Oldham College (VIC). TAFE institutes in rural communities also provide
courses and may tailor them according to the needs of the students. Courses at training
institutions are available for both school leavers and those of mature age. However it
should be noted that a relationship has been identified between the lack of community
understanding of the significance of agriculture economically; and a lack of student
demand for agricultural related courses (Review of Agricultural and Related Education
1990).

Farming Practices
In this paper, farming practices are not intended to be interpreted as the specific tasks
associated with farming, but rather as an attitudinal approach to farming. The following
is a sample of some of the issues identified in the literature.

Regarding Looking after the Land
Reeve and Black (1993) conducted a survey to identify farmers’ attitudes to
environmental issues. While their survey is ‘representative of the membership of the
major farmer organisations’ - people who if keen enough to become a member, must have some consideration for how they go about their business - it does not necessarily represent other unknown numbers of farmers (Reeve and Black 1993, p. v). Reeve and Black (1993, p. v) believe their findings to be representative of the ‘attitudes of operators of large, fully commercial properties, from which the bulk of Australia’s rural produce comes’. The survey included the following: that the majority of farmers voiced concern over the use of chemicals, recommended using satellite technology to monitor land degradation, wanted education available about the environmental ramifications of some farming practices and supported the provision of government financial packages to encourage good land care practices.

Some farmers have tree planting programs as a result of their own initiative, while other farmers might take advantage of government tree planting promotional programs and policies. The reasons for such tree planting programs are the long term benefits such as shelter for stock, reduction in soil erosion, increased crop yield in adjacent paddocks, management of high water tables and conservation of native plants and wildlife (Wilson et al. 1995).

Regarding the role of children on farms
Children have always been a source of predominantly unpaid labour on farms. In Lake’s (1987, p.143) account of soldier settlement in Victoria she writes that the farmers ‘were expected to use the labour of their families’. The regular reports of the Closer Settlement Board district inspectors included questions seeking information on the extent that children assisted on the farm and challenged the necessity of instances where paid labour had been used. We are not told how the children perceived this use of their services. I found anecdotal evidence to indicate that many children of farming families during the 1930s and 1940s often left school very early (at or near the end of primary school) to work, unpaid, on the family farm.

Women on the land
Gibson, Baxter and Kingston (1990), Williams (1992) and Alston (1990) state that there is very little literature that has researched the unique challenges that rural women face.
Gibson, Baxter and Kingston (1990, p.16) argued ‘women’s labour was not so much undervalued, as invisible’. They write that farm women work for wages off farms and provide labouring on farm while also undertaking volunteer commitments, community work, domestic work and child rearing duties. Work by others (Lawrence 1987; Masson 1986; Poiner 1979; and James 1982) suggests that ‘women’s paid and unpaid labour is likely to be crucial in maintaining the family income, particularly that of family farms in periods of economic recession’ (Gibson, Baxter & Kingston 1990, p.15). Alston (1990) agrees that the contribution of women allows farms to stay economically viable. In Gibson, Baxter and Kingston’s (1990) study of the paid and unpaid work of rural women, they interviewed farm women and found that generally the women did not consider their title to be ‘farmer’. The women tended to consider their contribution as one of ‘helping out’ regardless of the length of time they spent each day ‘helping out’. This tends to confirm Jean Tom’s (Member National Women’s Consultative Council and Immediate Past National President of the CWA of Australia) view in the Foreword to Williams (1992) that women themselves are unaware of their own contribution.

Gibson, Baxter and Kingston (1990, p.21) indicate that while women tended to help husbands, community, friends and neighbours as well completing their own tasks, men ‘provided limited help in the family and domestic sphere, and were rarely involved in any other of their wives’ activities’. Alston (1990) says that while women might complete work that is defined as ‘male’, males are not completing work that is defined as ‘female’.

Farms are still mainly handed down to sons, apparently both men and women tend to see this as appropriate (Gibson, Baxter & Kingston 1990; Alston 1990; Dempsey 1992). Both men and women might direct disparaging comments at a farm run by a woman. (Gibson, Baxter & Kingston 1990). The reason for such a surprising display of attitude may be as Epstein (1989, p.217) suggests

... people cling to certain designations because their identities are at risk, or because they are embedded in a belief system that convinces them these distinctions are natural and normal or God-given or devil-driven. Such convictions may be held by both those who are served by the distinction and those who are not.

Dempsey (1990) and Jarvis (1987) agree that attitudes are perpetuated by both males and females. Jarvis (1987, p.75) writes
Feminists point out how males have traditionally defined the social situation for women, so that they have learned to define it for themselves in precisely the same way as do men, but that they now have to free themselves of this approach and learn to define it from a woman’s position.

Alston (1990) agrees that the value of work done by rural women is undervalued. There is still a perception that a ‘farmer’ is a ‘male’ (Alston 1990; Williams 1992). Williams (1992) questions the statistical documentation of farm women’s work, believing it to have been inadequate in the past. Lake (1987) believes that the statistical devaluing of women’s farm work has a historical start in the late nineteenth century when it was decided that it didn’t reflect well on Australia to admit the extent of the involvement of women in our agricultural industries. She says:

In formulating census categories, it had been decided not to classify farmers’ wives as ‘engaged in agricultural pursuits’ (though it was recognized they mainly were) because that would create the unfortunate ‘impression elsewhere that women were in the habit of working in the fields as they are in some of the older countries of the world, but certainly not in Australia’. (Lake 1987, p.179 citing Census 1891. Victoria Parliamentary Papers 1893, Vol.3, no.9, p.192)

This certainly goes a long way towards explaining why Alston (1990) Williams (1992) and Gibson, Baxter and Kingston (1990) consider women’s farm work to be invisible.

The omission of statistical data on the role of women in agriculture is recognised in Gooday’s (1995) work which was the start of ABARE examining the role of women in agriculture. Brian Fisher the Executive Director of ABARE writes in Gooday’s (1995, p. iii) work of ‘the need to increase the visibility of farm women’s work through statistical analysis of data’. The Standing Committee on Agriculture and Resource Management (SCARM) also recognises that women’s work is invisible and a consequence is that policy makers ignore the effects their policies may have on agricultural women. Subsequently in its National Plan for Women in Agriculture and Resource Management, the vision is ‘To achieve profitable and innovative agricultural industries and sustainable resource management and vibrant rural communities, by realising the full potential of women’ (SCARM 1998 p.3)

**Conclusion**

The purpose of this literature review has been to lay foundations for contextualising the information related in Chapter Four and discussed in Chapter Five. In this chapter I have indicated that a variety of factors influence farmers’ lifelong learning. Although formal
education in agriculture is available, much knowledge is handed down. The introduction of new technologies has impacted on farming as it has on many other industries. The isolation of farmers has as much to do with dwindling numbers of farmers as it does with geographical location. The invisibility of women in agriculture is not due to their lack of participation, rather it originated from a government decision not to record and acknowledge their participation in rural industries.
Chapter Three

The tragic ring-barked forests
Stark white beneath the moon,
The sapphire-misted mountains,
The hot gold hush of noon,
Green tangle of the brushes
Where lithe lianas coil,
And orchids deck the tree-tops
And ferns the crimson soil.
(From 'My Country' by Dorothea Mackellar)

Methodological Issues

Introduction
The project I have undertaken is a qualitative inquiry into how farmers have acquired knowledge about their profession - what informs their learning. An interpretive approach which focuses on the reasons for human behaviour was deemed to be the most suitable approach (Connole 1990). However a number of theoretical approaches were examined to determine which would be most appropriate for this project.

Selection of a Methodological Approach
An empirical study is suited to investigations pertaining to science, rather than investigations dealing with human behaviour. The emotional unpredictability of human behaviour as a result of events and circumstances is not suited to empirical research and thus this approach was rejected (Connole 1990). Deconstructionist research is able to move power balances from one perspective to another. Using a deconstructionist approach might deprive others of power and perhaps gain it for myself, or it might banish existing theories that may hold others captive (Connole 1990). One aim of this paper was to determine how farmers learn despite their rural isolation and was not about taking away the power of farmers to achieve learning and thus a deconstructionist approach was not regarded as appropriate. A critical approach, according to Connole (1990), is one in which a social outcome is generated, however this approach also requires judgmental analysis of both the farmers' learning processes and my own research criteria (which is not intended in this paper). An interpretive methodological approach simply attempts to
contextually understand situations while also generating a social outcome, inasmuch as resultant research findings are available to study participants (who may be able to identify issues that affect their respective situations) and also to the research community (Connole 1990). Thus it was decided that an interpretive methodological approach was the most appropriate to determine, by interpreting behaviour and situations, how the process of learning by farmers occurs.

**An Interpretive Approach**

Connole (1990, p.19) states that 'From an interpretive perspective human actions have reasons' and indicates that the 'task of the researcher becomes that of understanding what is going on, the definition of the situation, at least in the first instance.' This requires 'active involvement in the process of negotiated meaning' (Connole 1990, p. 20) as

> "... the relationship between theory and evidence is not cut and dried. The 'facts' can be selected and arranged in many different ways and researchers must use their own judgement to construct the most satisfying account of the data" (Connole 1990, p.14).

She goes on to say that Kuhn suggested that

> "... scientists work within an accepted world view or paradigm which acts as a limiting framework for the kinds of research questions, concepts, methods and criteria for evaluation which can be regarded as legitimate" (Connole, 1990 p.14).

Connole (1990, p.15) indicates that 'the idea that knowledge is relative to a paradigm rather than absolute has been very significant in interpretive and critical approaches in social science'.

I considered the viewpoint of Mousely and Sullivan (1998). They refer to a quote from Taylor and Brogdan (1984) which challenges the impartiality of the researchers when they are researching something that has great emotional meaning for themselves. I grew up in the area from which my research is gathered and very much enjoyed my rural upbringing. I support farmers and want them to be recognised for their achievements. An interpretive approach relates, after examination of the data, the researcher's perspective of what the participants consider to be their 'reality'. I must therefore be aware of how my conclusions, actions and judgements may be shaped by my past experiences and environments (Goodson 1991; Tripp 1987; Freire and Macedo 1996; McLaren 1989; Thomas 1995; and Berlack and Berlack 1981).
Method of Researching this Study

This study is the result of interviews with 21 participants. The age of the participants ranged from 13 to 76 years old. As stated in Chapter One I divided the participants into three generations. Those who were born during the 1920s became my ‘A’ generation, those born around the 1950s became my ‘B’ generation and those born around the 1980s became my ‘C’ generation. A breakdown of each generation is as follows:

- Six ‘A’ generation participants. Two males and four females. The ages range from approximately 67 to 76 years old.
- Eight ‘B’ generation participants. Four males and four females. The ages range from approximately the mid thirties to 50 years old.
- Seven ‘C’ generation participants. Five males and two females. The ages range from 13 to 23 years old.

All the participants have either lived on a farm or are living on a farm. One ‘A’ generation participant residing on a farm no longer wished to do so and was ready to move into a home suitable for retirement. All the other residing-on-farm participants were happy with their situations. The participants include members of my extended family and others whom I did not previously know, who were networked using family contacts. The interviews became conversations with participants. Some occurred in homes, some were held outdoors and one occurred during the midday shearing break. The majority of the conversations were audio taped. The opportunity for several conversations was unexpected and in these, notes only were taken. Participants were asked to tell me their life story (with emphasis on the agricultural aspects). I asked opened ended questions which allowed the participants to develop their narratives in the way in which they felt most comfortable. As a result the information from each person differs in focus and cannot be directly compared with the other participants. The participants were generous with their time and spoke freely to me. I transcribed the information from the audio tapes and my notes, sometimes summarising comments and sometimes using exact transcriptions. The resultant data was approximately 73 pages in length. In Chapter Four I have presented information from each participant as a narrative. For each participant I have firstly given a quote from our conversation then a brief summary that includes both personal details of themselves and general details from our conversation and lastly a short narrative relating to one aspect of the information resulting from our conversation. Interpretive research focuses on understanding the
participants. The data from the participants are not just cold hard facts but are also their story, which requires relating in context to understand. It is impossible, due to the imposed word length of this paper, to convey the complete conversation for purposes of context. The method adopted does however give the reader the opportunity to critically consider the information for themselves despite the warning of Mousley and Kortman (1998, p. 53) concerning interpretative research that 'more information... is available for both representation and misrepresentation'.

Chapter Four begins with those stories that start around 1940, followed, in chronological order, by the more recent stories. In presenting the narratives I have given each participant a pseudonym rather than a key informant nomenclature. I have purposely given each participant in what I am calling the first generation (entering farming in the 1940s) a pseudonym beginning with the letter ‘A’ e.g. Adam, Averil, Alice etc. The pseudonyms for the second generation (entering farming in the late 1960s through the 1970s) begin with the letter ‘B’ e.g. Bob, Bev and Bill and the pseudonyms for the upcoming generation (leaving school in the 1990s onwards) begin with the letter ‘C’ Chuck, Cliff and Clara. I have done this so the reader of the paper can easily identify the age perspective of the participant.

Eisner (1992) warns that study participants and a researcher may not share the same understanding of the words used to frame questions. I grew up on a farm and subsequently understand the context of idiomatic farming language that might be used. This reflects the advice of Mousley and Kortman (1998) who encourage interpretative researchers to become in phase with the research participants so as to be able to share understanding of meanings. I believe my discussion in Chapter Five accurately reflects issues as the participant intended. Although Swale and Mousley (1995) point out research starts with at least three points of view, the participants, the researchers and the readers, my farming origins reduce the likelihood of misunderstanding.

**Ethical dilemmas encountered in this research**

Most of the participants came from the same local area. It is conceivable that despite using pseudonyms the participants reading this paper could identify which person was the
reality behind the pseudonym. Some participants were members of the same immediate family or extended family, others were members of my extended family. I was careful to counsel all participants of this, and to caution them not to tell me anything that was of a private or personal nature. The phrase I often used was ‘don’t tell me anything you wouldn’t tell the local shop keeper’. However, they often did. It was difficult to differentiate between what they told me because ‘they knew me’ and what they may have told me if I was an unknown person asking the same questions. I also experienced a particular loyalty to the participants. It is important for me to be discreet with the information they have given me and not include any information that may have arisen, for example, as a result of a joke made during the conversation or because of my ‘insider’ knowledge. When transcribing tapes I had empathy with Burgess (1989, p. 70) concerning the difficulty in being told confidential or ‘off the record’ information and sometimes in even deciding what information was off the record. I also empathised with his ethical dilemmas of using information gathered in a social situation attended by the researcher and obtaining information in group situations where there was little room for informed consent on the part of those present.

When I write about the women, my perspective is affected by the fact I am one my self and also by the fact that my age makes me part of the ‘B’ generation. I watched the ‘A’ generation women work 40 plus years ago. At the time I didn’t necessarily appreciate their positions, but I think I do now. Some of the ‘A’ Generation women said to me during the interviews ‘You know, you were there, you saw’. I doubt they would have said that had I been a man. So I encountered the feminist perspective that Maynard and Purvis (eds) (1994) believe influences research involving women.

I certainly was not prepared for some of the answers to my questions. I thought my question were innocuous. I really tried to avoid any of the sensitive areas that I thought might be emotionally charged. However, at times, what was an innocent question to me, was a catalyst to the person being interviewed that, in two cases, revealed raw emotions concerning events that occurred quite some time ago. If I had not known the persons previously; if I had not been a woman, that may not have happened. I don’t know.

Lewis (1993) wrote about women’s silence. By showing interest in these women’s
stories I may have, unwittingly, encouraged that silence to be broken and opened old emotional wounds that they had thought under control. I experienced a feeling of guilt at unintentionally causing distress. I certainly have had to consider as Maynard and Purvis (1994, p. 5) have said 'the likely impact on the researched of participation in a research project'. Kelly, Burton and Regan (1994, p. 35) question the view that women 'want to share their experiences with another women' and that sensitive issues maybe dealt with more ably by another woman, however it could explain why more personal information emerged than I expected.

This paper is not written from a feminist perspective; there was no intention of empowering the female participants, only of exploring their changing role (Maynard and Purvis, 1994). However, the writing of Jones (1992) regarding the autobiographical element in research connected with me due to my relationship with some of the participants, my rural beginnings and my continued interest in the workings of a farm. While this gives me an understanding of farm life it also probably positions me sympathetically to farmers. However I believe a distance of 28 years and the subsequent varied experiences of those years have both tempered my critical viewpoint and made it keener.
Chapter Four

Core of my heart, my country!
    Her pitiless blue sky,
When sick at heart around us
    We see the cattle die -
But then the grey clouds gather
    And we can bless again
The drumming of an army,
The steady, soaking rain.
(From 'My Country' by Dorothea Mackellar)

Findings - The Narratives

Introduction
This paper has a focus on learning. However, inherent in the discussion must be an understanding of the impact that generation gaps have on the learning process (Mackay 1997). As stated before, farming has traditionally been an occupation passed down from one generation to another, however the handing down is not immune from the complicated issues that influence all personal relationships. Underlying and affecting the business of farming must be the relationships between the generations. This consideration is not unique to farming, but also applies to any occupation where one generation hands on a business to another. In some ways this chapter becomes a social history as it relates the various viewpoints of some members from each generation.

McTaggart (1998) highlights the importance of contextually presenting interview data in a qualitative research project. He says that 'It is important to know quite a lot about the speaker and the context of his or her words' (McTaggart 1998, p. 9). In this chapter I intend to introduce the participants in the study. After speaking to the participants I had gathered a wealth of data. As I indicated in Chapter Three I have not attempted to reproduce all the data, neither have I summarized the content of each conversation as context would be lost in doing so. Instead I have selected a portion of the data gathered from each participant to present in this section. As the conversations with each participant tended to move in differing directions at times, a range of perspectives on a variety of topics will be displayed. Chapter Five will include discussion on perspectives
that the participants had in common or that diverged. As stated in Chapter Three I have allocated each participant a pseudonym that begins with a letter that identifies the generation to which I am referring. Thus those names beginning with C (Claude) identify participants in the youngest generation and those names beginning with A (Adam) identify participants in the oldest generation. All the currently residing-on-farms participants (except one) live in the same local area. They therefore experience similar rainfall, conduct similar farming, have similar soil type and weed types, have access to similar facilities, and are a similar distance from the nearest town and the nearest capital city.

The A Generation

_He walked in Time across the plain,_
_An old man walking in the air;_
_For years he wandered in my brain,_
_And now he lodges here._
_And he may drive his cattle still_
_When Time with us has had his will._
_(from 'Harry Pearce' by David Campbell)_

The A generation in this paper are those born between 1925 and 1935, entering farming in the mid 1940s. During the period 1920 to 1940 some of the events that shaped world and Australian history include the Great Depression and Federal parliament moving to Canberra. Bruce, Scullin and Lyons were, in turn, the Prime Minister of Australia. Edith Cowan became the first woman member of an Australian parliament. There was outcry that dress fashions started to reveal women's calves. The Country Women's Association was formed in New South Wales. The first release of a talking picture occurred. Mickey Mouse starred in his first movie. The planet Pluto was first identified and named. The Sydney Harbour Bridge was opened. The Nazis started their reign of terror against Jews. Australia and New Zealand joined Britain in war with Germany.

(Source: Chronicle of the 20th Century)

Adam's Story

'My dad was a farmer, I was brought up on a farm.'

_Adam is almost retired, but it appears it is not quite truthful to say a farmer is ever completely retired! He now lives about 20 miles from his childhood home and 10 miles from where he spent the majority of_
his life running a farm. Adam grew up on a farm. He had 7½ years of primary school. When he was 14 or 15 years old he started working for others by shearing, crutching, rabbit trapping, ‘anything really’ that would earn money. Adam wanted to join the Air Force, however two older brothers were already away in the war so he had to stay on the family farm and he also worked on neighbouring farms.

When Adam started farming, teams of horses were still used to pull 10 furrow plows or 20 hoe combines (which were about 12 feet wide). The teams consisted of 10 - 12 horses. The horse teams had to be looked after, e.g. broken in, fed, shoed, cared for and have feed grown for them. So the ‘equipment’ was extremely labour intensive and the acreage used for horse feed was an investment only in the sense that it was part of caring for the ‘equipment’.

Adam thinks that the biggest changes he has seen during his time farming are in the equipment and machinery available - headers, seeders, and tractors. Adam had a interest in new machinery, headers particularly, as they provided ways of getting the crop off quickly. He has also seen considerable changes in the methods of transporting grain to the point of sale (from bagged grain to bulk handled grain). When he first started farming all grain was put into bags and sold. A bulk handling facility was built nearby to his farm in 1953 and bag handling of grain in his area finished in 1963. When bulk handling was introduced, jobs were lost by those men that had ‘lumped’ (carried on the back and shoulder) grain when it needed to be moved from place to place. Adam doesn’t know quite what they did afterwards. High wages were preclusive to hiring work men on the farm. Some men just worked permanently part time on several farms whenever they were needed. However ‘there were always jobs for shearers around’.

Subsequent generations left the farms, families gradually left the district, and neighbouring farms got bigger as they bought up the vacated land.

Farming involved lots of manual labour e.g. lots of lifting - bales of hay, straw, wool, bags of grain. There was no hydraulic equipment to help. Adam said they kept fit this way. ‘The work insurance was different then’, unless it was a serious injury no one ever applied, the men just kept working through any injuries.
Adam doesn’t think that he spent that much time in the office completing book work when he started farming.

**Averil’s story**

'The Motor vehicle has played a great part in the way changes have taken place.'

Averil grew up on a farm, the eldest of 4 children, about 200 kilometres away from the area in which she now lives. There were 12 years difference in age between her and the youngest of her siblings. They were extremely poor and it was a great struggle to stay afloat. The farm only started making a living after the war (Second World War, which started in 1939). The war had a significant impact on the farm livelihood as prices increased due to higher demand by the government for goods. Their farm built up cow numbers in the 1940s and sold dairy products to a large nearby dairy. Averil would have liked to travel, however the opportunity to go to England to see the Coronation of Queen Elizabeth the II was missed when she became engaged and subsequently married to a farmer who lived several hours travelling away.

After her marriage Averil was expected to cook, clean, wash, look after the fowls, milk cows, garden and keep a bedroom prepared for the owners of the farm who could turn up at any time. Soon, the children of the marriage arrived and she added raising them to her responsibilities. Generally she was expected to be inside the home. There were often extra men to feed. In the 1950s there was more manual labour on and off farms and men needed good meals to keep their energy and strength continuing. She was not consulted on farming matters. The only consultation was between her husband and the owner of the farm, none occurred between her and her spouse. Averil used to describe herself as a housewife. She didn’t consider herself a farmer. Although her name and initials were included in the farm business title, she was never regarded as a farmer, only as a farmer’s wife. Farming duties overrode any domestic duties e.g. if machinery had to be moved from one location to another, she was expected to drop whatever she was doing and ferry the men wherever they wanted to go. She was always interested in what was happening on the farm as there was often experimental equipment being used. Listening and observing were her main methods of learning. The kitchen, where she spent most of her time, was situated so that she could see most of the people who came and went on the farm. Life on a farm revolved around the kitchen area, it was the place where business, social and farming issues were discussed and planned, telephone messages were...
taken and people fed; it was a meeting place, a place for warming up orphan lambs, and drying damp washing. Much of the talk about farming business went on when the meals were eaten in the large kitchen. Even if Averil wasn’t being consulted about farming matters, she could still hear and see what was going on. ‘Kitchen was very important, even if the head cook wasn’t considered so’. In the 25 years she lived on the farm her role didn’t change. She and her husband moved to another home when their eldest son got married. The son and his new wife had the farm home. Her husband continued to go daily to the farm to work while she kept house in a new location and badly missed knowing what was going on in the farm.

**Alice’s Story**

‘There is a need to preserve things of earlier times, the pace of change has increased. We also need to remember the way things were done in the past - where we have come from. Things were labour intensive, we need to remember that.’

*Alice is a volunteer at the local museum. She resides on the family farm where she grew up with her brother. She did not marry. Alice did not have outside farming responsibilities. She has recorded local history and has a great knowledge of the area.*

As a child Alice was expected to care for her semi-invalid mother. She was also responsible for the hens and cows. Her father cooked for the family, which was very unusual for that time. Girls, unless they became a teacher, nurse, or shop assistant, stayed on the farm and helped out with pigs, hens, cows and the house. Alice’s mother died in 1956 when she was 22. She gradually did more outside support roles, partly through want, partly through need and partly as her contribution to the farming enterprise. She learnt from her mother and father, by watching and by their example. In the 1940s and 1950s she didn’t question the way they did things. She was a member of a Junior Agricultural organisation at school which was a chance to hear different ideas from those expressed by her father. She followed her brother’s lead in farming practices. Gender defined roles were not questioned by the persons in those roles, neither was there encouragement by others to move out of those roles. She finds it strange now to think of herself as a grazier - ‘it was all just something I did’. The seasons still dictate certain farming procedures, but the way those procedures are approached has changed.
Abbey’s Story

‘We really learnt by trial and error.’

Abbey is in her sixties and together with her husband worked a dairy farm for many years. She grew up on a wheat farm. Her father died when she was three and the family was left in poor circumstances. When Abbey’s mother died she went away to school as her mother had wanted her to have an education. After school, she had an office job until she was old enough to go nursing. She decided to be a nurse as there were nurses’ homes to live in and she no longer had a family home. While she was nursing she met someone who was a farmer, they decided to get married and she then moved to where he was farming for someone else. A time came when she and her husband decided to buy a farm for themselves. They found a farm interstate at a good price.

They were told the land was too wet for cropping and the best option was for them to milk cows. They had come from a grain growing operation and had to learn how to be dairy farmers. They

‘... learnt about milking with much difficulty... we just had to learn, had to learn. The neighbour may have come down and given us a bit of a hand, as for breaking in heifers, well we just learnt by trial and error.’

They weren’t able to utilise any organisations to help them learn. Learning by trial and error applied to most of their efforts. Their neighbours, who were selling cream, told them about the cream truck where Abbey could also sell their cream. Pigs were an additional income. The farm’s main income was dairy cows and Abbey was responsible for them while her husband went out to work (due to financial need). He would help a little in the morning with the milking and then she would make his lunch and send him out for the day. At the end of the day she ‘sort of’ felt that because he had worked all day he needed to rest and she wanted to finish the cows at a reasonable time, so she had them done by the time he came home so they could have a reasonable evening to ‘relax’ together.

Stock agents took advantage of them. The stock agents would tell them to bid for particular cows, later they found out that several farms would have the same lot numbers to bid for. The stock agents were actually looking after the seller and getting a higher price, by making the buying clients all bid against each other. Sometimes the stock
agents sent stock to their place for feeding, saying 'you have plenty of feed, here feed these'. Other times the stock agents would buy stock without permission and just send them out. The stock would have to be fed and looked after. Sometimes Abbey and her husband would bring stock home from market because prices were low and take them back 10 months later only to be offered an even lower price.

'There were a lot of farmers in debt because they have listened to what other people have said. We had enough trouble with the stock agents, you know it took us 14 years to get out of that stock account.'

**Ada's story**

'You can't help but be involved.'

Ada's parents grew up on farms, however her father had become a minister of religion and thus did not live on a farm in his adulthood. After she finished school Ada became a teacher of primary school students. She subsequently had her own career and was quite an independent person. Ada and her husband moved to a farm, on their marriage, in 1954. She found it hard to adjust to life on the farm. Her in-laws lived on the same farm in a separate house, in close proximity. When she married she was firmly told by her father-in-law to have meals on time, keep her house clean, to look after children when they come and that she was not expected to help outside.

She found male domination on farms to be predominant and very stressful. While Ada and her husband farmed with the previous generation (her in-laws), her role evolved as a supportive one. She prepared meals, shopped, delivered dinners to the paddocks, answered the phone and subsequently relayed messages to the shed. She was not involved in decision making processes, her husband was barely included and he sometimes discussed with her topics within his limited scope of contribution. She was told to look after the farm workman (who lived on the farm) by providing his meals and doing his washing, ironing and mending. When he left and was replaced by another workman, who was living a small distance away, she was still required (by her father-in-law) to provide a hot meal for that workman also.

When the in-laws left the farm in 1967 the situation changed, although her father-in-law still came out each day and 'said his piece'. She was then involved in discussion pertaining to planning and finances. Until then her husband had not the chance to extend himself and obtain practice in running the farm. Ada said she worked very hard. She may
not have driven a tractor, but her efforts were in other areas that allowed her husband and the workman to get on with the physical practice of farming.

She has had enough of the farm and would like to scale down. Her support role work has remained constant whereas her husband is now able to reduce the amount of hours that he works, as their son is now involved in the running the farm. Ada is still constrained by cooking, cleaning etc.

**Albert's Story**

'There were dozens of times when I wished I could have got out of it'.

*Albert has been farming for sixty years. He is a fourth or fifth generation farmer in his family and the fourth generation to live in the farm house. Despite liking the outdoor life, he was not originally keen on becoming a farmer. Albert only became a farmer because there was land there for him to farm, a farmer by default, not choice. He still resides on the farm and has active participation in running it. Albert has a thirst for knowledge.*

After college Albert came home with many new ideas and was interested in looking for new opportunities for supplementing the farming income. His father was not supportive of those ideas in any way whatsoever, subsequently no experimentation occurred in that regard. Albert originally farmed with his father, which was not a great success.

*He had too much to say when I was over 42. That plagued me. What could you do? Impeding your desire for further advancement. There were a lot of things I could have taken on in those times. But of course they [father] would definitely say ... "no time" or "it's costing too much money".*

Albert learnt to be a farmer by doing what his father said. Albert also started to read Department of Agriculture magazines.

*I was interested in all the available technologies like supers and fertilizers, I was after anything that advanced your progressiveness on the farm, any new ideas, any new planting of wheat or barley, any wheat or barley that was better than what you had.*

Skills that he thinks farmers should have today include: the basics of business administration so the farmer understands the financial aspects on which their business should be constructed, shares, commodities, knowledge of the value of the Australian dollar (they might be selling a domestic product but there is a world influence and the
global economic situation needs to be understood) and computer skills (Albert obtains much of his information from the Internet).

‘A’ Generation summary

The ‘A’ generation men are regarded as ‘the farmer’ and the practical side of farming is deemed to be a male domain. The women are relegated to ‘women’s work’ which meant a never ending round of domestic duties, milking cows, growing vegetables, looking after poultry and raising children. Abbey milked the dairy farm cows, trying to complete the milking before her husband came home, because he had been ‘out to work’. Women were not consulted in farm matters despite the farms’ reliance on their supportive activities to enable the enterprise to function. Farming practices were (initially) not questioned, this generation doing as the generation before them had done.

The B Generation

First dog I had was the dad's, I inherited him
With a mob of stubborn wethers. Don was good on one side.
He'd work out of sight 'til noon over logs and boulders
And keep sheep propping; then vanish Times I could have cried.
(from ‘Works and Days’ by David Campbell)

The B generation in this paper are those entering farming in the late 1960s through the 1970s. During that period the ‘Rolling Stones’ and the ‘Beatles’ became established as ‘icons’ amongst teenagers. The effects of the murders of Dr. Martin Luther King and Robert Kennedy reverberated around the world. The HMAS Melbourne collided with the USS Frank E. Evans. Neil Armstrong became the first man to walk on the moon. Australia started to withdraw troops from Vietnam. The half built West Gate Bridge in Melbourne collapsed. Neil Bonner became the first Aboriginal senator in the Australian parliament. The Sydney Opera House was opened. Darwin was devastated by Cyclone Tracy. (Source: Chronicle of the 20th Century).

Bill’s Story

‘January used to be a laid back month, now we spend it chasing up loose ends.’

Bill is in his late forties. Bill and his wife have been farming for five years as sole decision makers. Previous to that they were farming for 25 or so years in an extended family business. After finishing school
Bill was keen to go home and work on the farm. Formal agricultural training was not an issue at that time. However he now believes that formal agricultural training gives a good technical base from which to work. Bill says that as farming systems become more fine tuned, technical knowledge is becoming increasingly more important.

Bill believes that learning to be a farmer is a progression of steps starting with learning the basics of doing the job, without necessarily understanding the job. The physical tasks involved in farming are learnt by firstly observing someone else doing them. Then when the learner is physically able, he or she could perhaps do part of a job. Finally the task is done solo, either supervised or unsupervised until the learner is able to initiate it themselves. Bill believes that learning farming is an on going process, not something that is ever completed. He cited the instance of a hypothetical manager that might start managing the property at the early age of 20 (which would be unusual) and theoretically stops at 60 or 65. That manager would only have about 40 or 45 turns at putting a crop in and taking it off. Some farmers might be in their 30s before they take over responsibility for managing a farm and may only ever manage 30 turns at producing crops.

'...it is not that many and every one of them is different. You make the decisions as a manager from your experience, from the knowledge you glean from those around you, from observations of what other people are doing and what you can read. There are a whole range of ways that you can put information together.'

Bill believes that another aspect of farming that is quite important is decision making. It is probably not even acknowledged by the farmers themselves, that on some days hundreds if not thousands of decisions are made. 'without even realising that you are making decisions I suppose'. Many of the decisions are as a result of being in the paddock or on the job and making an observation and then deciding on a particular course of action. He believes that in a large operation it must be quite difficult to manage the labour in the field because the

'people that are doing the job are not employed to actually make the decisions and therefore they are not looking for the information that is required to make good decisions'.

Ben's Story

'Mid way through high school I smelt the earth and had this affinity for the soil and
Ben is in his early fifties. He grew up on a family farm, on which he now lives with his own family. Ben believes that he became a farmer by default in some ways and by conscious decision in other ways. Ben went to local schools and left at the end of year 11 (the last year that the local school offered). Formal agricultural training wasn't really an option then and was not mentioned to him by his parents.

Ben believes that the most efficient labour solution to farming is where a family unit, whether that be husband and wife or husband and sons and/or daughters, integrates into a farming system so no off farm labour is required. That is not always possible for various reasons. In his family's case he and his wife always intended that their children should have additional skills to farming. However, this results in a situation where those children are sometimes not available as they are employed using those other skills. Ben uses specialist consultants for work such as the reviewing of cropping programs, the providing of technical information on cropping systems; advice on weeds and the best chemical regime for the crops, selected financial management advice and the selling of grain. He tends to use specialist people in those areas so his family can concentrate on the physical labour. Farmers need to be multi-skilled. Ben recounted that several years ago he completed a property management course during which it was suggested to the participants that a plumber needs 20-30 skills, while a farmer needs approximately 200 skills to do the job.

Ben believes that 'in the not too distant future I don't believe you'll be able to be a farmer without some sort of academic training'. He foresees that agronomy, business administration, financial skills, management skills and plant pathology will be included in formal training. 'The days of someone just coming home and sitting on a tractor are gone.' The formal skills that are required may result in the awarding of a certificate in the future.

'You won't be able to get on a tractor and spray a chemical without having a certificate... You won't be able to buy chemicals... certain chemicals... and it has already happened... from retailers without showing a certificate that as an operator... you can manage that.'

Ben says that farmers may end up with certificates whether they want them or not. He suggests that it is possible that banks may require evidence of formal skills to acknowledge that a farmer has the capability of repaying a loan and managing a
business. However, he says ‘you will still need to mix good practical knowledge with academic knowledge’.

Beth’s Story

‘Before, women were curtailed into a domestic role, that is no longer the case. Now, only women breeding are excused from farm work.’

Beth grew up in a wine producing area some distance from where she now lives. She had her own career before she met and married a farmer. Since her marriage she has resided on a farm.

Beth found adjusting to the combination of her new domestic role, her loss of income and the family farm arrangement very difficult when she first married. Later her role included being a mother which she relished. She and her husband now farm independently with their own family. She helps where she can outside the home, but remains very busy working inside the home. Beth says she is always learning about farming by living it. She is not interested in ‘farm training’ courses at this time, she is too busy doing what she does. She related anecdotal information to say that there are a great many rural courses for women and a great expectation that women will do them. She says some woman participants have begun to question why they have to learn about farming and continue to work inside the home. She says that women are busy enough in a support role feeding hungry manual workers, taking messages, dealing with the various persons who visit the farm on business, washing and cleaning etc. She works in and outside the home. Men only work outside the home. She feels pressure to do more with less time.

Beth related a story concerning a local farming family that had four children. None of the children ended up on the land. She strongly believes that it was because the children were never encouraged or taken anywhere on the farm with the parents. She does not believe that a child could start to be a farmer at 18. They need to grow up with farming and to see the gamut of situations that occur on farms. Learning farming can’t happen by the delivery of theory in a classroom. Beth says you have to learn by watching. She believes in allowing children to be part of the farming process from an early age, as that
is how they learn (including the safety aspects). If safety is implemented at an early age it becomes instinctive.

**Becky’s Story**

‘*If you were farming for purely economic reasons you wouldn’t do it.*’

Becky grew up on a farm in a family of which the children were all daughters. As a child, she enjoyed helping her father by assisting with the sheep. She also drove the tractor to enable the adults to have a break. Becky regarded this as entertainment - it was fun to help in the paddocks and drive the equipment. She always wanted to leave school and just go home to the farm. She did consider a course at an agricultural college, but that was dismissed pretty smartly by her parents, because it wasn’t considered necessary then, being a girl. After leaving school she had a job locally until she married a farmer who lived nearby.

When Becky first got married she considered herself in a partnership with her husband and thus considered herself a farmer. They had children and she then concentrated on raising the family. Her role has changed since then, not only because her children have grown up but also because the multi-generation, family farm, partnership which had existed when she married, ended and she and her husband farm with their own children now. Their family is involved both physically and in planning discussions. Becky is now more involved in a management capacity with her husband and as physically as she is capable. She sees her role as being a supportive one and that it is a choice that she has made.

‘I am all for farming families and I think it is great when young children are involved. Farm safety starts at the very beginning, you have to have rules and you have to stick to them. You have to discipline your children as far as safety goes, I know accidents happen, but they happen everywhere. I think if the children are interested and want to help that is a good thing. They should be rewarded for their efforts. The younger they are when they learn about the business, the more successful they will be if they choose to pursue it further as a career.’

Becky believes that from the beginning you share what is going on and let children become involved and encourage them if they are interested in farming as a career. Their education should also be pursued in that direction. Becky’s own role has evolved due to circumstances. Looking back, she doesn’t think she would change anything. Their
family is learning all the time. As farm management changes they adjust and learn. They learn by 'just getting on there and having a go'. Experimentation is a large part of learning. She learns things from her husband or she has learnt by trial and error; she already had a basic understanding of farming before marriage. There is now a TAFE course available for women on farms, which she has not done, but she believes it is very popular. It includes topics such as welding and the use of chain saws etc. She has done an office orientated course through TAFE and found that worthwhile.

**Bea's Story**

'I see myself as a mother.'

*Bea is a younger member of the 'B' Generation. She is in her early 30s. She grew up in a nearby rural town. After marriage she kept the job she had since leaving school until her children were born. Life on a farm has been a new experience.*

Bea thinks the farm is lovely and quiet and they have a nice lifestyle. She doesn't feel isolated living on the farm as it is very close to the nearest town. Living in isolation or a different area from where she grew up would be a 'different kettle of fish'. Although married to a farmer, Bea doesn't see herself as a farmer. She regards herself as a mother at this stage. Currently she doesn't have much to do with the farm nor is she consulted on farming matters. However she does have financial knowledge and predicts that she may one day take over the farm finances. She would rather get an off farm income and bring more money into the business, than do more at the farm. She thinks her husband can cope with farm work at the moment. Bea says that she probably didn't take a lot of interest in farming matters when they were first married because she was working full time. She sees her role as helping where she can. She is very involved in activities with her children. Bea thinks it is important that a woman exercises a choice in whether or not she becomes a farmer. She doesn't feel any pressure to become a farmer in partnership with her husband.

**Bob's Story**

'I like to learn.'

*Bob is also a younger 'B' generation person, in his 30s. Bob wanted to be a farmer. He was 13-14 years of age when he started to be helpful around the farm. His father was a conservative farmer who...*
didn't spend money on farming land or equipment and got moderate returns. Bob learnt to farm by watching how his Dad did it. Bob is not married and farms in partnership with a brother.

Bob was in his mid twenties when his father died. After his father died the family had a very ordinary farming year, with low protein in the crops and low yields compared to neighbours. Their pastures had been neglected. Bob and his brother talked to the neighbours and observed what they did. They changed their practices e.g. grew Durum wheat which is a higher risk but higher yield crop (higher risk as it is more susceptible to damage). They alternated with legumes which put nitrogen into the soil. They improved their pastures by caring for them. They examined their farming financial planning and core practices and subsequently invested in pasture, not equipment, to get a higher yield. However the higher yield soon enabled them to purchase improved equipment, which in turn enabled their practices to be better and faster and thus cost less.

Bob gains knowledge from neighbours, agricultural publications, various agricultural organisations\(^2\) and he networks at meetings of a local agricultural group. More organisations are being established from which he can seek information and he is becoming more aware of what is available. He loves to learn and has done finance, cooking and photography courses, travelling several hours to a major city to complete them. He has also participated in an on farm training scheme with a local TAFE institute which emphasised practical skills such as animal husbandry, wool classing and welding. The course required him to be away from the farm for six weeks, over a period of two years, and was held in three two week periods at some of the participants’ farms. The participants had volunteered their farms. Bob has also done a TAFE Certificate in Rural Management (6 x 3 day workshops at various towns within a 200 kilometre radius of his own farm). That course included budgeting, finance planning and profit/loss margins. The content of that course was determined by the participants’ needs - they learnt what the group wanted. Bob, at the time of our conversation, indicated that he did not own a computer and one was not used to conduct the business affairs of the farm.

\(^{2}\) There are a number of differences in state agricultural organisations I have not specified the organisations as it would identify the state that Bob resides in. The agricultural organisations were established to support farmers. While initially government funded, increasingly the user pays.
Boris’s Story

'I am sure the previous generation farmed as well as they could.'

Boris is married, in his late thirties and another younger member of the ‘B’ generation. Boris grew up on a farm and has been farming for 20 years, ever since he left school. He likes the farm work and life. Boris says that there is variety due to the seasons which dictate what is to be done.

Boris was brought up on a farm and learnt as he grew up. He learnt how to farm like his Dad and uncles and their father before them. Boris sees training as an investment and he did an on farm training course which is an apprenticeship to your father (or farmer). TAFE runs the courses and a steering committee decides what suits most of the participants’ needs. It is a two year course with breaks for seeding and harvest. Boris then did a rural management course which comprised blocks of three days at three different locations. He also completed farmer’s chemical user course. He obtains farming information from the ‘Country Hour’ on the ABC (he can listen to that while working), from farmer organisations which sometimes send out tapes (rather than send another document to read), the state weekly agricultural paper and also the local paper. Other forums for collecting information are local agents who arrange speakers on their products, field days, agricultural campuses and the Farmer’s Federation.

Computers are a big part of new technologies since he has been farming. Tractors now have digital read outs relating to the performance of the equipment being used, monitors in spray units control regulation of the spray and, of course, the desk top computer is now common. Boris purchased one last year and it has changed the way he keeps his financial records and farm records. He is currently doing a TAFE computer course aimed specifically at farmers’ needs. Office work is currently shared between him and his father as he is working in a two generation farming business.

Bev’s Story

‘There was no encouragement or expectation that I could have a career on the land.’

Bev is in her mid forties. She grew up on a farm, moving away once she finished school to take up a non rural career. She is still interested in rural activities.
Bev enjoyed growing up on a farm. She says it 'gets into your soul and stays there'. She helped outside whenever she could. She was most reluctant to help inside, 'that was boring'. However due to her gender that was where she was relegated unless manpower was short when she was enlisted for various farm duties. She says the situation seemed to be one of 'it's men's work' when there were enough men and 'you can do this' when there weren't enough men.

Bev had male siblings. She felt an expectation that the male siblings would farm and that she would have a career such as teacher, secretary or nurse. Implicit was the suggestion that marriage would follow a short career and thence she would become a wife and mother. There was never any discussion by her parents of farming as a career or of training for alternative rural careers. Neither did she push or demand it as she was accepting of the gender status quo of the time, however, that is what she would have liked.

'B' Generation Summary

The 'B' generation are adjusting to changes that technology has brought into their workplace. Farmers need to be multi-skilled and not just in the manual tasks of the previous generation; they require specialist knowledge and Bill predicts that formal qualifications will soon become a necessity for all farmers. While initially there was no expectation that 'B' generation women would be farmers these women can now exercise their right of choice as to the role they play in the running of a farm. There is, however, a note of exasperation detected in the expectation that they will embrace a larger farmer role while continuing their present work load. The situation of the 'B' generation participants varies. It should perhaps be noted that four members of the 'B' generation (Bill, Ben, Beth and Becky) are now farming with their spouses and children and thus have most responsibility for managerial type decisions. They have also been farming for longer and have greater experience than Bea and Boris who are farming with their spouses and the previous generation, or in the case of Boris, who farms with his brother. Although I chose not to specifically question each participant on their family business arrangement, it was evident that the oldest generation in the family farming business has
significant responsibility for the book work associated with the business and the final decisions that are made. The ‘B’ generation may have initially learnt from the generation before them, but evidence of Caffarella’s (1993) description of informal learning (see Chapter Two) is apparent in the narratives of Bob and Boris. Although it is not related in their respective narratives, Bill and Ben also benefit from informal learning by reading journals, attending agricultural organisations and workshops.

The C Generation

I saw the stockman mount and ride
Across the mirage on the plain;
And still that timeless moment brought
Fresh ripples to my brain;
It seemed in that distorting air
I saw his grandson sitting there.
(from ‘The Stockman’ by David Campbell)

The C generation in this paper are those that were born in the mid seventies to mid eighties and left school in the 1990’s onwards. During this time newsworthy events included notice of a recommendation that a position of Minister for Women’s Affairs be created to monitor the interests of females working with the public service. The ‘Sullivans’ became a popular TV serial. The Granville Bridge disaster in Sydney occurred. The first IVF baby was born. Pope John Paul II started his reign as pontiff. The Northern hairy-nosed wombat was discovered to be on the brink of extinction. It was claimed that smallpox had been eliminated. Argentina invaded and captured the Falkland Islands and Britain subsequently fought and reclaimed them. Australia won the ‘America’s Cup’. The discovery of the virus that causes AIDS was announced. The role of females in the Australian Defence Force was extended to include limited tactical deployment. (Source: Chronicle of the 20th Century).

Chad’s Story

‘If I wanted to make money out of farming I’d work for award rates for somebody else.’

Chad is in his early twenties and working on the family farm as well as getting seasonal work as an agricultural pilot. Chad grew up in a farming environment, he was always wherever Dad was from a young age; it was just part of being on a farm. Being with his father included steering vehicles from an adult’s lap. He learnt about farming, by
observing, listening and participating. As a ‘farm kid’ he never felt any expectation to be a farmer, his father has made that quite clear. Chad says that lots of children don’t have the opportunity to be a farmer if they don’t grow up with it. Chad believes that you can’t go to TAFE and learn how to be a farmer. He says that farming offspring already have the basics to build on when learning skills for new tasks.

Chad completed 12 years of schooling. His only ambition had been to learn to fly, and he focused only on requirements necessary to achieve that aim. He was able to obtain his ambition of learning to fly and has been able to combine that passion with agriculture (which he enjoys) by completing further training and study to become an agricultural pilot. Agricultural pilots enable the aerial application of insecticides, pesticides, fungicides and fertilizers. He says that if he wasn’t doing extra flying training, which takes up all his available ‘free’ time, he perhaps would do other farming courses. However, Chad says that he gains much information about agricultural chemicals from his agricultural pilot training. His agricultural pilot work provides him with an off-farm income, which he says subsidises his farming interests.

Chuck’s story

‘I never considered any other career seriously...

Chuck is in his early twenties. He grew up on a farm and planned to be a farmer from a early age, so he said it became a lifestyle very early. Chuck was driving the family ute from about 7 years of age and the tractors from about 10 or 11 years old, depending on which tractor it was ‘as soon as we proved that we could handle it. I had an uncle who said how can a 10 year be in charge of something that weighs about 16 ton? We used to sit with Dad from a very early age and watch and learn and that is how it works.’

After completing high school Chuck did an Advanced Certificate in Mechanical Engineering. Engineering was a hobby and another interest that he thought would be useful on the farm. As a result of the course not going quite where he wanted it he did some extra night courses, including welding.

‘That is what I use the most back here on the farm. I have built trailers and sheds and I get those jobs now. I always wanted to come back. I came back most weekends, I didn’t like the city much at all. It is just a back up just in case anything went wrong. I can always go back and do the 2nd year. Dad wanted us all to have something else besides farming. Ag [Agricultural] college was never a serious
consideration. Dad thought that if you went to Ag college to become a farmer then you were still only singularly skilled, whereas if you do engineering and be a farmer you are multi-skilled. I can do both on the farm. I can’t do both as an engineer.’

**Claud’s Story**

‘I like living on a farm because it is nice and quiet, the air is fresh and I get to drive tractors and help do things.’

*Claud is in his first year of high school. He lives with his family on a farm.*

Claud helps out on the family farm by driving tractors at harvest and seeding time. He feeds sheep and helps fix things like pipes and fences. He does the mowing around the large house yard and also picks rocks. He learnt about farming from when he was small and he would go out with his Dad and learn how to do things by watching. He was about 5 or 6 years old when he first started helping on the farm, probably with shearing. He is currently attending a local school. After leaving school he might like to be a farmer or an air force pilot. He thinks farming might play a role in his future because he has always liked being on the farm and helping. He doesn’t know if he would attend an agricultural college if he chose farming.

**Cliff’s Story**

‘You have got to get the basics right first and the technology fine tunes it.’

*Cliff is in his early twenties. He grew up in a farming family and was encouraged by his mother and father to help on the farm while he was growing up. Cliff thinks that if he hadn’t grown up on a farm he would not be a farmer, at the same time he made it clear that it is his choice to be a farmer. His parents would have been quite happy to encourage him to something else. In making the decision to be a farmer he kept coming back to the fact that all the other things he wanted to do in his life, such as building things, could be included in his career as a farmer. He loves it and he had the opportunity, so it has worked out.*

Cliff had a year at home on the family farm after completing high school and then he went interstate to an agricultural college to complete a Diploma of Agri-Business Administration. The course was 12 months full time, aimed at persons who would be running their own farm business. Cliff thought one of the great things about the
agricultural college he attended was that they stressed to him that farming is a professional business and that in the past it has not necessarily been regarded as so. He thought the Agricultural College training was professional. The formal, residential course allowed him to focus and reflect on the course content. Cliff appreciated the many places the course visited and found them 'a real eye opener'. He also appreciated the many contacts that the course gave him, not only as a result of the curriculum but also because there were students from all over Australia and 'everyone does things differently...however always things that are relevant to your area'. He enjoyed the experience of being with students of the same age, comparing notes and learning from each other. Cliff says that 'any form of formal training is good, but it is up to the individual how it is used'. Since his formal year of agricultural training he has found that there are always day seminars, workshops and field days to go to. He says that 'there are some seminars that you go to that you don’t pick up as much'. However he always gets a take home message from any of the seminars. Cliff says that networking is an important part of farming. Anywhere that farmers meet they learn just as much from each other as from the reason that they meet in the first place. 'Just talking to people, that is where you pick up much of the information.'

Caitlin’s Story

‘He taught me to drive the tractor which I was pretty stoked about.’

Caitlin grew up on a cereal and sheep farm. She said that being a girl meant that she was involved in the tasks that her mother did, but that she also helped her father about the farm. She said that she was probably aged about 14-15 years old when she learnt to drive the tractor. Caitlin said her male relatives were taught a lot younger and if she had been a boy and more enthusiastic she may have learnt at a younger age. Caitlin is currently in her first year at an agricultural college.

After finishing high school Caitlin eventually decided to study a three year Bachelor of Agriculture course at an agricultural college. She initially deferred for a year. She thought it was going to be a male dominated course (in hind sight she says she was wrong). She also thought that she would be out of her league as regards the practical side of things, that she wouldn’t be able to talk to the others on an equal knowledge level and wouldn’t be able to join in conversations. Caitlin expected the other course
participants to be like the older [than her], more experienced, young farming men around where she lives. So she stayed home for a year and did an on farm training program through TAFE. She found the practical experience great fun. For a TAFE course to be run, 24 people are required. She was the only girl doing it at that time, another girl attended one session. The course was run as a series of modules which included, Occupational Health and Safety, Farmer’s Health and Chemical Handling amongst the many topics. It is normally a course completed over 2 years, however when she advised her tutor that she was only able to attend one year, her tutor subsequently involved her in some of the 2nd year groups. The resultant qualification was a Certificate 2 in Skilled Farm Worker. Due to being involved in farm work for her deferred year and completing the TAFE course she has found that she is ahead of the other (6) girls and about half of the (24) boys who are doing the same Bachelor of Agriculture course. Caitlin says that she sees formal agricultural training as being worthwhile, primarily because it has exposed her to different ways of thinking. She says that

‘... being at home I used to believe everything that Dad said, I thought he knew everything, but uni has changed my way of thinking, opened me to new ideas. I think that is what uni does, it exposes you to new and different sources of information and to look at them all objectively and make your own decision instead of trusting just one source.’

**Clancy’s Story**

‘Pretty amazing being 12-15 and in charge of a tractor on your own.’

*Clancy is in his late teens and currently completing his first year of university, having commenced a Geo-Science degree.*

Clancy grew up on a farm and he used to go out with his Dad on the tractors. He tried to help where he could around the sheep and started driving tractors around 11-12. Clancy was interested, but it was not all-consuming interest and he had other things on which he focused. Clancy thinks that most of the kids that grow up on farms go on to be farmers and there is not a huge influx of others becoming farmers and coming into the farming area, so he thinks that the kids growing up on farms are a valuable farming asset. In his case, lots of people might have thought that he would become a farmer, but he had other interests to follow. He always thought that he would move away from the farm. At the moment he is doing a Bachelor of Science and is looking to a career in
Paleontology. His parents always supported him in what he wanted to do. He does not see himself working in any area of agriculture. Paleontology does have environmental implications, such as land conservation, so there may be a tenuous rural connection.

**Clara’s Story**

‘My parents led by example regarding safety. Irresponsible parents are another kettle of fish.’

Clara likes living on a farm. She is 16 years old and in her last year of high school. She likes the rural lifestyle however she is currently considering completing a degree in journalism and later studying music or ministry after she leaves school.

Clara is from a farming family. When she was little she went with her parents doing all the farm tasks. She watched, participated, used examples of others, imitated others and listened to know what to do. Clara thinks it very much depends on the parents how the children behave on farms. She regards her own parents as sensible and very safety conscious. Her parents made a point of keeping kids away from dangerous situations. She says she and her siblings learnt safety from their parents from an early age. In her opinion, her father is a very sensible and level head farmer, however her father’s peers are not necessarily so. Clara says that her father has passed to his son (her brother) the same good qualities. She comments that not only good things can be passed down the generations but also bad things such as a father who teaches bad farming practices to his offspring. When she looks to her future, she doesn’t see anything on the farm at this stage. She would like to end up in a rural community, not necessarily farming. She is not overly interested in farming.

*C*’ Generation Summary

All the ‘C’ generation participants, like those generations before them, have been involved in the activities around a farm from an early age. Those choosing career paths that involve farming are becoming multi-skilled. Although farming involves multiple skills, the ‘C’ generation participants are looking to accredited training in an area that can both complement their farming occupation and also become an alternative career, should either personal choice or economic hardship require them to find alternative employment. Caitlin doesn’t actually want to be a farmer, but would be happy managing
the business of farming, while Clancy and Clara, although happy with the rural lifestyle are considering careers away from rural sector. Claude is yet to make up his mind. None of the ‘C’ generation participants are farming on their own. They are all involved in family farms with the previous generation.

A Look at the ABC Generation Gaps
Mackay (1997) discusses the generation gap between three Australian generations, the first of his generations (not dissimilar to the separations I have used in this paper) was born in the 1920s; he calls them the ‘Lucky’ generation. The term ‘Lucky’ is used as a result of the post war growth in the economy which resulted in that generation benefiting. Averil states as much when she indicates that the farm she lived on, as a child, only started making a living after the second world war when prices went up due to higher demand for goods by the government.

The children of the ‘Lucky’ generation Mackay calls the ‘Stress’ generation as they are so busy. He says some of the busyness comes from wanting everything that their parents only achieved later in life now. Other reasons include shifting gender expectations and the complexity of their lives. My ‘B’ generation have greater complexity of living due to technology implications; material expectations were not explored in this paper. Bea indicated that she thought the ‘A’ generation had it easy, including among her comments that the women of the previous generation did not go out to work. It seems that they had no time to go out to paid work, even if the social culture of the time had expected it. The women of my ‘A’ generation did not have the technology available to them that would have sped up many of their tasks. Without a microwave and often with a wood stove they were expected to cook at least two meals a day for appetites whetted by hard manual labour. They had limited cold storage, grew many of their own vegetables, and preserved and pickled much of their own produce both to save money and have it available out of season. They had no disposable nappies available to them, often had to heat the hot water for washing in a copper in a laundry, and had no automatic washing machine to leave operating while they completed other tasks. There was no clothes dryer for wet days or drying urgently needed clothes. They may have heated their irons on a wood stove. Cars were not as fast, car seats for keeping children immobile were
not available, there were no fold up prams to take in the car for use at the destination.
The ‘A’ generation women worked hard. Is that really the simple life that one of Mackay’s (1997, p. 113) ‘Stress’ generation respondents yearns for and that Bea thought meant having it easy? Mackay (1997, p. 110) writes of the time when choice for females of the ‘Stress’ generation became enslavement to the principle and not a choice at all. There is connection between this statement and that of Beth who indicates that there is an expectation that females must do the many rural courses available for them. Beth has said that women have begun to question why they had to learn something about farming and continue to work inside the home. Beth feels pressure to do more with less time.

The last of Mackay’s (1997) generations he calls the ‘Options’ generation. In my ‘C’ generation sample there was no indication of the lack of direction that he identifies, but there was a theme of obtaining multi-skilling for economic reasons, to counter-act the uncertainty of farming and to keep their options open. Often it was the ‘B’ generation who insisted that the ‘C’ generation have options.
Chapter Five

Core of my heart, my country!
Land of the Rainbow Gold,
Of flood and fire and famine,
She pays us back threefold;
Over the thirsty paddocks,
Watch, after many days,
The filmy veil of greenness
That thickens as we gaze.
(From 'My Country' by Dorothea Mackellar)

Discussion

Introduction

In this chapter I am going to discuss the issues that I identified from the data. As my participants are real people the issues may vary from those identified in the literature review in Chapter Two. Each participant was asked similar open-ended questions, however, the direction of each conversation varied, therefore the resultant information cannot necessarily be directly compared. It can not be presumed that those participants who did not speak about particular aspects of farming necessarily agreed or disagreed with those who did. However, where it is known that participants did have a similar point of view, it is indicated in the following discussion. Conclusions as a result of the discussion of data are given in Chapter Six. I intend to deal with the issues identified from the data, that pertain to the aims of this paper, as follows:

- **Farming Practices Across Three Generations**
  - Administration
  - Children
  - Community
  - Diversification
  - Experimentation
  - Family farms
  - Generational considerations
  - Care of the Land
  - Specialist Services
  - Other Farm Practices
- **Farmers Learning in Rural Isolation**
  - The ‘A’ generation
  - The ‘B’ generation
  - The ‘C’ generation
As stated in Chapter Two, the discussion of farming practices is not confined to specific tasks associated with farming, it includes attitudes, methods and procedures with which farmers approach farming. From the data I identified the following topics which typify farming practices over the three generations.

**Administration**

Adam said that little office work was involved while he was farming. Albert indicates that about one full 12 hour day per week is now devoted to office work (paperwork, reading and accounting procedures) that farming requires. This is confirmed by both Bill and Ben. None of the ‘C’ generation participants are currently undertaking office tasks; their ‘B’ generation family members having responsibility. Some ‘B’ generation participants are spared this task as they are still working in conjunction with ‘A’ generation family members who continue to complete office requirements. For those participants who do complete office work, the increase has resulted in reduced time
available for the physical tasks of farming, which in turn has meant that working hours are further extended and rest time reduced.

Children
For some children working on a farm is equivalent to being in a giant playground. In the fictional stories of ‘Billabong’ by Mary Grant Bruce, Jim, Wally and Norah saw horsework as a lark and for those characters it ‘was difficult to say where play ended and work began’ (Bruce n.d., p. 10). Participants in this discussion (particularly the ‘B’ and ‘C’ generations) often said that helping around the farm as a child was fun and ‘how you filled in your time’ (Chad). The involvement of children on farms from an early age was considered important and occurred in all three generations. Some, like Abbey, indicated that children had to be taken while completing farming tasks as there was no one else to look after them and they couldn’t be left at home, ‘The business of farming had to continue.’ Averil said that children of her era were expected to help inside and outside the home in any capacity that they were able. The participants who grew up on farms all helped out at a young age (4 ‘A’ generations, 7 ‘B’ generations and 7 ‘C’ generations). The need for safety was acknowledged by participants; ‘safety on farms is something that is paramount’ (Ben). Chad, Cliff and Beth said that the involvement of children in farming from an early age allowed learning and facilitated instinctive knowledge of safety. Ben said ‘I believe that children ... growing up on farms ... have an advantage if they are brought up with the dangers’. Many expressed enjoyment from helping out while also providing a labour source (Becky, Cliff, Caitlin). Albert, Bill and Ben expressed concern about the reliability of off farm paid labour. Bill and Ben indicated that they had often helped, as children, when paid labour was not available. It was said that family members can provide long term labour sources so the training investment provides a return.

‘Farm children may be in charge of hundreds of thousands of dollars worth of equipment four or five years before they achieve their driver’s licence and manage this equipment to the level that any employee would, possibly even better because they have a complete understanding of how the equipment works. They wouldn’t be allowed to drive the equipment if they didn’t show the responsibility to be able to do that’ (Ben).

Ben acknowledged that using young labour minimised costs as it was available at useful
times like after school when hired labour would require over-time. He said the task could be done without it, but young labour contributed to an increased efficiency, especially when utilised in situations such as driving a chaser bin.

Community
Community involvement by most participants was evident across all generations. Some of the activities mentioned were SES, church groups, youth groups, music and arts, sporting organisations, school groups and agricultural groups. There was evidence of a community consciousness which involved a responsibility to the social infra-structure of their local rural community. Some participants were also involved in organisations at a state and national level. Becky said that

‘...when you live in a rural community part of that life is just community and being involved in various organisations. Without people's involvement and community support, the community would suffer terribly’.

Ben said

‘It is more difficult in rural communities, there are less people having to wear the same amount of hats than there used to be, there are those that put huge volunteer commitments into the communities and then there are those that just deal with their own business.’

Diversification
Farmers have found that it is not wise to rely on an income from one source and often consider diversification. Albert keeps a herd of beef cattle which require minimum labour. He grows lucerne for feed, breeds his own cattle and sells them as yearlings to the local butcher. Both Bill and Ben share-farm holdings other than their own and have invested in off-farm agricultural industries. Boris’s major focus is winter cereal and legume crops, however he buys and sells sheep at opportunistic times. He often buys immature lambs before harvest, puts them on stubble after harvest and sells them before the need for hand feeding occurs.
PHOTO 5.1 Diversification on farms aims to be as economically viable as possible and might often provide unusual visual juxtapositions such as this vineyard which has a wind barrier made out of large hay bales protecting it. This vineyard is an unusual sight in this particular area as cereal growing and sheep dominate land use.

Experimentation

Albert indicated that no experimentation occurred in the 1940s when he farmed with his father. His father would say ‘no’ to any suggestions, using cost as a prohibitive reason. Albert says that ‘the parents would dominate the decisions of the next generation’ whereas Albert

‘... was after anything that advances your progressiveness on the farm, any new ideas, any new planting of wheat or barley; any wheat or barley that was better than what you had.’

Adam says that changes in farming practices were gradual and because ‘we had to grow more for less money’. Some of the changes he mentioned included trialling different types of wheat which yielded more grain and required less rain to grow. When Adam started share farming in the late 1940s he was able to start making some of his own farming decisions and experimenting, although still complying with the farm owner’s directions and abiding by the generally accepted methods of farming for that time. His efforts at experimentation were often curtailed by non availability of implements in Australia (such as those required for band sowing). The owner of Adam’s farm was involved at management level in a large farm machinery manufacturing company. Often the farm, at the owner’s direction, was used for trialling new farming equipment and farming practices. Albert indicated that when he was a young farmer, Australia had no organisations that trialled and experimented with farming methods and subsequently passed the resultant information to farmers, instead information from overseas was sought and used. The members of the ‘B’ and ‘C’ generation are more fortunate. There
are now many Australian organisations that conduct research and provide information on new procedures. Some organisations are the Waite, an agricultural research institute, ABARE and DNRE.

**Family Farms**

It was believed by Bill, Becky and Ben that the most efficient farms are family farms where the business is run as a team and each person can contribute specific skills just like any other business. Family farms also negate the necessity for off-farm labour. Becky, Bill and Ben have attempted to ensure that their children have skills other than farming, which may mean that those children are employed elsewhere using other skills during times of farming seasonal need. Abbey and her husband encouraged their children to have other careers as ‘there was no future on the farm for them’ and their farm could not have supported additional families.

**Generational Considerations**

Adam and Alice say they didn’t question the way their parents showed them to farm, while Albert’s suggestions to his father fell on deaf ears. Ada and Averil seemed confined to the kitchen, one by her father-in-law and one by historical social expectation. While Beth’s domestic role may have originally been imposed and expected of her, time, social change and an altering of a multi-generational family farming arrangement have given her options should she now choose them. The ‘A’ generation experienced a ‘this is how it is done’ attitude from their preceding generation (whether this characteristic was perpetuated to the next generation was not indicated in this study). Alice mentioned that attending a junior agricultural organisation at school gave her the opportunity to hear ideas different to those of her father. Caitlin seems surprised when she says of herself ‘being at home I used to believe everything that Dad said, I thought he knew everything, but uni has changed my way of thinking, opened me to new ideas’. However, there was no indication to suggest that her father thought that he knew everything, the perception was Caitlin’s.

**Care of the Land**

Albert and Adam say that the practice of fallowing was reduced during the 1960s due to
the high amount of soil erosion that resulted from it. Fallowing was replaced by continuous cropping. Continuous cropping is achieved by the use of minimal tillage techniques, including legumes in the crop rotation and stubble retention (Cooperative Research Centre for Soil & Land Management n.d.). Farmers are utilising knowledge and understanding about soil types, plant health, plant characteristics, stubble residue management and crop rotation that wasn’t available previously. The use of chemicals to combat pests and weeds has increased and there is an informed use of artificial fertilizers.

There is a great emphasis on looking after the soil (Albert, Bill, Ben). In comparison to previous generations, Ben manages his land differently. The previous generation cleared the land. They removed trees. Now Ben and his family are looking at ways of sustaining the land without ‘mining’ it or taking all the goodness out of it. They are attempting to balance what they take out of it with what they put back into it. In the 1940s and 1950s there were practices which contributed to erosion such as fallowing and lots of cultivation. Now farmers are using a wider range of crops, some of which replenish the soil and manage the diseases within the soil. Ben minimizes the amount of mechanical intervention in the soil as his farming family undertakes the least possible burning off and retains as much of the good organic matter as they are able. These are referred to as minimum till or direct drilling techniques. However the techniques rely on increased chemical use to reduce weeds because the premise of the techniques is that there is minimal mechanical intervention.

Apart from weeds, another ongoing problem is pests of which snails predominate. Ben said it was possible that the sustainable farming practices they are utilising may put them out of business. Sustainable farming practices do not reduce snail numbers, unlike the ‘burning off’ of stubble which simultaneously reduces snail numbers. Potentially grain markets may be lost due to snail contamination of grain, ‘so there is a real balancing act between sustainability and profitability in the way we are trying to manage their properties’ (Ben). Bill and Ben indicated there was more ‘burning off’ in January 2001 in their area, in an attempt to reduce snail numbers in the paddocks. However, generally, they would prefer the stubble to rot down into the soil thus increasing the organic matter within the soil structures and assisting in decreasing wind and water erosion by holding
the soil together in high winds or heavy rain. Four of the ‘B’ generation participants have undertaken tree planting projects on their farms. The tree corridors provide shelter and shade for stock, reduce soil erosion and help reduce salinity.

PHOTO 5.2 Burning off stubble. The current generations of farmers are reluctant to burn off stubble, preferring the stubble to break down into the soil and help protect against wind and water erosion. However, burning off assists in the control of snails.

PHOTO 5.3 Snails ruin and contaminate crops - they are recorded as being a pest in the area since the 1920s

PHOTO 5.4 Removing snails from contaminated grain is an intensive process
Specialist Services

There is more information available to farmers now, rather than try to consume it all, farmers are seeking specialist advice for particular facets of farming. Some members of the ‘B’ generation use agronomists for information. Other consultants might be used at various times to provide information on cropping programs and technical information on cropping systems, the monitoring of paddocks for advice on weeds and the best chemical regime on the crops, accountancy to assist in financial management, and marketing information. Farmers may use a grain marketing organisation to sell grain. At various times, when farmers do not have enough labour or machinery within their own resources, they may consider out sourcing for shearing, fencing, hay baling or carting of grain. Farmers may also, as man power resources permit, provide contract hay carting or hay baling for other farmers. The benefits of using contractors include not having to make a capital outlay on the equipment required for a particular task and not having to employ off farm labour (see Farmers and Training in this chapter for discussion on the employment of off farm labour).

Other Farm Practices

According to Denner (1998, p. un) farms ‘are the most dangerous workplace in Australia’ and every ‘year around 85 people die on Australian farms’. Approximately 30% of the deaths are of children. Along with improving the safety on machinery and equipment (such as moving parts now being covered and the addition of roll over protectors on tractors) there is also a trend towards increasing awareness of the importance of being child safe on farms. One of these initiatives is the ‘Giddy Goanna’ series of books which is aimed at educating young children about farm safety. Another are the programs promoting farm health and safety offered by Farmsafe (and other organisations). Both aim to teach children to identify unsafe practices or situations. Workcover has produced brochures pertaining to many facets of farm work which give guidelines for safety procedures. The larger, faster equipment being used has altered the dangers present on a farm. Both adults and children need to be educated. A focus on

---

3 Farmsafe is a government funded organisation which is regarded as the major occupational health and safety organisation for rural Australia. (Agriculture, Fisheries and Forestry - Australia, n.d.)
educating children, hopefully not only prevents deaths, but also lays foundations for becoming safety conscious adults.

Bill and Ben have indicated that larger equipment and machinery has meant that less man power is needed to farm. Technology has included the addition of both complex and simple accessories in equipment. The addition of headlights on tractors has resulted in farmers now working during the night, harvesting, cutting hay, or carting hay (depending on weather conditions or weather forecasts). Although this has given farmers more flexibility and the ability to avoid impending bad weather, it has also resulted in less rest time. Where once the farmer worked during the daylight hours and spent the night time hours at rest, catching up on book work or attending meetings, farmers are now packing more into their working day. Bill’s comment ‘January used to be a laid back month, now we spend it chasing up loose ends’ indicates how the time available for rest and the ‘recharging of batteries’ has been eroded. The stresses of everyday life that some thought the rural community immune from, are certainly existent, although the toll they take is not explored in this paper.

Farmers Learning in Rural Isolation

Of the study participants Abbey could be considered the most geographically isolated. She was dairy farming in an area that was not connected to electricity until 1970; prior to that their farm had to generate their own. While she says that they learnt by ‘trial and error’, she also referred to the assistance and advice they received from their neighbours. However the remaining farmers in this study lived in a less isolated area and although several hours from a major city could not be considered geographically isolated, especially compared to counterparts in central Australia. Internet access is available in the area in which the majority of participants reside. Averil has said that ‘the motor vehicle has played a great part in the way changes have taken place’. Adam commented that the motor car overcame many isolation challenges; socially people were able to mix more and resources became more available. Certainly the motor car meant that some like Bob and Boris think nothing of travelling several hours to access TAFE training courses, workshops or agricultural information sessions. However these are distances that I
believe city dwellers would not, of necessity, choose to travel. Albert, plus the majority of the participants in the ‘B’ and ‘C’ generations seemed to be seeking information and as a result, did not let distance stand in their way. The data indicates that a communal, shared, approach to learning is predominant. This was apparent in all three generations.

The ‘A’ generation

Four members of the ‘A’ generation were involved in a local agricultural organisation that commenced sometime during the 1920s in their area. Albert indicates the organisation provided a forum where farmers could come and share their stories of results they had achieved from particular experimental attempts. He said there were no research organisations from which farmers could obtain such information. Albert continues to access farming information from sources such as the Internet, reading and the Kondinin Research Group which provides investigative, comparative articles focusing on issues of agricultural interest.

The ‘B’ generation

Four of the ‘B’ generation mentioned the local agricultural organisation as a forum for giving and receiving information. Other sources of information for the ‘B’ generation included personal networks, field days, workshops, state and national agricultural journals, state and national agricultural organisations, local agricultural merchandising agents, agricultural campuses and the ABC radio program ‘The Country Hour’. The information available is extensive and reading can be quite time consuming. Bill tries to pick the ‘right’ seminars to go to, the ‘right’ publications to read or the ‘right’ people to talk to. He employs an agronomist to assist with making those decisions. The Department of Agriculture provides access to information, although Ben says its services are increasingly user pays. There are consultancy groups and specialist working groups with which the farmer can associate.

Another factor contributing to isolation may be the availability to the farmer of the previous generation. Fathers were spoken of as being important in the learning process.

---

4 An organisation, based in Western Australia, that researches farming issues and provides the results Australia wide to farmers via a monthly magazine called ‘Farming Ahead’.
Bob’s father died when he was in his twenties. Farming-wise, according to Bill, (see Bill’s narrative in Chapter Four and Farmers and Learning, this chapter) each year only represents one time that a farmer completes a seasonal farming process. Bob had only limited time to observe the yearly farming process and had limited involvement in it. After his father’s death, he no longer had access to his family’s previous generation for advice on their experience. Bob says that he observed and spoke to neighbouring farmers seeking information and also accessed sources previously mentioned above, however it is suggested that those sources would not be as contextually detailed as information received from within a family.

Boris highlighted that several farmer organisations have recognised the huge amount of reading that farmers undertake in the management of a farm. Several organisations now offer information in an audio format that can be listened to in the tractor or wherever the farmer happens to be working.

The ‘C’ generation

The ‘C’ generation doesn’t seem to find their rural location isolating at all. Chad says that networking for information occurs at the silo, pub, assorted agricultural field days, local agricultural groups and ‘anywhere that farmers get together’. Chuck explains that there is always some sort of training, bus trip or field day available to attend. ‘There is also crop trialling once a year and all the farmers go and look at the varieties of crops and what to do with them, always something to do and you don’t get to all of them.’ Cliff mentions day seminars, workshops, magazines, newspapers and field days as sources of information. He also networks with the contacts that he made while attending a formal tertiary agricultural course. He says he often jokes with his Dad that they are not going to get any work done as there are so many training opportunities to attend.
The isolation of farmers does not preclude learning. Country roads lead to communal gatherings such as field days.

PHOTO 5.6 Field days provide a great source of communal information.

PHOTO 5.5 Country isolation doesn’t mean learning isolation.

Farmers and Learning

At one time it was said that children who did not do well at school were ‘only fit for farming’ (Lake 1987, p. 163). More recently a Kondinin Research Report (Farming Ahead, Nov 1995, p. 28) says that

‘Despite the community perception that Australian farmers have relatively low levels of education......two thirds of farming operations involve a partner with a tertiary education’,

although Garnaut and Lim-Applegate (1998, p. 52) indicate that ‘Men in farming tend to have less formal education than do other men in Australia’. Farming in the 21st century requires knowledge of a range of skills and disciplines. Ben has indicated that farmers need over 200 skills to complete the various tasks involved in farming. The knowledge needed by farmers includes finance, business management, agronomy, animal husbandry, accounting, share and commodity knowledge, awareness of global economic implications as well as being able to drive and maintain the various technologically advanced farm machinery that they may own. In my study there was evidence of formal, informal and incidental learning occurring (Marsick and Watkins 1990). Experience, trial and error were the dominant ways that learning occurred.
Formal Learning

None of the ‘A’ generation undertook formal agricultural training. Becky has completed an office oriented course through TAFE which she can apply in the farm office. Bob, Boris and Caitlin have done agricultural courses through TAFE. Cliff has completed a year long course at an agricultural college, where it was emphasised to him that farming is a professional business. Caitlin is currently undertaking a three year degree course at an agricultural college. Chuck completed an Advanced Certificate in Mechanical Engineering after high school and is currently completing a certificate course through an agronomist. Chad gained his agricultural pilot qualification and remarked that the resultant chemical training he undertook is able to be applied in the farming context.

Informal Learning

Ben says ‘there was no direct, specific training’. He learnt to be a farmer by ‘watching, by association, by being there, by listening’ (2 ‘A’, 4 ‘B’ & 6 ‘C’ generation participants watched, listened and participated with their fathers). Looking to others for advice was common, Abbey says that their neighbours were helpful, but the stock agents who are professional sources of information were not held in high regard by her. ‘There are a lot of farmers in debt because they have listened to what other people have said. We had enough trouble with the stock agents; you know it took us 14 years to get out of that stock account.’ Bob relied on neighbours for advice after his father died.

As previously stated in the section on Farmers Learning in Rural Isolation, other ways that farmers source information are government organizations, specialist advice, Internet access, local, state and national agricultural groups, agricultural publications and community social interaction that facilitates access to communal knowledge. These are all forms of informal learning (Caffarella 1993). Cliff admits that some seminars don’t result in him ‘picking up much’ but he ‘always gets some sort of take home message’.

Incidental Learning

Bill says that decisions are made by observing and subsequently identifying a course of action (a craftsman approach) without necessarily realising why. Bill surmises that it must be difficult in a very large farming operation because the people employed to do the
job are not necessarily employed to make decisions and therefore not looking for the information that is required to make good decisions.

Experience and Doing

Adam says that he learnt by doing and by experience. Abbey says that she learnt by ‘trial and error’. Becky said that their family learns by ‘just getting on and having a go’ and that experimenting is a large part of learning. Bill says that learning to be a farmer is an ongoing progression. The physical tasks can be learnt one by one, observation comes first, then physically performing parts of individual tasks, then the whole task supervised and unsupervised until familiarity is such that the task can be initiated. Bill pointed out that each year represents one complete farming cycle. Each year of farming experience therefore only represents one attempt at putting in a crop and harvesting that crop, plus all the other seasonal tasks that are included in that process. He theorises that there is a maximum of about 40 or 45 turns that a farmer would get at putting in and taking off a crop. Those farmers that take over from the previous generation in their 30s will, perhaps, only get 30 turns. Bill points out that this is not many and every season is different and decisions as a manager are made from experience, from the knowledge gleaned from those around and observations of what others are doing and reading. He said there are many ways that information can be constructed and each different construction may result in a different decision being considered.

Adult Learning and Farming

There was evidence to connect the participants’ approach to learning with some of Knowles’ (1984) principles of adult learning (see Chapter Two).

Involve Participants in Planning their Learning

Bob, Boris, Chad, Chuck, Cliff and Caitlin were all involved in choosing the various formal courses that they undertook. For Bob, Caitlin and Boris the TAFE courses were an opportunity to widen their knowledge of farming. Chad (agricultural pilot), Chuck (mechanical engineering), Cliff (Diploma of Agri-business) and Caitlin (Bachelor of Agriculture) say their courses have given them options they can pursue should farming no longer be viable. Participants who attend informal learning opportunities such as field
days, seminars and workshops, say they pick and choose those that are most relevant to them at the time.

The Right Climate
The right climate, in this context, appears to be the ability to practice the theory in a manner that resembles the situation in which the learners will be doing it for themselves. The formal courses all involved practical sessions. The TAFE on farm training programs are conducted on participant’s farms so the environment realistically replicates the participant’s workplace. Bill has emphasised the need for new ideas to be demonstrated to farmers to elicit the maximum acceptance rate of those new ideas.

Participants Diagnose their own Needs from the Learning Process
Boris, Bob and Caitlin completed on farming training through a TAFE institute. The content of the course attended by Boris and Bob was determined by the participants and thus they learnt what the group wanted. Caitlin’s TAFE course was a two year course of various modules. She told her tutor she would only be attending one year of the course and he subsequently arranged for her to attend her choice of some of the second year modules.

Individuals Formulate their own Goals and Carry Out Plans to Reach those Goals
Chad wanted to be a pilot. By being an agricultural pilot he is able to combine both his flying and his farming interests. Chuck’s interest in mechanical engineering and his subsequent qualification is not only an interest, it is an important farming asset, as he is able to custom-make various equipment on a needs basis.

Lifelong Learning and Farming
Chad believes that you can’t just go to TAFE and learn how to be a farmer. He says it is a lifelong process that is best started young. Learning about farming appears to occur at an early age, with children being involved either by undertaking various responsibilities such as feeding poultry or accompanying their parents as the parents undertake various farming activities. Beth and Chad strongly believe that involvement from childhood is important so that safety becomes instinctive. Beth also believes that involvement from an
early age encourages interest and allows the child to see the gamut of situations that occur on a farm. She related the story of a farming family that had four children and none of the children ended up on the farm, she believes the reason is that none of the children were ever encouraged or taken anywhere on the farm with the parents. Becky said that

'I think if the children are interested and want to help that is a good thing....the younger they are when they learn about the business, the more successful they will be if they choose to pursue it further as a career.'

Bill has indicated that farming is an ongoing learning process. Providing farming grounding to children won’t guarantee successful farmers but it may provide an initial foundation on which to build on skills already absorbed, should the child choose a farming career. Regarding learning and farmers, Bill commented that

'...farmers have historically learnt by looking over the fence and seeing what their neighbours are doing. When they are convinced that their neighbour is doing something different and it is working they’ll do it.'

Bill has had some experience in farm training programs, as a result he is a firm believer that new ideas need to be demonstrated to convince farmers to implement them.

The Impact of Technology

Farmers are now dealing with many new technologies from the computers they use to manage their business affairs to the complex control panels in their tractors, harvesters and other farm machinery. Albert says that impact of technology has been increasing every year and that it has ‘been among the most interesting aspects of farming’. Adam thinks that the biggest impact of technology has been on equipment and machinery resulting in changing methods for transporting grain to points of sale (see Photos 5.7 and 5.8 on page 69). Bill believes that ‘there is no doubt technology has kept us in business’. He thought there were three technology stages over the last 60 or so years. First mechanization (horse to machinery) next, the introductions of herbicides and artificial fertilizers, and the present stage of information - learning about plants, root systems and the soil. Chad says minimal till techniques have resulted in more chemicals being used by his generation.
Acceptance

Chad said that he finds it easy at the moment to adapt to changes in technology as he was brought up with the basics of current technology. Cliff believes it is up to individuals to make technology work for their particular situation. Before attending agricultural college Caitlin says she thought technology as being bigger and better machinery; now she sees technology as being a tool for making agricultural practices much more sustainable. Farmers are not only utilising larger farming machinery and equipment, they are also using personal computers and various software packages to assist in farm administration. While Boris may be a more recent user of personal computers, Ben has been using Internet Banking for some time along with other planning and financial software packages. Recently Ben’s bank approached him to ask if he would make his farming business details available for discussion by an agri-business bank managers training course. Participants on the course included senior bank managers from all over Australia. Ben chose to display the information (previous client and business history) using a power point presentation. The managers were amazed at the professionalism of the presentation, commenting that the presentation skill demonstrated by Ben and his family could be readily used within their organisations. The managers were probably surprised to see that acceptance of technology on farms went further than just bigger tractors.

Communications

As farmers leave the land, their holdings are often bought up by neighbours, this means the amount of land being managed by an individual has increased. Farms have got bigger. Farmers are working away from the homestead a lot more. Agriculture is one of the most dangerous industries. Some of the working practices might be unacceptable in other industries where people doing similar work would be working in pairs or multiples for safety. Farmers have no choice, so mobile phones and two way radios are essential, for safety’s sake (Bill). Bill says another positive of a mobile telephone is being able to contact business people who work in 9am to 5pm timeslots while he continues to work (on the tractor). He doesn’t have to stop work and go home to make business telephone calls.
Equipment

Bill and Ben said that along with safety considerations for both children and adults, the level of comfort in equipment has increased. Boris highlighted that personal computers are not only present in farm offices. Both he and Chuck indicated that technical computers are present in tractors. There is farming equipment that provides digital readouts, monitors in the spray equipment and air seeders, and GPS and radar are also used. Part of the reason for utilising the technology is to support the quality control of the product. Chuck says 'We have got to be better at what we do cause the other end is getting fussier with what they get'.

Labour

Davis (1988) and Appelbaum (1987) believe that the introduction of new technologies will increase the need for workers with higher levels of skills. This certainly seems to be the case in the farming sector. Once unskilled labour could be employed to walk across paddocks collecting large stones and rocks by hand and tossing them into a trailer. Now costly computerised machinery performs the same task more quickly but requires a skilled operator to manage it. The change from bagged grain to bulk handling resulted in job losses. Bagging-out of grain, lumping and sewing up the bags of grain was done by manual labour, providing seasonal work. Now less, but more skilled labour is required to drive the huge truck and trailer loads of grain. Drivers need skill to handle the responsibility, operation and care of the expensive vehicles and equipment. Bernard (1991) indicated that workers would be displaced with the introduction of new technologies. Displacement has certainly occurred and, although a negative for those who sought employment in the rural sector, it is a positive for the farmers as they save money by employing less people. Chad believes, however, that farming may be less labour intensive, but the increasing cost of technology, equipment and machinery has offset any labour cost savings.

Productivity

Abbey indicated that the connection of power to her farm (and thus installation of appropriate refrigeration equipment) meant that they could sell bulk milk and increase their productivity and income. Previously they had been selling only cream; the milk was
fed to pigs. Bill believes that ‘an increase in productivity is the single most important factor that has kept farmers in business’. Adam said that a desire to increase productivity meant ‘we had to grow more for less money’ and resulted in gradual changes to farming practices. Some of the changes he mentioned included trialling different types of wheat which yielded more gain and required less rain to do so.

One of the biggest changes in technology was the change from bagged grain handling to bulk grain handling.

PHOTO 5.7 Carting bagged grain to a grain stack. (Believed to have been taken late 1940s)

PHOTO 5.8 Trucks with bulk bins now cart to large silos. (1993)

Farmers and Training
Adam decided against any form of formal agricultural training as he wanted to start earning money as soon as possible. Albert says that young people should stay home and get some practical experience and then go to hear what the theorists have to say. Bill didn’t seek formal agricultural training when he left school to start farming, but now thinks that formal agricultural training would give a good technical base from which to work. Bill says that farming systems are becoming more fine tuned and that technical knowledge is becoming more important.

Access to Specialist Skills
As technical knowledge has become more important, farmers are using more advice from specialists, such as agronomists, who weren’t used in the past. The trend against seeking specialist advice, of which Salmon (1981) wrote, appears to have changed with several of the participants seeking and utilising specialist advice. Farming is such a complex
business that all the technical advice needed for decision making is just too much for one person to research, learn and apply, when so many decisions are required, in very diverse areas, of the farming enterprise. Cliff says that 'farming is one of the most multi-skilled jobs that there is I think'. Skills required by farmers, (other than the physical and theory of farming) are (according to participants): business management (including financial planning, taxation and succession planning), accountancy, computer, organising (time, logistics and maintenance), forward planning, welding, general mechanical knowledge, chemical knowledge, animal husbandry and knowledge of how and where to access information.

Access to Formal and Informal Learning Opportunities

Williams (1992) says in the last 20 years or so there has been an increase in the availability of rural women's support, networking and education groups (focusing on agriculture). Bill has tried to make off farm training available to his children and not just training relating to agriculture. Bill says that due to improved transportation young people can go anywhere in Australia to complete studies. Local TAFE institutes have on farm training courses and Bill thought the success of those courses lay in their combination of 'practical looking and learning' combined with specialised classroom training.

Hiring off-farm Labour

The participants indicated that they are loath to hire casual labour, preferring to make do with family labour or outsource to contractors. One reason for the reluctance to hire casual labour is the added burden of superannuation and work cover fees. The other more predominant reluctance arises from the unreliability and 'unknown quantity' of hired labour. There is often a perception that farming is unskilled work, that is no longer the case and as workers have become more accountable in the workplace, learning is increasingly important (Welton 1991). Casual workers are in charge of expensive equipment and technology and even a slight error can result in a large financial damage bill and the non-availability of machinery at critical seasonal times. Albert has attempted to train 'youngsters' but says training becomes a full time job with no return. He adds
Lifelong Learning for Farmers - the Changing World of Agriculture

"...the person off the street is not interested in doing a good job, they are just interested in the money. It is getting very hard to get some one, to take on, who is educated in the farming field."

Bill, like Albert, has had negative experiences in employing casual labour and finds there is little incentive to employ people. He agrees that employees can cause potential burden. His family business predominantly gets their labour from within the family, or when they have no alternative, ensure they know the calibre of casuals by hiring neighbours and friends. They also out source to contractors rather than put their own machinery and equipment at risk. Ben believes that

"... the chances of getting somebody, on a casual basis, that is reliable and trained and has knowledge is very rare because those people are snapped up very quickly, the only other option is to have somebody there on a full time basis which means you have to have the work load there to justify that."

Becky related an experience of employing a casual person to drive her family's truck during harvest. The truck, an asset, became at risk due to the lack of competency of the driver and his employment was quickly ceased.

**Training Courses**

Ben believes there are many training opportunities for farmers, e.g. TAFE institutes and FarmBis run many on farm courses. As mentioned previously in Farmers and Learning, 3 ‘B’ generation and 4 ‘C’ generation participants had completed formal courses that resulted in accreditation and may directly or indirectly assist their farming interests. Chad strongly believes that a TAFE course alone is not sufficient to teach a person how to be a farmer. He believes that there must already be a foundation of farming knowledge (such as that held by a person who has grown up on a farm). He adds that a 14 year old raised on a farm would not require as much supervision as an 18 year old with no knowledge of farming. Caitlin sees agricultural training as giving an opportunity for the person undertaking it to be exposed to different ways of thinking.

Not all the participants wanted to undertake formal training, Beth said that she works in and outside the home and that males only work outside the home. She feels pressure to do more with less time, she questions why she should attend a farming course that would result in her being even busier.
Acceptance of Accredited Training

The participants in the study demonstrated a willingness to participate in learning opportunities. I was interested in knowing whether training institutions believed that farmers were taking up training opportunities. I randomly selected a rural TAFE institute and subsequently contacted Spencer TAFE. I was fortunate to speak to the Manager of the Primary Industries Program, Caroline Graham, who was most helpful (pers. comm. 9 October 2001). Graham said that there had been an increase in farmers taking up training but indicated the increase is due to the following factors:

- availability of subsidised training (e.g. courses approved by FarmBis, which is up to 75% subsidised)
- a requirement for farmers to complete management type training as a result of legislation (e.g. the GST requires the completion of BAS)
- the necessity for having accreditation prior to purchasing farm supplies such as chemicals.

Graham said that most farmers aren’t seeking accreditation, rather they are seeking the skill that the course gives them. However, those farming on marginal land recognise that accredited training enables them to have off farm employment options. In her experience, the 40-60 year olds are less interested in the accreditation aspect of the training.

Spencer TAFE staff identify which FarmBis courses to run (in addition to unsubsidised courses) by going to the local agricultural-linked groups in the Spencer TAFE catchment areas and identifying what courses are required. Spencer TAFE then applies for FarmBis funding for those courses and subsequently offer them when/if the funding is approved.

Spencer TAFE markets their training to four main groups of farmers. They are:

- School Leavers. This group might undertake on farm training courses. An on farm training course gives the participant immediate usefulness on the farm and also the option of off farm employability, as skills such as welding and shearing are taught and can be used to obtain part time or casual work.
- Emerging Managers. This group might be in their late 20s to early 30s. Graham believes that this group is more willing to accept accredited training than previous generations. Training is important for this group as it is likely that they will be managers of farms that are highly legislated in areas such as QA, OH&S and Chemcert.
- Women. Women represent the catalyst by which the family farm perception of training can be changed. Women undertake training across all subject areas and courses they attend are tailored to be as friendly to their situations as possible (e.g. school hours are considered and babies welcomed). Spencer TAFE aim to make the
experience a positive social and learning opportunity for the women who will subsequently encourage male family members to complete courses.

- Current farm managers. This group do not generally require accreditation but attend training on an ‘as needed’ basis. Spencer TAFE have found that this group have approximately 5 days per year that they might allocate to training. The course areas that they might attend are, in priority order: legislation prompted, income improving and personal interest.

Graham considers the following when planning training and considers they are significant factors in getting farmers to attend training sessions:

- Minimise the paper work required. Farmers already deal with a myriad of paperwork in the work place.
- Make the training accessible. When planning training consideration is given to the farm season, school holidays and children.
- Cost. Subsidise the training if possible; farmers can’t afford to invest in expensive training.

The Changing Role of Women on Farms

During war time women were trained and employed in previously male dominated occupations. Despite the extreme shortage of males, there was a grave reluctance to allow this, as a perception existed that a precedent would preclude the return of males to work areas previously dominated by them (Cockburn 1983). One of the areas in which women were employed was the Land Army which was formed to continue farming while men were at war. It is interesting that at that time farming was a far more physically demanding occupation than it is now. Participants in this paper have commented on how new technologies have taken much of the back breaking work out of farming. Technology allows them to do more with less and yet at the same time some male members of both the ‘A’ and ‘B’ generation argue that women are not up to the physical rigors of farming. Whether this viewpoint is a neutral assessment or whether it is a viewpoint that subconsciously reflects resistance is unclear. Epstein (1989, p. 212) believes that

‘there are constraints on equality and change. They go beyond, or are irrelevant to, prejudice or mean-mindedness. Such constraints are rooted in cultural and ideological definitions of gender and class, in the social arrangements dividing society and in the identities of individuals’.

I wrote in Chapter Two that the perception of which gender should perform particular tasks has changed historically. A change can be seen on the farm. Once tractors were the dominant responsibility of men, now women and children drive tractors to perform the
less prestigious, but no less important jobs such as driving the chaser bin when the
harvester grain bin is full.

'A' generation

Adam indicated that in his era there were no women farmers; the women milked cows,
looked after poultry, fed pigs, raised children and completed the domestic tasks. Albert
thinks that women farmers would have difficulties with the physical aspects of farming.
Averil's expectation for her future was that she would stay home and work on the farm.
Alice too, stated that generally, that is what girls did at that time. After Averil's marriage
to a farmer she was expected to keep house, cook for farm hands, deal with poultry,
cows and children. There was no consultation with her on farm matters and she was
dismissed as being the 'farmer's wife'. However, interestingly enough the farm revolved
around the kitchen, it was the place where decisions were made and hungry men fed:
'Kitchen was very important, even if the head cook wasn't considered so'. Averil's
duties took up all her time. As Alice said 'things were labour intensive, we need to
remember that'. Abbey reinforces the belief that work done by men was seen as 'real'.
She milked the dairy cows, looked after children, cooking and pigs while her husband
worked off farm. Abbey attempted to milk the dairy cows before her husband came
home as she 'sort of felt that because he had worked all day he needed to rest and I
wanted to finish the cows at a reasonable time'. So she dealt by herself with a 30 cow
herd. Ada, on marriage to a farmer, was given very prescriptive boundaries as to what
her duties were, by her father-in-law. Ada found life hard. Ada was not involved in the
decision making process and she found the male domination on their farm very stressful.
Averil, Alice, Abbey and Ada worked very hard, their efforts allowed the men in their
families and various workmen to get on with the physical practice of farming, or in
Abbey's case, to earn an off farm income to financially support the family.

'B' Generation

Becky wanted to go home to farm, however she was not encouraged to do a formal
course and ended up being employed in a local, town, although still interested in the farm
operation. Becky married a farmer. Her role has changed since her marriage. The family
partnership which existed with the previous generation has been finalised. She and her
husband now farm with their own children, so she is much more involved in the decision making processes. When Beth started living on a farm with her husband she found it very difficult to adjust to the domestic role that was defined for her; it was not one that she had envisaged for herself. Like Becky her role has changed since the partnership with the previous generation ceased and she and her husband now farm with their own children. Bea says 'I see myself as a mother'. Bea was working full time off farm before and after marriage prior to the children arriving. Bea says that just because she is married to a farmer doesn’t mean she sees herself as a farmer. She and her husband are currently farming in partnership with the previous generation, however she thinks that in the future she might be involved in the business side of farming. She says that to be a farmer is a choice and she doesn’t feel any pressure to become a farmer in partnership with her husband. Bev was not encouraged to have any sort of rural career and subsequently left the rural area in which she grew up.

‘C’ Generation

Chuck indicated that some girls he went to school with have stayed to help on their family farm, but there are few who farm alone. Caitlin wants to be a Mum and a wife on the land, but she says ‘you can’t go away to uni and study for that’. Caitlin appears of the opinion that gender defines farming ability. She was originally not confident that she would keep up with the males on her agricultural course. However, she indicates that even without the on farm TAFE course she completed, she would be ahead of the other females and half of the males. She puts this state of affairs down to her parents involving her in the working of the farm in her deferred year. Despite her agricultural training Caitlin doesn’t want to be a farmer, but she thinks that is the result of her personality and is not a gender decision. Caitlin believes there is too much expectation that women will be farmers, that they will be equal workers in the business. Caitlin says that men and women are made for different roles and that we should just let each gender do what they are good at.

Summary

In this chapter I have discussed some of the issues in the relationship between generational farmers, learning, rural isolation, training, the impact of technology and the
changing role of farming women. I have drawn on the data from the participants to relate common themes from the various generational perspectives. Conclusions about these relationships are drawn in Chapter Six.
Chapter Six

An opal-hearted country,
A wilful lavish land -
All you who have not loved her,
You will not understand-
Though earth holds many splendours,
Wherever I may die,
I know to what brown country
My homing thoughts will fly,
(From 'My Country' by Dorothea Mackellar)

Conclusion

Introduction
The aim of this paper was to discuss the relationship between farmers, technology, the changing profile of women in agriculture and lifelong learning. The discussion in Chapter Five considered the isolation of farmers, the changing attitudes to farming practices, the impact of technology, farmers' lifelong learning, and access and acceptance of accredited training. In this chapter I will summarise these issues and present my conclusions.

In a snapshot of rural history, Milliken (1992) writes of the turbulent and changing times that farmers experienced as a result of the high interest rates of the 1980s, the impact of political decisions made far from those affected, and the introduction of new technology that challenged the personal element so inherent in rural communities. Although his work is not directly related to the aims of this paper, textually and pictorially it provides insight into life on the land at a particular moment in history. He highlights that generational farming can no longer be taken for granted. Farmers have been forced by economic circumstance to embrace some sort of change. A few farmers were able to anticipate events and subsequently controlled their own direction of change. Milliken (1992) believes that those in charge of change seem better able to cope than those upon whom it was forced. Rural counsellors now play an important part in agricultural communities by assisting farmers who have been overwhelmed by change. The participants in this paper were not questioned about their finances or economic situation
as a result of technology changes, it was beyond the scope of this paper. However, when farmers did speak about change, it was not with resignation, but rather in a positive and forward thinking manner.

Summary of Aims

• To explore the development and change in farming practices during the past sixty years

Some of the participants indicated that family farms were ideal, however farming with a family is not necessarily an option for all. The reduced population in rural areas lessens the chances of farmers finding partners locally and potentially having a family life and a farming family. The availability of family labour was of major benefit to a family farm. As indicated in Chapter Two, using child labour on farms has been an accepted practice in all generations. Victoria has a state law that requires an employer to have a permit to employ children under 15 and gives guidelines for safety conditions that must be met if the permit is granted. There was an outcry when it was recently hinted that the Victorian government may enforce the legislation in the farm workplace (Duff 2000, Carson 2000). The disruption to the farm workforce if such legislation were enforced could be significant.

For many years, experimentation that may have extended and explored farming methods was not carried out, either through lack of available equipment, resistance from previous generations or lack of government resources. Many of the participants said words to the effect of ‘the previous generation did the best they could with what they had or knew’. Participants are using the available information and knowledge to change today’s farming practices to increase their productivity, while, at the same time, having regard for the land that they are farming. It is hoped that the generations to come can also say of previous generations ‘they did the best they could with the information they had available to them’.

• To determine how farmers learn given their rural isolation

The isolation of farmers is not just geographical, it is also numerical. Where once there
were lots of farming families on small farms within an area, there are now fewer, but larger farms. While some are farmed by families; others are farmed by older farmers, farming alone because their children have sought employment elsewhere, or single farmers with no-one to assist them. The problem of finding partners from within a rural community can be a challenge as many young people head towards the city for employment. The opportunities for single farmers to meet and marry is often dependent on travelling away from their home area to meet a wider circle of people. If farmers don’t raise a family there is an increased likelihood that their farm will eventually be bought by neighbours, thus creating bigger farms while further reducing the population of the area and subsequently the number of peers from whom advice could be sought. Previous generations could not travel far, however they had access to communal knowledge. With fewer farmers located further away from each other, access to communal knowledge is facilitated by improved motor vehicles, government organizations, specialist advice, Internet access, local, state and national agricultural groups, agricultural publications and community social interaction. A Kondinin Research Report (Farming Ahead, Nov, 1995 p.30) wrote that farmers felt ‘they could learn sufficiently from reading, field days and practical experience’ and were unconcerned about not having a formal tertiary education. The data indicated that anywhere farmers gathered, whether it be in a formal or informal situation, information was exchanged. This reinforces the belief that farmers make great efforts to seek and find information; as Stuart McAlpine said (ABARE 2000, p. 22) ‘It is extremely hard as an individual to keep up with changes in technology.’ Gathering together to share information over-rides the competitive aspects of farming. Bill says that the basis of one particular support group is ‘for farmers to get together and share information’ which he finds interesting as

> ‘from a technical point of view our farming businesses... compete with one another but we get together and we help one another ... I think that’s part of our rural legacy or culture’.

• To examine the relationship between the principles of adult learning and farmers’ lifelong learning

‘Experience and doing’ are the basic premise of learning (Kornbluh and Greene 1989, p. 95 referring to work by Kieffer 1981). Learning by doing is a strong theme running through the stories of the participants. From Adam to Claud they all say this is
important. The farmers believed that farming was an ongoing learning process. As part of this ongoing process, formal, informal and incidental learning occurred (Marsick and Watkins 1990). Unlike many other occupations, formal learning often took place after farmers obtained experience; and informal and incidental learning had occurred. Participants planned their learning depending on the outcomes they desired. Much of the learning was delivered in practical environments. Kornbluh and Greene (1989) have said that adult learning theories should be used by organisations to guide learning in the workplace. While rural TAFE institutes consider the principles, they are also evident within the farm workplace, despite not being consciously applied.

- **To determine the impact of technology on lifelong learning for farmers**
Bill pointed out that management responsibility has increased with the introduction of new technologies and farms that have become larger. Physical work has decreased with the introduction of new technology, subsequently the reliance is on large machinery and a range of technology to do the previous physical work. Although farming is easier in one regard (less manual labour), the price has been increased pressure on lifestyle and added mental pressure. Headlights on tractors have meant that farmers now work day and night when conditions are right for tasks such as seeding, harvesting, hay making and hay carting. The number of hours in the physical working day has been extended while other management issues have become more complex. Bernard (1991, p. 23) said 'The hardest myth to debunk about technology is that it is always progressive'. Bill’s answer to that is ‘... whether you pick up a technology always requires an evaluation of what the downsides are and how you intend to handle those downsides.’ There are signs that the power and control of technology of which Franklin (1992) wrote are being challenged by the farmers that utilise it.

- **To investigate farmers’ access to and acceptance of accredited training**
Farmers accept that farming involves ongoing learning. Salmon’s (1981) prediction that younger farmers will see the benefit of management training seems to have come true. Farmers appear to be embracing training forums, whether they be formal accredited training or informal non-accredited training. The courses that four members of the ‘C’ generation are doing or have done, are giving them more choices and options for the
future. Some of the desire (or requirement) to attend training courses is attributable to reasons such as legislation regarding the handling of chemicals. Other reasons for attending training include increased management responsibilities in the farming business. There is also a recognition of the importance of training that no accredited course can provide, giving responsibilities and opportunities to farm children which provide a foundation for a farming career should they choose one. Many of the participants spoke of driving tractors before they reached their teenage years. Which accredited training organisation would consent to that? These pre-teen and teenage drivers are trained and trusted by the parents who instructed them. Ben commented that ‘they wouldn’t be allowed to drive the equipment if they didn’t show the responsibility to be able to do that’. Farm children are relied upon and utilised more than mature off farm adults who are an unknown quantity when it comes to competency and reliability. Even if off farm adults could provide accreditation to signify their competency in various farming tasks, how do you quantify loyalty, reliability and personal interest in the success of the farming operation?

Although Bill and Ben (some of the older members of the ‘B’ generation) have no formal qualifications themselves, they are often asked to speak at seminars, workshops and other learning opportunities to pass on the knowledge they have gained through experience and informal learning. The importance of experience in the learning process and the benefit of continuing to share that knowledge on an informal basis is recognised by training institutions. Graham (Spencer TAFE, pers. comm. 9 October 2001) expressed concern for the future of farmer training, not just accredited training. It is anticipated that FarmBis will only be in place for another three years. Subsidies are currently very important in the training of farmers and Graham questions how farmers will learn if they can’t afford to pay the full cost of training. It is important that knowledge not be lost. Graham hopes that at the very least, by the time that FarmBis is no longer available, key farmers will be emerging in each district who will always see the benefit of continued training and will become pivotal in imparting knowledge to those farmers who may not be able to afford unsubsidized training.

Bill believes that ‘Technology has kept us in business, there is no doubt.’ Garnaut and
Lim-Applegate (1998, p. 54) cited Kilpatrick (1996) as showing ‘that continuing education through working life is linked to farm profitability. The embracing of technology requires learning, whether it be formal, non-formal, incidental or accredited to master the technology and apply it to the farming enterprise. The farmers in this study seemed to be seeking and accepting training. Graham (Spencer TAFE, pers. comm. 9 October 2001) commented that the accreditation aspect is not as significant to the older farmers as it is to the younger ones, to whom it gives employment options, and is often sought only because legislation demands it. Importantly, training is not only sought because new technologies or legislation demand it; Bob specifically said that he likes to learn.

- **To explore the changing role of women on farms**

Although some participants have no problem with the concept of a woman farmer, they articulate concerns that women would have difficulty with the physical aspects of farming. Maybe this is another way of saying that they *do* have a problem with the concept of a woman farmer. Some women feel pressure to do more, like Beth who questions why she should be busy inside and outside the home when males only work outside the home. Caitlin feels an expectation that women and men will be equal workers even though she believes there is an innate difference in the genders. If men and women do become equal workers outside the home, I wonder whether they will be equal workers inside the home and prevent the pressure that Beth feels. Bea has confidently stated her choice of role and feels no pressure to become a farmer in partnership with her husband.

It appears that the role of women has not so much changed but is beginning to be recognised. Women have always worked hard on farms, but have been publicly invisible and unrecognised (Lake 1987; Alston 1990; Williams 1992; Gibson, Baxter & Kingston 1990). This situation is not unique to Australia; Sachs (1983) writes of a similar situation in American agriculture. There too, men’s work is perceived as more important and although women do men’s work, men do not do women’s work. Lake’s (1987) retelling of a situation where a male (ironically by the name of Farmer) explains to the Closer Settlement Board that he is unable to carry on being a dairy farmer
due to his wife’s ill health and her inability to continue milking is insightful. The male farmer was already incapacitated by a serious injury prior to applying for the offer of land, but he was relying on his wife’s ability to complete the manual labour required on a farm. The board however, was unsympathetic to the tale of his wife’s ill-health affecting his ability to efficiently run the dairy farm and replied that Farmer, while disabled, had applied for the land knowing what was expected. For him to mention it three years later was inconsequential. However Farmer had counted on his wife as a labourer in the enterprise and her ill-health prevented him from continuing. (Lake 1987 p. xvi).

The ‘A’ generation of men may not have recognised the contribution that women made to the farming enterprise as much as Farmer did. The milking of cows, caring for poultry, growing fruit and vegetables, preparing food, running errands and raising children allows the male to focus on the core business of farming. The perception that unpaid work isn’t really work lasts only as long as somebody does it without pay. If someone is employed to do those tasks it becomes ‘work’. The Government’s National Agenda for Women, 1993-2000 recognised that women want acknowledgment for their contributions to agriculture (Townsend 1995). It is to be hoped that the recognition they are given is not just a result of demand, but also a genuine desire to give due credit.

There appear to be many forums that are available for rural women to gather and learn. Some of the larger forums that heighten the profile of women are the 1994 International Women in Agriculture Conference held in Melbourne and the more recently instigated Rural Women of the Year awards (Cullen 2001). In the announcement of finalists in ‘The Weekly Times CRT Farmer of the Year Award’ it was interesting to note that, in most categories, a high percentage of finalists were of a partnership nature that included the name of both a man and a women (Parry 2001). There have been calls for women to become more involved at an agri-political level (McKenzie 2000), however some such as Alexander (2001) are undecided how women can best be independently heard by government.

Mackay (1999) indicates that rural women have defined their role for their own situation and from their own choice not for some one else’s perceptions. The
pressure that Beth feels, however indicates that is not the case for all rural women. Women should choose their own rural role and we should recognise the worth of that role. Forcing women, by intimation or social pressure into performing additional tasks just so that it is perceived as ‘real work’ devalues the contribution they are currently making in their rural community.

**Limitations on research findings**

I indicated in Chapter One that the discussion in this paper is not exhaustive. In addition to parameters previously stated, several other considerations should be noted. The area in which the majority of the participants farm is good broadacre cereal and sheep farming country located approximately 200 kilometres away from a capital city and thus not regarded as extremely isolated geographically. This paper does not represent the situation of all farmers, neither does it necessarily represent all viewpoints of each generation. The issues involved in multi-generational family farming should not be underestimated. In the ‘B’ generation of this paper some participants were still farming in a multi-generation situation and their perspectives and experience consequently varied from those who were either farming singly or as a farming family. This paper did not deal with the complex personal, financial and business issues experienced by those involved in a two or more generational family farming business.

Despite attempting to stay within the confines of my topic, the interviews with participants provided a wealth of information on wide ranging rural matters. Although I firmly believe context is important in considering aspects associated with this paper, due to the limited word length, I was forced to exclude discussion on the changing demographics of rural areas due to farming families moving away and subsequently larger holdings gradually amassing as neighbours bought up more property. Neither did this paper deal with the financial foundations needed to be a farmer, the influence of weather and nature and the uncertainty of prices. It did not deal with the economic considerations of farming in the 21st century. This paper did not explore the learning relationship of those who take up ‘get rich quick’ agribusiness investments such as ostriches, alpacas and olives without having any previous agri-business experience. Many companies now own large farms and appoint managers to run them. This paper did not
deal with how those managers obtain knowledge and how they are going to pass the knowledge on. Also not explored in this paper were reports that school children are reluctant to consider a career in Agriculture (Cardile 2000; Alexander 2001a) despite the good employment prospects of more jobs than graduates in rural industry (Good employment prospects for agricultural students 2001). Neither was the impact on rural training as a result of reduced courses in regional colleges explored (Jackson 2000). These omissions do not impact on the integrity of this paper, but should be considered in a broader discussion.

Validity
Care should be taken not to project the results of this paper to represent wider communities without consideration of the relationships between some of the participants. Some were husband and wife or father and son. Just as often as there is dissension between generations there often exists reinforcement of attitudes within family groups. Attitudes can originate in cultural, religious or socio-generational contexts or even from locations. No effort was made in this study to examine the reasons behind attitudes to training or technology; those questions would best be answered in an critical approach to this topic. At the same time, the opinions expressed by the participants in this study on some issues are not unique. For example, the recent success of the Elmore Field Days in Victoria (Featherstone 2001) reinforces the views of the participants in the importance of field days as networking and learning experiences.

Implications for future research
Graham (Spencer TAFE, pers. comm. 9 October 2001) warns that the availability of subsidised training and the impact of government legislation has had a significant impact on the seeking and undertaking of accredited training by farmers at this time. She expressed concern for the future of farming training without subsidised training. This paper has not pursued the relationship between current training legislation (e.g. the issues involved in delivery of accredited training by RTOs) and farmer training. Any future research should consider the impact that artificial indicators such as subsidised training and legislation are having on the current number of farmers undertaking training.
would however encourage others to continue to build on the information in this paper so that recognition of life in rural communities can grow.

**In Conclusion**

In most professions, formal education and training is completed prior to employment. Farming is unique inasmuch as farmers appear to learn through informal and incidental learning first and then, once they have the basics, they choose whether or not they will extend and consolidate knowledge by completing formal learning. They seek learning when interested, on a needs basis or as the result of legislation. Farmers have a communal approach to learning that overcomes barriers imposed by their rural isolation. Farmers acknowledge that that their learning will be lifelong. They use many skills and apply some of them only on a seasonal basis, which, proportionately to their working life, isn’t that often. While their experience base is wide, it may be not deep in some areas. Despite this, farm training must recognise that farmers come to training sessions with a wealth of experience. Farming practices are focused on supporting sustainable agriculture but the underlying impetus is probably pressure on farmers to increase productivity, rather than environmental concerns.

The role of women in agriculture has always existed, but not necessarily been acknowledged and recorded until more recent years. Training institutions have recognised the power that women wield in the community by marketing themselves to women. The training institutions believe that by gaining the approval of women, acquaintances or other family members will subsequently be encouraged to attend training courses. Women are choosing their rural roles, although some are feeling pressure to change their role, whether or not they wish to.

We can not take for granted that we will continue to have farmers who pass down knowledge to coming generations, yet we must not lose the knowledge that our generational farmers have acquired. Even if managers appointed by conglomerates replace generational farmers, they must still have farming knowledge. How will they learn? This paper has highlighted the fact that current day farmers are not only professional business people running large scale businesses, but are also educators and
mentors to the coming generations, providing the foundation on which formal agricultural training rests. Agriculture makes a significant contribution to Australia’s economy. Government policy must recognise that investing in agricultural training will result in long term rewards. Such training contributes to the strength of the economic backbone of this country by ensuring that our agricultural knowledge base is not only retained but flourishes.
Postscript

Journal Entry 24 September 2000

Today I went to a middle of no-where. It was a wonderful, hot Australian day. At the middle of no-where there were about forty other cars. We had all driven to an unassuming cross roads arriving from four directions. It must have been quite a sight from the air. Light green, golden and brown patchwork paddocks decorated with a vehicle cross. The sight of the cross would have been quite appropriate as we had come to gather at the unveiling of a memorial stone that recognised a church had once been built on this spot. A closed church is not unusual, they are closing all the time. The people came to gather today because they think that the things of the past must not be forgotten. Many of the people gathered had memories not only of a church, but also of a nearby shop, post office, school and farm homes. Today there was not a hint of a building or dwelling in sight. We came to remember the communities within communities, the retail and social support networks that serviced and supported the people who lived here. Their world may have been small but they knew everyone in it. They farmed and made a living for their large families on much less than 1,000 acres. They laboured, doing the best they could with what they had. Then the motor car replaced the horse. Young people travelled further from home. For some it was escape, for others adventure. Contraception meant smaller families. The car took people away from the shop in the middle of no-where to the shop in the local nearby small town. The middle of no-where shops closed down. Families moved away. Farms were passed down to boys. Girls began to escape their unpaid labour on the family farm. They went to capital cities to be nurses and teachers. Family farms were subdivided and sold when no sons lived to inherit. Some sons even refused to become farmers, looking to other occupations. Often siblings would fight for shares, leaving no option but to sell the farm and divide the proceeds. Fewer, but bigger farms resulted. Less population resulted in less likelihood of finding a partner. Childless farmers resulted in the sale of more farms. Farms got bigger. Young people are travelling further, small towns are struggling to survive as the population they service declines.
Journal Entry 25 September 2001

Today I went to another middle of no-where. This time there were thousands of people gathered and we went not to remember the past but to celebrate the present. We went full of expectation, interest and inquiries. We travelled a hour or so to an agricultural field day. Many travelled for longer. Agricultural field days are a showcase and marketing of rural agriculture, technology and machinery. These field days have history that goes back to 1895. They cover 95 hectares, attract about 700 exhibitors and have a total attendance of about 60,000 over the three days. Originally the field days were intended for farmers to inspect crop and equipment trialling. The field days now include lifestyle, home, garden, electrical and computer displays as well as many other exhibitions of interest to rural and non rural dwellers alike. The success of the field days shows that farmers are not parochial creatures but are seeking wide ranging information about all aspects of new technologies and how they may be applied in everyday life, not just their farming lives. Farmers are embracing technology and making the technology work for their own situations. The country folk I know can handle themselves in a conversation about computer capabilities, are well travelled and well informed. They may be involved in state and national agri-political organisations. They may be up to their arm pits in dust and four hours later, showered and suited speaking informedly and competently at a capital city venue about an agri-market situation. Innovative and flexible, they are our farmers.
Lifelong Learning for Farmers - the Changing World of Agriculture

References:


Cardile, R. (2000) ‘Farming careers have no appeal according to students’, *Victorian Farmer*, vol. 6, no. 4, p. 35.


Cooperative Research Centre for Soil & Land Management, (n.d.) *Conservation farming sustains soils*, Cooperative Research Centre for Soil & Land Management (CRCSLM), Glen Osmond, SA.


Dempsey, K., (1990), Smalltown: A Study of Social Inequality Cohesion and Belonging, Oxford University Press, Melbourne.


Fraser, A.D., (ed.) (1938) This Century of Ours, Halstead Press, Sydney.


